JMJ COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

I DEGREE B.A, B.COM, B.SC. – STREAM--A

TITLE OF THE PAPER : FUNCTIONAL ENGLISH

SEMESTER-- I - SYLLABUS.

UNIT-I PROSE.

From English @Work Text Book –Common Core.

1. The Conjurer's Revenge – Stephen Leacock
2. The Best Investment I Ever Made – A.J.Cronin.
3. Letter to a Teacher -- The School of Barbiana.

UNIT-II TREASURES FOR LIFE (SELECTED PARABLES) –DEPT PUBLICATIONS.

1. The Story about Investment or The Talents.
2. Who is my Neighbor? or The Good Samaritan.
3. The Loving Father or The Lost Son.
4. The Unforgiving Servant.
5. The Bride's Friends or the Wise and Foolish Virgins.

UNIT-III. LIFE SKILLS AND LANGUAGE

(ENGLISH FOR ENRICHMENT TEXT)DEPT PUBLICATIONS.

From: (Absent-Mindedness to Family) (Page 1-9)

1. Absent-Mindedness 2. Atheist 3. Bonhomie 4. Bravery 5. Brotherhood 6.Charity, 7. Children 8. Creativity 9. Discipline 10.Encouragement 11.Example 12. Family.

UNIT- IV. FUNCTIONAL ENGLISH

(A COURSE IN LISTENING AND SPEAKING .COMMON CORE TEXT BOOK FOR I YEAR).

1. English Phonetics.
2. Silent Letters
3. Syllables-syllabification.
4. Greetings.
5. Introductions.
6. Requests
7. Homonyms
8. Synonyms
9. Antonyms
10. Parts of Speech
11. Prepositions

I DEGREE B.A, B.COM, B.SC. – STREAM--B

TITLE OF THE PAPER: GENERAL ENGLISH

SEMESTER- I - SYLLABUS

UNIT- I PROSE:

1. Secret of Work - Swami Vivekananda.
2. The Power of Prayer - Abdul Kalam
3. The Conjurer's Revenge - Stephen Leacock

UNIT-II POETRY:

1. Daffodils - William Wordsworth.
2. Stopping by Woods on a Snowy Evening - Robert Frost
3. Ecology - A.K. Ramanujan

UNIT-III SHORT STORY:

1. How far is the River - Ruskin Bond.
2. An Astrologer's Day - R.k. Narayan
3. The Lottery Ticket - Anton Chekov

UNIT-IV.ONE ACT PLAY:

The Merchant of Venice - William Shakespeare (Court Scene Act – IV/Scene-I)

UNIT-V.LANGUAGE ACTIVITY

Reported Speech
Degrees of Comparison
Phonemic sounds and Symbols
Phonetic Transcription and Spellings
Spelling to Phonemic Transcription
Syllable Division
Word Stress

I DEGREE B.A, B.COM, B.SC. – STREAM--A
TITLE OF THE PAPER : FUNCTIONAL ENGLISH
SEMESTER-- II - SYLLABUS.

UNIT-I POETRY

(From English @work Text Book) –Common Core.

1. Song 36 from Gitanjali - Rabindranath Tagore.
2. Myriad Winged Bird - Aduri Sathyavathi Devi.
3. Telephone Conversation - Wole Soyinka

UNIT-II TREASURES FOR LIFE (SELECTED PARABLES) –DEPT PUBLICATIONS.

1. The Story of the seeds or The Sower.
2. The Generous Employer or The Labourers in the Vineyard.
3. The Wedding Feast.
4. The Pharisee and the Publications.
5. The Wise and The Foolish Builders.

UNIT-III- LIFE SKILLS &LANGUAGE

(from English for Enrichment Text –Dept Publications.)

From: Forgiveness to Work -16-30

Forgiveness, Gallantry, Goal, Gratitude, Greatness, Home, Kindness, Liberality Mother, Perseverance, Self-improvement, Success, Trust, Vision, Work.

Unit- IV. FUNCTIONAL ENGLISH

1. One word Substitutes
2. Common errors.
3. Idioms.
4. Tenses.
5. Letter writing.
   a. Letter of Complaint
   b. Letters of application for jobs
   c. Application for leave.
   d. Letter placing an Order.
6. Giving Instructions / Directions

I DEGREE B.A, B.COM, B.SC. – STREAM--B
TITLE OF THE PAPER : GENERAL ENGLISH
SEMESTER-- II - SYLLABUS.

Unit – I PROSE

1. The Annihilation of Caste - Dr B. R. Ambedkar
2. The Scientific Point of View - J. B.S Haldane
3. On Shaking Hands - A.G. Gardiner

Unit – II POETRY

1. Ode to Autumn - John Keats
2. This is a Photograph of Me - Margaret Atwood
3. I am not that Woman - Kishwar Naheed

(from An Anthology of Commonwealth Poetry edited by C.D. Narasimhaiah)

Unit –III SHORT STORY

1. Ruskin Bond - The Boy Who Broke the Bank
2. R. K. Narayan - Half a Rupee Worth
3. Chitra Banerjee Divakaruni - The Unknown Errors of Our Lives

Unit – IV ONE ACT PLAY

Anton Chekhov - The Proposal

Unit – V LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
   - i. Tense and Aspect
   - ii. The Interrogative
   - iii. Question Tags(Affirmative/Negative)
   - iv. Dialogue Making
   - v. Listening Comprehension

2. Classroom Activity
   - i. Guided Composition
   - ii. Dialogue Writing
   - iii. Reading Comprehension

II DEGREE B.A, B.COM, B.SC. – STREAM--A
TITLE OF THE PAPER: FUNCTIONAL ENGLISH
SEMESTER-- III - SYLLABUS

UNIT- I- POETRY

(From **English For Empowerment** – C**ommon Core**)

I. The Solitary Reaper-William Wordsworth
2. The Road Not Taken-Robert Frost
3. Refugee Mother And Child-Chinua Achebe
4. I Will Embrace Only The Sun-Tripuraneni Srinivas

UNIT- II WOMEN'S EMPOWERMENT – DEPT . PUBLICATIONS

1. Only A Girl
2. Educated though Illiterate
3. Daily Heroics
4. Working Women
5. Are In-Laws Out-Laws?

UNIT-III - CURRENT ISSUES - DEPT PUBLICATIONS

1. Vision for 2020
2. Rights of the Child

3. Poverty and Globalization
4. Water Conservation

UNIT-IV - FUNCTIONAL ENGLISH

1. Comprehension Passage (unseen)
2. **Oral component** - Greeting, Apologizing, Requesting ,Offering Help,Agreeing/Dis agreeing
3. Describing a Process
4. Dialogue Writing
5. Paragraph Writing

II DEGREE B.A, B.COM, B.SC. – STREAM--B
TITLE OF THE PAPER : GENERAL ENGLISH
SEMESTER—III - SYLLABUS

UNIT-1 PROSE

1. Are the Rich happy? - Stephen Leacock
2. Shyness my Shield (From my experiments with truth) - M.K.Gandhi
3. Why People Really Love Technology
   (An Interview with Genevieve Bell) - Alexis C.Madrigal

UNIT-II POETRY

1. Once Upon a Time - Gabriel Okara
2. Digging - Seamus Heaney
3. River - A.K.Ramanujan

UNIT-III SHORT STORIES

1. The Interpretation of Maladies - Jhumpa Lahiri
2. The Beloved Charioteer - Shashi Deshpande
3. The Tell Tale Heart - Edgar Alan Poe

UNIT-IV ONE ACT PLAY

Post Office - Rabindranath Tagore

UNIT-V 1. Class Room Activity
a) JAM Sessions
b) Active and Passive Voice
c) Direct and Indirect Speech
2. Language Activity
a) Note Making
b) Report Writing
c) Expansion of an Idea

DEGREE SECOND YEAR B.A, B.COM, B.SC. – STREAM--B
TITLE : COMMUNICATION SKILLS AND SOFT SKILLS-III
SEMESTER—IV - SYLLABUS

UNIT I SOFT SKILLS

1. Positive Attitude
2. Body Language
3. SWOT/SWOC Analysis
4. Emotional Intelligence
5. Netiquette

UNIT II PARAGRAPH WRITING

1. Paragraph Structure
2. Development of Ideas

UNIT III PARAPHRASING AND SUMMARIZING

1. Elements of Effective Paraphrasing
2. Techniques for Paraphrasing
3. What Makes a Good Summary?
4. Stages of Summarizing

UNIT IV LETTER WRITING

1. Letter Writing (Formal and Informal)
2. E-correspondence

UNIT V RESUME AND CV

1. Resume and CV
2. Cover Letter

I B.A– SPECIAL ENGLISH
SEMESTER I– SYLLABUS

Paper – I - Title: An Introduction to English Language and Literature

UNIT – I **HISTORY OF ENGLISH LITERATURE**

Old English and Middle English Periods

UNIT – II **PHILOLOGY**

History and Development of the English Language
(Scandinavian, Latin, Greek, French Influences)

UNIT-III **LITERARY FORMS AND TERMS**

i) Ballad
ii) Epic
iii) Lyric
iv) Ode
v) Elegy

UNIT-IV **POETRY**

Sonnet -116 - William Shakespeare

UNIT- V **PROSE**

Of Studies - Francis Bacon

I B.A.– SPECIAL ENGLISH
SEMESTER II – SYLLABUS
Title - MODERN LANGUAGE

UNIT-I LANGUAGE

A) Word Formation:

Onomatopoeia, Derivation, Back Formation, Composition/Compounding, Conversion (one part of speech used as another part of speech),Abbreviation, Meta analysis.

B) Semantics:

Change of meaning: Generalization,Specialization, Regenration, Euphemism, Degeneration, Metaphorical application, Association of ideas.

UNIT II HISTORY OF ENGLISH LITERATURE

Renaissance (Elizabethan and Jacobean Periods)

UNIT- III DRAMA

William Shakespeare: Macbeth

UNIT – IV POETRY

John Donne: Canonization

John Milton: Paradise Lost, Book IX (The Temptation Scene)

UNIT – V LITERARY FORMS AND TERMS

Simile, Metaphor, Personification, Alliteration, Apostrophe, Hyperbole, Anticlimax, Irony, Blank Verse, Comedy of Humours

II B.A– SPECIAL ENGLISH

SEMESTER III – SYLLABUS

Title –English Literature

UNIT-I HISTORY OF ENGLISH LITERATURE

a. Restoration Period
b. Augustan Period

UNIT-II LITERARY FORMS AND TERMS

Satire

a. Mock Epic
b. Heroic Couplet
d. Comedy of Manners
e. Periodical Essay
f. Picaresque Novel

UNIT- III POETRY

Essay on Man – Epistle 1 - Alexander Pope

UNIT- IV PROSE

Robinson Crusoe - Daniel Defoe

UNIT- V DRAMA

The Rivals - R. B. Sheridan

II B.A.– SPECIAL ENGLISH

SEMESTER IV – SYLLABUS

Title – English Literature

UNIT-I HISTORY OF ENGLISH LITERATURE

a. Romantic Period
b. Victorian Period

UNIT-II LITERARY FORMS AND TERMS

a. Biography
b. AutoBiography
c. Melodrama
d. Historial Novel
e. Sentimental Novel
f. Gothic Novel
g. Region Novel
h. Round Characteristics
i. Point View
j. Protagonist
k. Antagonist
l. Flat Characteristics

UNIT-III POETRY I

a. William Wordsworth : Tintern Abbey
b. Ode on the intimations of Immortality

UNIT-IV POETRY II

a. Matthew Arnold : The Scholar Gypsy

UNIT – V PROSE

a. Charles Dickens : Oliver Twist

III B.A – SPECIAL ENGLISH
SEMESTER V – SYLLABUS
PAPER .V - DRAMA AND FICTION

UNIT-I

Shakespeare Comedy - A Midsummer Night's Dream

UNIT-II (Modern Drama)

Bernard Shaw - The Apple Cart

UNIT-III

Anita Nair - Ladies Coupe

UNIT-IV

Short essays from Shakespearean Comedy" A Midsummer Night's Dream

III B.A– SPECIAL ENGLISH
SEMESTER V – SYLLABUS
Paper VI - LANGUAGE &LITERATURE

UNIT-1-- History of English literature

Characteristics of ages:

1) Age of Chaucer
2) Age of Milton
3) Age of Shakespeare
4) Age of Dryden

UNIT -- II.CONTRIBUTION OF AUTHORS

(A Critical appreciation of the literary achievements of the following authors)

1) Chaucer
2) Spencer
3) Marlow
4) Pope

Unit-III--History of English language

1) Origin of language
2) Indo-European family of language and the decent of English
3) Grims law and verner's law
4) Characteristics of old English

UNIT-IV--- Figures of speech

1) Simple 2) Metaphor
3) Personification 4) Apostrophe
5) Climax 6) Pathos
7) Hyperbola 8) Pun
9) Oxymoron 10) Synecdoche

III B.A– SPECIAL ENGLISH
SEMESTER VI – SYLLABUS
PAPER-VII - DRAMA & FICTION

UNIT-I

Samson Agonistes - John Milton

UNIT-II

Financial Expert - R.K.Narayan

UNIT-III

The Vicar Of The Wakefield' - Gold Smith

III B.A– SPECIAL ENGLISH
SEMESTER VI – SYLLABUS
PAPER-VIII LANGUAGE & LITERATURE

UNIT-I- HISTORY OF LITERATURE

A) Characteristics of Ages

1) Age of words worth, 2) Age of Hardy
3) Age of Tennyson 4) Modern Age

UNIT-II- CONTRIBUTION OF AUTHORS

(A Critical appreciation of the works of the following authors)

1) John keats 3) Charles Dickens
2) Matthew Arnold 4) T.S.Eliot

UNIT-III- HISTORY **OF ENGLISH LANGUAGE**

1) Characteristics of Middle English
2) Indian-Element in English
3) American English
4) English as an International Language

UNIT-IV- FIGURES OF SPEECH

1) Metonymy 6).Litotes
2) Zeugma 7).Epigram
3) Irony 8).Antithesis
4) Paradox 9).Onomotopia
5) Alliteration 10).Euphemism

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

J.M.J. COLLEGE FOR WOMEN (AUTONMOUS), TENALI
I B.Sc., / B. Com., -Hindi – Paper- I (Common Core Syllabus)
ISemesterSyllabus20162017

I Prose: गध संदेशम संपाददक : डॉ. वि. एल.नरसिंहम् शिवकोटि

Lessons: (पाठ) प्रकाशक : लोरविन प्रकाशन हैदराबाद

1 . मित्रता - श्री रामचंद्र शुक्ल

2 . भारत एक है - श्री रामधारी सिंह दिनकर

3 . हेच . ऐ .वि / एड्स - डॉ. प्रकाश भटल बड़े

डॉ. रन जंगा खांडेकर

अनुवाद : श्रीमती साधना मौर्य

ii . Non - detali : कथा लोक

संपादक : डॉ. धनश्याम

पकाशक : सुद्धप्रकाश , हैदराबाद

III .याकरण : अ. शुद्ध किजिए |

Garammar : आ. सूचनाके अनुसार बदलिए |

: इ . मुहारों का प्रयोग

: ई. शुद्ध वर्तनी

: उ . संधि – वि : ऊ. समास

I B.Sc. , / B . Com., -Hindi – Paper- II
(Common Core Syllabus)
II Semester – Syllabus- 2016-2017

I Prose : गध संदेशम संपाददक : डॉ. वि. एल.नरसिंहम् शिवकोटि

Lessons: (पाठ) प्रकाशक : लोरविन प्रकाशन हैदराबाद

1 . साहित्य की महता - महावीर प्रसाद दिवेदी

2 . सच्ची वीरता - सरदार पूर्णसिं 3 . पूस की रात - प्रेमचंद

Ⅱ. Non -detail : कथा लोक

संपादक : डॉ.धनश्याम

पकाशक : सुधा प्रकाशन, हैदराबाद

III . Grammar : 1 . शुध्द कीजिए 2 . सूचना के अनुसार बदलिए

3 . पात्र लेखन **4 .** प्रशासनिक शब्दावलि

II B.Sc.,/B.A./B.Com., IIHINDI PAPER- III SEMESTER
POETRY, HISTORY OF HINDI LITERATRURE-TRANSLATION

SYLLABUS

कव्य दीप: संपादक: श्री. वि. राधाकृष्णामुर्ती

मारुति पब्लिकेशन्स

कोत्तपेट.

I 1. कबीरदास के दोहे -

2. तुलसीदास के दोहे - संदर्भ सहित व्याक्या

3. मैथिलीशरण गुप्त - मातृभूमि

4. जयशंकर प्रसाद - अशोक की चिंता

5. सुमित्रानन्दन पंत - भारतमाता

II हिन्दी साहित्य का इतिहास

1. हिन्दी साहित्य का काल विभजन
2. विरागाथा काल
3. भक्ति काल

III कवि अथवा लेखक का परिचय

1. कबीरदास 2. सूरदास 3. तुलसीदास
4. मैतिलीशरण गुप्त 5. जयशंकर प्रसाद 6. सुमित्रान्दन पंत

IV अनुवाद – अंग्रेजी से हिन्दी में निर्धारित पाठ्यपुस्तक में
(1 – 6 old Text Book)

Vकंठस्थ करने केलिए

1. कबीर के दोहे (1 – 5)
2. तुलसी के दोहे (5 – 10)

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

JMJ COLLEGE FOR WOMEN (AUTON0M0US) TENALI
IIDEGREE IV SEMESTER SYLLABUS
LEADERSHIP EDUCATION
(Total 3.00 Hrs)

1. Organization – Management – Leadership- Meaning and Significance- Different theories – Trait Theory, Blake &Mountain Theory – Other functions of Management.
2. Behavioral Concepts – Individual Behavior – Perception – Learning-Attitude Formation and Change- Motivation – Theories of Motivation- personality Development.
3. Interpersonal Behavior – Communication – Leadership Influencing Relations – Transactional Analysis.
4. Group Dynamics- Roles – Morale – Conflict – Groups – Inter- Group Behavior – Inter – Group Collaboration and Conflict Management.
5. Team Building and Management – Developing team resources – Designing team – Participation and Repercussion – Team building activities.

JMJ COLLEGE FOR WOMEN (AUTON0M0US) TENALI
IIDEGREE IV SEMESTER SYLLABUS
LEADERSHIP EDUCATION
(Total 3.00 Hrs)

6. Organization – Management – Leadership- Meaning and Significance- Different theories – Trait Theory, Blake &Mountain Theory – Other functions of Management.
7. Behavioral Concepts – Individual Behavior – Perception – Learning-Attitude Formation and Change- Motivation – Theories of Motivation- personality Development.
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9. Group Dynamics- Roles – Morale – Conflict – Groups – Inter- Group Behavior – Inter – Group Collaboration and Conflict Management.
10. Team Building and Management – Developing team resources – Designing team – Participation and Repercussion – Team building activities.

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J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

J.M.J.COLLEGE FOR WOMEN (AUTONOMOUS): TENALI
I B.Sc. MATHEMATICS, SEMESTER-I, PAPER-I
SYLLABUS w.e.f 2016 - 17
TITLE: DIFFERENTIAL EQUATIONS

Class: I B.Sc

UNIT-I

Differential equations of first order and first degree

Linear differential equations: Differential equations reducible to linear form; Exact differential equations; integrating factors; change of variables; simultaneous differential equations. Orthogonal Trajectories.

UNIT-II

Differential equations of the first order but not of the first degree

Equations solvable for p; Equations solvable for y; Equations solvable for x; Equations that do not contain x(or y); Equations of the first degree in x and y- Clairaut's equation.

UNIT-III

Higher order linear differential equations

Solutions of homogeneous linear differential equations of order n with constant coefficients. Solutions of the non homogeneous linear differential equations with constant coefficients by means of polynomial operators

UNIT-IV

Higher order linear differential equations

Method of variation of parameters; linear differential equations with non constant coefficients. The Cauchy- Euler equation, system of linear differential equations

UNIT-V

Partial differential equations-I

Formation of Partial differential equations; Equations of first order-Lagrange's linear equations-Charpit's method-standard types of first order non linear Partial differential equations

I B.Sc. MATHEMATICS, SEMESTER-II, PAPER-II
SYLLABUS w.e.f 2016 - 17
TITLE: SOLID GEOMENTRY

Class: I B.SC

UNIT-I (12 hours) The Plane:

Equation of plane in terms of its intercepts on the axis, Equations of the plane through the given points, length of the perpendicular from a given point to a given plane, Bisecttion on of angles between two planes, combined equation of two planes, Orthogonal projection on a plane.

UNIT-II (12 hours) The Line:

Equations of a line; angle between a line and a plane; The condition that a given line may lie in a given plane; The condition that two given lines are coplanar; number of arbitrary constants in the equations of a straight line; Sets of conditions which determine a line; The shortest distance between two lines; The length and equations of the line of shortest distance

between two straight lines; Length of the perpendicular from a given point to a given line; intersection of three planes; Triangular Prism.

UNIT-III (12 hours) Sphere:

Definition and equation of the sphere; Equation of the sphere through four given points; Plane sections of a sphere; Intersection of a spheres; Equation of a circle; Sphere through a given circle; intersection of a sphere and a line; power of a point; Tangent plane; Plane of contact; Polar plane; pole of a plane; Conjugate points; conjugative planes; Angle of intersection of two spheres; Conditions for two spheres to be orthogonal; Radical plane; Coaxial system of spheres; simplified from of the equation of two spheres.

UNIT-IV (12 hours) Cones:

Definitions of a cone; vertex; guiding curve; generators; equation of the cone with a given vertex and guiding curve; enveloping cone of a sphere; Equations of cones with vertex at origin are homogeneous; condition that the general equation of the second degree should represent a cone; Condition that a cone may have three mutually perpendicular generators; Intersection of a lin and a quadratic cone; Tangent lines and tangent plane at a point; Condition that a plane may touch a cone; Reciprocal cones; Intersection of two cones with a ommon vertex; Right Circular cone; Equation of the right circular cone with a given vertex; axis and semi vertical angle.

UNIT-V (12 hours) Cylinders and Conicoids:

Definition of a cylinder; Equation to the cylinder whose generators intersect a given conic and are parallel to a given line; Enveloping cylinder of a sphere; The right circular cylinder;Equation of the right circularcylinder with a given axis and radius.

The general equation of the second degree and the various surfaces represented by it, shapes of some surfaces, Nature of Ellipsoid, nature of Hyperboloid of one sheet.

DEPARTMENT OF MATHEMATICS
SEMESTER III
ABSTRACT ALGEBRA

UNIT – 1 : (10 Hrs) GROUPS : -

Binary Operation – Algebraic structure – semi group-monoid – Group definition and elementary properties Finite and Infinite groups – examples – order of a group. Composition tables with examples.

UNIT – 2 : (14 Hrs) SUBGROUPS : -

Complex Definition – Multiplication of two complexes Inverse of a complex-Subgroup definition – examples-criterion for a complex to be a subgroups. Criterion for the product of two subgroups to be a subgroup-union and Intersection of subgroups. Co-sets and Lagrange's Theorem :- Cosets Definition – properties of Cosets–Index of a subgroups of a finite groups– Lagrange's Theorem.

UNIT –3 : (12 Hrs) NORMAL SUBGROUPS : -

Definition of normal subgroup – proper and improper normal subgroup–Hamilton group – criterion for a subgroup to be a normal subgroup – intersection of two normal subgroups – Sub group of index 2 is a normal sub group – simple group – quotient group – criteria for the existence of a quotient group.

UNIT – 4 : (10 Hrs) HOMOMORPHISM : -

Definition of homomorphism – Image of homomorphism elementary properties of homomorphism – Isomorphism – aultomorphism definitions and elementary properties–kernel of a homomorphism – fundamental theorem on Homomorphism and applications.

UNIT – 5 : (14 Hrs) PERMUTATIONS AND CYCLIC GROUPS : -

Definition of permutation – permutation multiplication – Inverse of a permutation – cyclic permutations – transposition – even and odd permutations – Cayley's theorem. Cyclic Groups :- Definition of cyclic group – elementary properties – classification of cyclic groups. Prescribed Text Book : A. First course in Abstract Algebra, by J.B. Fraleigh Published by Narosa Publishing house. Chapters : 1 to 7 and 11 to 13. Reference Books : 1. A text book of Mathematics for B.A. / B.S. by B.V.S.S. SARMA and others Published by S.Chand & Company New Delhi. 2. Modern Algebra by M.L. Khanna.

DEPARTMENT OF MATHEMATICS

SEMESTER-IV

REAL ANALYSIS

REAL ANALYSIS UNIT – I (12 hrs) : REAL NUMBERS :

The algebraic and order properties of R, Absolute value and Real line, Completeness property of R, Applications of supreme property; intervals. No. Question is to be set from this portion. Real Sequences : Sequences and their limits, Range and Boundedness of Sequences, Limit of a sequence and Convergent sequence. The Cauchy's criterion, properly divergent sequences, Monotone sequences, Necessary and Sufficient condition for Convergence of Monotone Sequence, Limit Point of Sequence, Subsequences and the Bolzano-weierstrass theorem – Cauchy Sequences – Cauchey's general principle of convergence theorem.

UNIT –II (12 hrs) : INFINITIE SERIES :

Series : Introduction to series, convergence of series. Ceanchy's general principle of convergence for series tests for convergence of series, Series of Non-Negative Terms. 1. P-test 2. Canchy's nth root test or Root Test. 3. D'-Alemberts' Test or Ratio Test. 4. Alternating Series – Leibnitz Test. Absolute convergence and conditional convergence, semi convergence.

UNIT – III (12 hrs) : CONTINUITY :

Limits : Real valued Functions, Boundedness of a function, Limits of functions. Some extensions of the limit concept, Infinite Limits. Limits at infinity. No. Question is to be set from this portion. Continuous functions : Continuous functions, Combinations of continuous functions, Continuous Functions on intervals, uniform continuity.

UNIT – IV (12 hrs) : DIFFERENTIATION AND MEAN VALUE THEORMS :

The derivability of a function, on an interval, at a point, Derivability and continuity of a function, Graphical meaning of the Derivative, Mean value Theorems; Role's Theorem, Lagrange's Theorem, Cauchhy's Mean value Theorem - Generalized Mean value Theorems - Taylor's Theorem, Maclaurin's Theorem, Expansion of functions with different forms of remainders, Taylor's Maclaurins Seriess, power series representation of functions.

UNIT – V (12 hrs) : RIEMANN INTEGRATION :

Riemann Integral, Riemann integral functions, Darboux theorem. Necessary and sufficient condition for R – integrability, Properties of integrable functions, Fundamental theorem of integral calculus, integral as the limit of a sum, Mean value Theorems.

III B.Sc. MATHEMATICS, SEMESTER-V, PAPER-VI E1
SYLLABUS(With effect from the academic year 2016-2017)
Title of the Paper: Special Functions

Unit-I

Beta and Gamma Functions:-

Definition-Elementary properties-Relation between Beta and Gamma Functions-other transformations-Legendre Duplication formula.

(4 Short answer questions,2 long answer questions will be given in the examination)

Unit-II

Bessel's Functions:-

Definition-Recurrencce formulae-generating function-properties.

(4 Short answer questions,2 long answer questions will be given in the examination)

Unit-III

Hermite polynomials & Laguerre polynomials:-

Definition-Generating function-Rodrigue's formula-orthogonal properties-Recurrence formulae.

(3 Short answer questions,3 long answer questions will be given in the examination)

Unit-IV

Legendre polynomials:-

Definition-Generating function-orthogonal properties-Recurrence formulae-Rodrigues formulae.

(3 Short answer questions,3 long answer questions will be given in the examination)

SYLLABUS (with effect from the academic year 2015-16)
Title of the paper: DISCRETE MATHEMATICS
BOOLEAN ALGEBRA AND ITS APPLICATIONS

UNIT – I:

Introduction: Definition and examples of Boolean algebra-Dedekind lemma- Postulate L

5

Follows from L to L and L – definition of Boolean sum and problems on it. **Order:** In any Boolean algebra, $a \wedge x=0$ and $a \vee x=1 \Rightarrow x=$ á – In any Boolean algebra $a \wedge b=a$, $a \vee b=b$, á$\vee$ $b=1$ and $a \wedge b' =0$ are mutually equivalent- In any Boolean algebra $B=(A, \wedge, \vee, ')$, the relation $\leq$ is a partial ordering of A, moreover in terms of this partial ordering $a \wedge b=$ glb{ a,b} and $a \vee b=$ lub{a,b}- In any Boolean algebra on A , $b \leq c \Rightarrow a \wedge b \leq a \wedge c$ and $a \vee b \leq a \vee c$, v $a \in A$ (isotonicity) (2 Questions) **Boolean polynomials:** Definitions and properties. In any Boolean algebra, the

following hold good (i) $a \vee x = a \vee y$ and $a \wedge b \le a \wedge c \Rightarrow x=y$ (ii) $(\bigwedge_{i=1}^{n} x_i)' = \bigvee_{i=1}^{n} x_i'$

(1 Question)

Connections with logic: Definitions of and ($\wedge$), or ($\vee$), not (‘), implication ($\Rightarrow$) bi implications ($\Leftrightarrow$), contradiction and tautology and problems on them – the relation $\Rightarrow$ is transitive i.e.

$(p \Rightarrow q) \wedge (q \Rightarrow r) \Rightarrow (p \Rightarrow r)$. (1 Question - problem)

UNIT – II:

Block diagrams for gating networks: Definitions of gates-Definitions AND,OR and Inverter gates and theirs block diagrams-Gating networks:AND-to-OR,OR-to-AND,AND-to-NOT,AND-to-OR and OR-to-AND gate networks-simplefication of given gating network-table of combinations. (1 Question - problem)

Boolean subalgebras: Definitions and examples-definition of an interval [a,b] on a poset-properties.Disjunctive Normal form (DN form):Definitions of disjunctive,mintem,maxterm,DN form and Conjunctive Normal form(CN form)-conversion of any Boolean function into DN form.

(1 Question - problem)

NAND gates NOR gates: Definitions and their block diagrams. Expressions of (i) (a+b) and a.b using only NAND gates- (ii) (a+b) and a.b using only NOR gates (iii) $ab \vee cd$ using only NAND gates (iv) $(a \vee b)(c \vee d)$ using NOR gates only- simplication of given gate network (1 Question - problem)

The minimization problem: Definition and examples of literal, fundamental product, sum-of-products expression, complete sum- of- products expression-algorithms for finding sum-of-products expression form and complete sum-of-products expression and problems on them. (1 Question)

LANGUAGES AND FINITE STATE MACHINES

UNIT –III:

Computability and Formal languages: Introduction- Russell’s paradox and non computability- Examples of paradox-ordered sets.

Languages and Phrase Structure grammars: Definitions and examples of languages-Definition of phrase structure grammar-construction of a grammar for the given language-derivation of a string from the given set of productions. (1 Question)

Types of grammars and Languages: Definitions of types of grammars and languages with examples. (1 Question)

Finite State Machines as language recognizers: Definitions and examples- the language $L=\{ a^k b^k / k \ge 1\}$ is not a finite state language- the language $L=\{a^k / k = i^2, i \in N\}$ is not a finite state language. (1 Question)

UNIT –IV:

Finite State Machines(FSM): Introduction- Definitions of FSM- state diagram and state tables and problems on them. (1 Question)

Finite State Machines as Models of physical system: Examples of finite state machines as models of physical system. (1 Question - problem)

Equivalent Machines: definitions of 0- equivalent states and k- equivalent states- finding equivalent states-minimising the given finite state machine. (1 Question- problem)

Parity Check Machine: Definition, state table and state diagram of Parity check machine (1 Question)

RECURRENCE RELATIONS

Recurrence Relations:Introduction-recurrence relation (difference equation)-numeric function-Fibonacci sequence of numbers-boundary condinations.

Linear Recurrence Relations With Constant Coefficients: definition-order-examples. (2Questions- problems)

Homogeneous Solutions:Homogeneous solutions-particular solutions-particular solutions-characteristic roots-characteristic equation of difference equation-examples. (1question-problem)

Particular Solutions: Finding particular solution of the given difference equation.

Total Solutions: Finding total solution of the given difference equation. (1question- problem)

III B.Sc. MATHEMATICS, SEMESTER-VI, PAPER-VIII E1

SYLLABUS(With effect from the academic year 2016-2017)

Title of the Paper: Numerical Analysis

Unit-I

Finite Differences:-

Forward Difference-Backward Difference-The operators Δ, ∇, E −Advancing difference formula-Algebra of the operator between the sum, product, Quotient,Difference of function factorial polynomials.

(4 Short answer questions,2 long answer questions will be given in the examination)

Unit-II

Interpolation with equal intervals:-

Interpolation-Newton-Gregory Forward interpolation-derivation and problems-Newton-Gregory backward interpolation- derivation and problems.

Central differences:-

The operators δ and μ-Gauss forward interpolation formula - derivation and problems,Gauss backward interpolation formula- derivation and problems,Bessel's formula -derivation and problems,Stiriling's formula- derivation and problems.

(4 Short answer questions,2 long answer questions will be given in the examination)

Unit-III

Interpolation with unequal intervals:-

Divided differences-Relation between ordinary and divided differences-Newton's divided difference formula- derivation and problems,Lagrange's interpolation formula- derivation and problems-

Inverse Interpolation:-

Inverse Interpolation-Lagrange's inverse interpolation- derivation and problems

(3 Short answer questions,3 long answer questions will be given in the examination)

Unit-IV

Numerical Integration:-

General Quadrature formula for equally spaced arguments-Trapezoidal rule Simpson's $\frac{1}{3}$rd,$\frac{3}{8}th$ Rules-Weddle's rule-problems.

Solution of Algebraic and Transcendental equations:-

Iteration method-Regula Falsi method-Newton Raphson methods-Problems.

(3 Short answer questions,3 long answer questions will be given in the examination)

III BSC MATHEMATICS, SEMESTER-VI, PAPER-VIIIE2

SYLLABUS(with effect from the academic year 2015-16)

Title of the paper: OPERATIONS RESEARCH

UNIT – I Linear Programming Problems and Simplex method

Historical development, meaning of OR, scope of OR in India, Role of computers in OR. General formation of LPP-Formulation problems, Graphical solutions, Basic definitions, slack variables, surplus variables, Simplex method.

(3 short answer questions, 3 long answer questions will be given in the examination)

UNIT – II TRANSPORTATION PROBLEMS

Definition, mathematical formulation, initial basic feasible solution, North-West corner method-least cost method-vogel's method-Test for optimality-MODI method- Balanced and unbalanced transportation problems.

(4 short answer questions, 2 long answer questions will be given in the examination)

UNIT- III ASSIGNMENT PROBLEMS

Definition, mathematical formulation-Hungarian Method- Balanced and unbalanced assignment problem, travelling sales man problem.

JOB SEQUENCING

Introduction , terminology and notations, principle assumptions, solution of sequencing problem- processing n jobs through two machines- processing n jobs through three machines.

(3 short answer questions, 3 long answer questions will be given in the examination)

UNIT-IV GAME THEORY

Basic definition Minimax(Maximini) criterion and optimal strategy, saddle point, value of the game, Zero sum game, payoff matrix, solution of games with saddle points, fundamental theorem of game(no proof), 2×2 games without saddle point, principle of Dominance Property to reduce the size of the game.

(4 short answer questions, 2 long answer questions will be given in the examination)

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I B.SC., PHYSICS SYLLABUS
I SEMESTER - PAPER-I
MECHANICS, WAVES & OSCLLATIONS

UNIT-I **10hrs**

VECTOR ANALYSIS

Scalar and Vector fields, Gradient of a scalar field and its physical significance, Divergence and curl of a vector field -derivations, vector Integration – Line, surface and volume Integrals, Stokes, Gauss and theorems- Statements and proof.

MECHANICS OF PARTICLES

Laws of motion, Motion of variable mass system, Motion of a Rocket, Multi stage Rocket, conservation of energy and momentum, Collisions in two and three dimensions Concept of impact parameter, Scattering cross-section, Rutherford's scattering formula-derivation.

UNIT-II **10hrs**

MECHANICS OF RIGID BODIES

Definition of a Rigid body – Rotational kinematics relations, Equation of motion of rotating body, angular momentum, Euler's equation, Precession of a top, Gyroscope, Precession of Equinoxes.

UNIT-III **10hrs**

FUNDAMENTALS OF VIBRATIONS

Simple Harmonic Oscillator and the solution of the differential equation, physical characteristics of SHM, Frequency of loaded spring taking its mass into consideration.

COMBINATIONS OF MOTIONS

Combination of two mutually perpendicular simple harmonic vibrations of same frequency and different frequencies, Lissajou's figures – Its applications (qualitative treatment)

UNIT-IV **10hrs**

DAMPED VIBRATIONS

Damped harmonic oscillator, Solution of the differential equation of a damped oscillator, Energy considerations, Logarithmic decrement, relaxation time, quality factor.

FORCED OSCILLATIONS

Differential equations of forced oscillator and its solutions, Amplitude resonance, velocity resonance.

UNIT-V **10hrs**

COMPLEX VIBRATIONS

Fourier's theorem and evaluation of the Fourier's coefficients, Analysis of periodic wave functions- Square wave function, Triangular wave, saw tooth wave.

I B.SC., PHYSICS SYLLABUS w.e.f 2015-2016

II SEMESTER –PAPER -II

MECHANICS, WAVES & OSCLLATIONS

UNIT-I **10hrs**

MECHANICS OF CONTINUOUS MEDIA

Elastic constants of isotropic solids and their relation, Poisson's ratio and expression for Poisson's ratio in terms of y, n, k and poission's ratio limitations

BENDING:

Types of bending, point load, distributed load, shearing force and bending moment (Definitions only), sign conventions.

UNIT-II **10hrs**

CENTRAL FORCES

Central forces - definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy, equation of motion under a central force, motion of satellite, motion under inverse square law, Derivation of Kepler's laws.

UNIT-III **10hrs**

SPECIAL THEORY OF RELATIVITY

Galilean relativity, search for absolute frames of reference, Michelson-Morley experiment and negative result explanation, Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction, addition of velocities, Einstein's mass-energy relation.

UNIT-IV **10hrs**

VIBRATIONS OF BARS

Longitudinal vibrations in bars-wave equation and its general solution, special cases (i) bar fixed at both ends ii) bar fixed at the midpoint (iii) bar free at both ends (iv) bar fixed at one end.

UNIT-IV **10hrs**

VIBRATIONS OF STRINGS

Transverse velocity of wave propagation along a stretched string, general solution of Wave equation and its significance, modes of vibration of stretched string clamped at both ends, overtones, energy transport, transverse impedance or characteristic impedance.

UNIT-IV **10hrs**

ULTRASONICS

Ultrasonics, properties of ultrasonic waves, production of ultrasonics by Piezoelectric and Magneto-striciton methods, detection of ultrasonics, determination of wave length of ultrasonic waves. Applications of ultrasonic waves.

II B.Sc., PHYSICS SYLLABUS III SEMESTER - PAPER-III
THERMODYNAMICS AND OPTICS

UNIT-I: KINETIC THEORY OF GASES (7):

Introduction – Deduction of Maxwell's law of distribution of molecular speeds, Experimental verification- Toothed Wheel Experiment, Transport Phenomena – Viscosity of gases – thermal conductivity – diffusion of gases.

UNIT-II: THERMODYNAMICS (14):

Introduction – Isothermal and adiabatic process , Reversible and irreversible processes – Carnot's engine and its efficiency – Carnot's theorem – Second law of thermodynamics, Kelvin's and claussius statements – Thermodynamics scale of temperature. Concept of Entropy, physical significance – change in entropy in reversible and irreversible processes – Entropy and disorder – Entropy of universe – Temperature Entropy (TS) diagram – Change of entropy of a perfect gas.

UNIT-III (7): THERMODYNAMIC POTENTIALS AND MAXWELL'S EQUATIONS:

Thermodynamic potentials – Derivaiton of Maxwells thermodynamic relations from thermodynamic potentials, Claussius Clayperon's equation – Derivation for ratio of specific heats – Derivation for difference of two specific heats of a gas. Joule Kelvin effect – expression for Joule Kelvin coefficient for perfect and Vanderwaal's gas.

UNIT-IV: INTERFERENCE OF LIGHT (20):

Principle of superposition- coherence-temporal and spatial- conditions for interference of light-Fresnel's biprism – determination of wave length of light, Determination of thickness of transparent material using biprism – change of phase on reflection (Stoke's law) – Lloyd's mirror experiment,

Interference of a plane wave by a plane parallel film -Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (Cosine law) – Colours of thin films – Non reflecting films – Interference by a film with two non parallel reflecting surfaces (Wedge shaped film)-Determination of diameter of wire .

Newton's rings –Explanation of the formation of the Newton's rings ,theory – Newton's rings by reflected light - Determination of wave length of monochromatic light using Newton's rings -Michelson Interferometer -types of fringes , –Determination of wave length of monochromatic light, difference in wave lengths and thickness of a thin transparent plate.

UNIT-V: FRAUNHOFFER DIFFRACTION (12):

Introduction – difference between interference and diffraction., Fraunhoffer diffraction due to single slit– Fraunhoffer diffraction due to double slit – Fraunhoffer diffraction pattern with N slits (diffraction gating) Resolving Power of grating – Determination of wave length of light in normal and oblique incidence methods using diffraction grating.

II B.Sc., PHYSICS SYLLABUS IV SEMESTER - PAPER-IV
THERMODYNAMICS AND OPTICS

UNIT-I: LOW TEMPERATURE PHYSICS (10):

Introduction – Joule Kelvin effect – liquefaction of gas using Porous plug experiment. Joule expansion – Distinction between adiabatic and Joule Thomson expansion – Expression for Joule Thomson cooling – Liquefaction of helium, Kapitza's method – Adiabatic

demagnetization – production of low temperatures, Effects of Chloro and Fluro Carbons on Ozone layer, applications of substance at low temperature.

UNIT-II: QUANTUM THEORY OF RADIATION (14):

Black body ,Ferry's black body – distribution of energy in the spectrum of Black body – Experimental results,Wein's displacement law, Wein's law , Rayleigh Jean's formula – Quantum theory of radiation, derivation of Planck's radiation law .

Measurement of radiation, Types of pyrometers – disappearing filament optical pyrometer – Angstrom pyroheliometer - experimental determination of temperature of the sun, solar constant- determination of solar constant, Temperature of sun.

UNIT-III: FRESNEL DIFFRACTION(7):

Fresnel's half period zones – area of the half period zones – zone plate – Comparison of zone plate with convex lens – diffraction at a straight edge – Distinction between Fresnel and Fraunhoffer diffraction.

UNIT-IV: POLARIZATION (12):

Polarized light : Methods of polarization- polarization by reflection, refraction, double refraction, scattering of light – Brewster's law – Maulus law – Nicol prism as polarizer and analyzer – Double refraction- Huygens explanation (Basics only) – Quarter wave plate, Half wave plate, analysis of polarized light – Babinet's compensator – Optical activity- Laurent's half shade polarimeter.

UNIT- V: LASERS, FIBER OPTICS AND HOLOGRAPHY (17):

Lasers: Introduction – Spontaneous and stimulated emissions – population inversion. Laser principle – Ruby laser- He-Ne laser –Applications of lasers.

Fiber optics: Introduction – optical fibers – Types of optical fibers –Rays and modes in an optical fiber – Fiber materials – Principles of fiber communication (qualitative treatment only) and advantages of optical fiber communication over Electromagnetic communication.

HOLOGRAPHY: Basic Principle of Holography–Gabor hologram,recording and reconstruction of a hologram, Applications of Holography.

III B.SC., PHYSICS SEMESTER V – PAPER V
ELECTRICITY & MAGNETISM

1. ELECTROSTATICS (10 Periods)

Gauss law and its applications – Uniformly charged sphere, charged cylindrical conductor and an infinite conducting Electric potential – Potential due to a charged spherical conductor, electric field strength from the electric dipole and an infinite line of charge. Potential of a uniformly charged circular disc.

2. DIELECTRICS (5 Periods)

An atomic view of dielectrics, potential energy of a dipole in an electric field. Polarization and charge density, Gauss's law for dielectric medium – Relation between D,E, and P. Dielectric constant, susceptibility and relation between them. Boundary conditions at the dielectric surface. Electric fields in cavities of a dielectric – needle shaped cavity and disc shaped cavity.

3. CAPACITANCE (8 periods)

Capacitance of concentric spheres and cylindrical condenser, capacitance of parallel plate condenser with and without dielectric. Electric energy stored in a charged condenser –

4. ELECTROMETERS(4 Periods)

force between plates of condenser, construction and working of attracted disc electrometer measurement of dielectric constant and potential difference.

24 hrs.

5. MAGNETOSTATICS (6 periods)

Magnetic shell – potential due to a magnetic shell – field due to magnetic shell – equivalent of electric circuit and magnetic shell – Magnetic induction (B) and field (H) – permeability and susceptibility – Hysteresis loop.

6. MOVING CHARGE IN ELECTRIC AND MAGNETIC FIELD (8 periods)

Hall effect, cyclotron, synchrocyclotron and synchrotron – force on a current carrying conductor placed in a magnetic field, force and torque on a current loop, Biot – Savart's law and calculation of B due to long straight wire, a circular loop and solenoid.

7. ELECTROMAGNETIC INDUCTION (10 periods)

Faraday's law – Lenz's law – expression for induced emf – time varying magnetic fields – Betatron – Ballistic galvanometer – theory – damping correction –

8. **SELF AND MUTUAL INDUCTANCE**

coefficient of coupling, calculation of self inductance of a long solenoid – toroid – energy stored in magnetic field – transformer – construction, working, energy losses and efficiency.

III Year B.Sc., Physics Syllabus
PAPER-VII
ELECTRICITY&ELECTRONICS
SEMESTER-VI

20 hrs

Unit-III

1. VARYING AND ALTERNATING CURRENTS (10 periods)

Growth and decay of currents in LR, CR and LCR circuits – critical damping, alternating current relation between current and voltage in pure R, C and L – vector diagrams – power in ac circuits. LCR series and parallel resonant circuit – Q-factor. AC & DC motors – single phase, three phase (basics only).

2. MAXWELL'S EQUATIONS AND ELECTROMAGNETIC WAVES (10 periods)

A review of basic laws of electricity and magnetism – displacement current – Maxwell's equations in differentical form – Maxwell's wave equation, plane electromagnetic waves – Transverse nature of electromagnetic waves, Poynting theorem, production of electromagnetic waves (Hertz experiment)

Unit - IV

1. BASIC ELECTRONCS (15 periods)

Formation of electron energy bands in solids, classification of solids in terms of forbidden energy gap. Intrinsic and extrinsic semiconductors, Fermi level, continuity equation – p – n

junction diode, Zener diode characteristics and its application as voltage regulator. Half wave and full wave rectifiers and filters, ripple factor (quantitative) – p n p and n p n transistors, current components in transistors, CB, CE and CC configurations – transistor hybrid parameters – determination of hybrid parameters from transistor characteristic – transistor as an amplifier-concept of negative feed back and positive feed back – Brakhausen criterion, RC coupled amplifier and phase shift oscillator (qualitative).

2. **DIGITAL PRINCIPLES (8 periods)**

Binary number system, converting Binary to Decimal and vice versa. Binary addition and subtraction (1's and 2's complement method). Hexadecimal number system. Conversion from Binary to Hexadecimal – vice versa and Decimal to Hexadecimal vice versa.

Logic gates : OR, AND, NOT gates, truth tables, realization of these gates using discrete components. NAND, NOR as universal gates, Exclusive – OR gate, De Morgan's laws – statement and proof, Half and Full adders. Parallel adder circuits.

III B.SC., PHYSICS SEMESTER V – PAPER VI
ATOMIC PHYSICS & SOLID STATE PHYSICS

1. **ATOMIC SPECTRA (25 periods)**

Introduction – Drawbacks of Bohr's atomic model – Sommerfield's elliptical orbits – relativistic correction (no derivation). Stern & Gerlach experiment Vector atom model and quantum numbers associated with it. L-S and j-j coupling schemes. Spectral terms, selection rules, intensity rules. Spectra of alkali atoms, doublet fine structure. Alkaline earth spectra, singlet and triplet fine structure. Zeeman effect, Paschen – Back effect and Stark effect (basic idea).

2. **MOLECULAR SPECTROSCOPY :**

Types of molecular spectra, pure relational energies and spectrum of diatomic molecule, determination of internuclear distance. Vibrational energies and spectrum of diatomic molecule. Raman effect, Classical theory of Raman effect. Experimental arrangement for Raman effect and its applications.

Solid State Physics (20)

3. **CRYSTAL STRUCTURE**

Crystalline nature of matter. Crystal lattice, unit cell, Elements of symmetry. Crystal syste, Bravais lattices, Miller indices. Simple crystal structures (SC., BCC, CsCL, FCC, Nacl diamond and Zinc blends)

4. **X-RAY DIFFRACTION**

Diffraction of X-rays by crystals, Bragg's law, Experimental techniques – Laue's method and powder method.

5. **NANO MATERIALS :**

Introduction, nano particles, metal nano clusters, semiconductor nano particles, carbon clusters, carbon nano tubes, quantum nano structures – nanodot, nanowire and quantum well. Fabrication of quantum nanostructures.

6. BONDING IN CRYSTALS :

Types of bonding in crystals – characteristics of crystals with different bindings. Lattice energy of ionic crystals – determination of Medelung constant for NaCl crystal, calculation of Born coefficient and repulsive exponent. Born – Haber cycle.

7. MAGNETISM

Magnetic properties of dia, para and ferromagnetic materials. Langevin's theory of paramagnetism. Weiss' theory of ferromagnetism – concepts of magnetic domains, antiferromagnetism and ferrimagnetism ferrites and their applications.

8. SUPER CONDUCTIVITY :

Basic experimental facts – zero resistance, effect of magnetic field, Meissner effect, persistent current, Isotope effect Thermodynamic properties, specific heat, entropy. Type I and Type II superconductors.

Elements of BCS theory – cooper pairs. Applications. High temperature superconductors (general information)

1. Kaplan – Narosa Publishing House.
2. Quantum Mechanic by Mahesh C. Jani. Eastern Economy Edition.
3. Unified Physics – Dr. S.L. Gupta & Sanjiv Gupta, Jayaprakash Nath and publications

DEPARTMENT OF PHYSICS
III B.Sc., PHYSICS – SUBJECT ELECTIVE – SEMESTER V –PAPER -VI
RADIATION PHYSICS

UNIT I **6hours**

Trace elemental analysis – X-ray fluorescence technique – particle induced x-ray emission technique – neutron activation analysis technique – experimental arrangement – applications in environmental pollution studies, medicine, geology.

UNIT 2 **6hours**

Rutherford back scattering spectroscopy – basic principle – experimental arrangement – applications in surface physics.Auger electron spectroscopy – basic principle – experimental arrangement – applications in surface physics

UNIT 3 **6hours**

Nuclear Magnetic Resonance – Nature of the phenomenon – Analysis – Experimental method – Determination of nuclear magnetic moments – structural studies.

UNIT 4 **6hours**

Positron annihilation technique – basic principle – experimental arrangement for positron life time measurement – Doppler broadening and angular correlation studies – applications .Ion beam channeling – basic principle – experimental arrangement – applications

UNIT 5 **6hours**

Units of radio activity and radiation exposure – Curie, Roentgen, Becquerel – RAD – REP-REM – Gray – Sievert - RBE, AD and DE and their relations.

UNIT6

6hours

Protection of personnel against nuclear radiations – Radiation monitoring – film badge technique - Radioactive waste management – planning and use of radio isotopes and chemical laboratories

UNIT 7 **5hours**

Structure of the living cell – cell division – direct and indirect action of ionizing radiation – Biological effects of radiations – somatic and genetic effects

UNIT 8 **4hours**

Applications of radio isotopes in medicine – use of ^{131}I for the study of the thyroid – use of radioisotopes in the diagnosis and treatment of cancer – radiation therapy. Applications of radio isotopes in industry – principle of industrial radiology – non destructive testing of materials

Text and Reference Books:

1. Back Scattering Spectrometry by J.W. Mayer and M.A. Nicolet. Academic Press, New York, 1978.
2. Positrons in Solids, Edited by P. Hauto jarvi, Springer – Verlag, New York, 1979.
3. Elemental X- ray analysis of materials by J.C. Russ etal, Edax Laboratories
4. Analytical Techniques for Material characterisation by W.E. Collins (Editor)
5. Solid State Physics by (R.L. Singhal)

III Year B.Sc., Physics Syllabus PAPER-VI
(QUANTUM MECHANICS & NUCLEAR PHYSICS)
SEMESTER-VI PAPER - VIII

25 hrs

Unit-I

Quantum Mechanics (25)

1. INADEQUENCY OF CLASSICAL PHYSICS (discuss only)

Spectral radiation – Planck's law. Photoelectric effect – Einstien's photoelectric equation. Compton's effect (quantitative) experimental verification. Stability of an atom – Bohr's atomic theory. Limitations of old quantum theory.

2. MATTER WAVES

De Brogile's hypothesis – wave length of matter waves, properties of matter waves. Phase and group velocities. Davisson and Germer experiment. Double slit experiment. Standing De Brogile waves of electron in Bohr orbits.

Unit-II

3. UNCERTAINTY PRINCIPLE

Heisenberg's uncertainity principle for position and momentum (x and p_x), Energy and time (E and t). Gamma ray microscope. Diffraction by a single slit. Position of electron in a Bohr orbit. Particle in a box. Complementary principle of Bohr.

4. SCHRODINGER WAVE EQUATION

Schrodinger time independent and time dependant wave equations. Wave function properties – Significance. Basic postulates of quantum mechanics. Operators, eigen function and eigen

values, expectation values. Application of Schrodinger wave equation to particle in one and three dimensional boxes, potential step and portential barrier.

Unit-III

Nuclear Physics (15)

5. NUCLEAR STRUCTURE

Basic properties of nucleus – size, charge, mass, spin, magnetic dipole moment and electric quadruple moment. Binding energy of nucleus, deuteron binding energy, p-p and n-p scattering (concepts), nuclear forces, Nuclear models – liquid drop model, shell model.

6. ALPHA AND BETA DECAYS

Range of alpha particles, Geiger – Natal law, Gamow's theory of alpha decay. Geiger Natal law from Gamow's theory. Beta spectrum – neutrino hypothesis, Fermi's theory of – beta decay (qualitative).

7. NUCLEAR REACTIONS

Types of nuclear reactions, channels, nuclear reaction kinematics. Compound nucleus, direct reactions (concepts).

8. NUCLEAR DETECTORS

GM counter, proportional counter, scintillation counter, Wilson cloud chamber and solid state detector.

DEPARTMENT OF PHYSICS

III B.Sc., PHYSICS – SUBJECT ELECTIVE – SEMESTER VI –PAPER -VIII

CONDENSED MATTER PHYSICS

UNIT I 6hours

Crystal Structure: Crystalline solids, periodic arrays of atoms – Fundamental types of lattices –index systems for crystal planes – Simple crystal structures (NaCl, CaCl and diamond) IonicCrystals: Electrostatic or Madelung energy – Evaluation of the madelung constant – Ionic crystalradii Reciprocal Lattice: Reciprocal Lattice – Derivation of Scattered wave amplitude –

Reciprocal Lattice vectors – Diffraction conditions

UNIT 2 6hours

Crystal Diffraction: Introduction – Bragg's law – Diffraction by X-rays, electrons and neutrons – Experimental methods for Crystal structure determination – The Laue, powder and rotating crystal methods Non Crystalline Solids : Diffraction Pattern, Glasses, Amorphous Ferromagnets

and Semi Conductors, Fiber Optics

6hours

UNIT 3

Defects in Crystals: Point defects:- impurities – Vacancies – Schottky and Frenkel vacancies Extrinsic vacancies – Diffusion-Color centers – F-centers , other centers in Alkali halides Line defects: -Edge dislocation – Screw dislocations – Burgers vectors – Slip – Plastic deformation –

Crystal growth Planer defects:- Stacking faults – Grain boundaries – Low angle Grain boundaries

6hours

UNIT 4

Band theory of Solids: Energy spectra in atoms, molecules and solids – Bloch theorem – acceleration of the moving electron in the periodic lattice and effective mass of the electron – The tight binding approximation – Construction of Fermi surfaces – Experimental methods in Fermi surface studies: Cyclotron resonance, De Hass Von Alphen effect, Magneto resistance and the anomalous skin effect

UNIT 5 6hours

Semiconductors: Classifying Materials as Semiconductors, Chemical Bond in Semiconductors, Band Gap, Intrinsic and Extrinsic Semiconductors, Mobility Drift Velocity and Conductivity of Intrinsic Semiconductors, Carrier Concentration in Intrinsic Semiconductors, Impurity Semiconductors, Impurity States and Band Model, Energy Band Diagram and the Fermi level

UNIT 6 6hours

Magnetism: Introduction - review of basic concepts – Wiess theory of ferromagnetism – Heisenerg model and molecular field theory. Spin waves and magnons – Curie Weiss law for susceptibility. Ferri and antiferro-magnetic order. Domains and Bloch – wall energy. –

UNIT 7 6hours

Superconductivity: Occurrence of superconductivity – Effect of magnetic fields – Flux exclusion and Meissner effect – Heat capacity – Energy gap – Microwave and infrared properties – Isotope effect – The London equations – Meissner effect and flux penetration – High frequency effects – The BCS theory – BCS ground state

6hours

UNIT 8

Nano Structures : Imaging techniques for Nano Structures, Electronic Structures of 1D System,Electrical Transport in 1D System, Electronic Structures of 0DSystem, Electrical Transport in 0DSystem.

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DEPARTMENT OF CHEMISTRY

SEMESTER – I

Paper I - Inorganic & Organic Chemistry 60hrs (4h/w)

w.e.f. **From 2017-2018 (2015-16 admitted batch)**

INORGANIC CHEMISTRY - I 30 hrs (2h / w)

UNIT –I

P-block elements –I 10h

Group-13: Synthesis and structure of diborane and higher boranes, boron-nitrogen compounds ($B_3N_3H_6$ and BN) lGroup - 14: Preparation and applications of silanes, silicones and Silicates. Group - 15: Preparation and reactions of hydrazine, hydroxylamine.

P-block elements -II 8h

Group - 16: Classification of oxides based on (i) Chemical behaviour and (ii) Oxygen content.

Group-17: Inter halogen compounds and pseudo halogens.

UNIT-11

1. Organometa llic Chemistr y 7h

Definition and classification of organometallic compounds, nomenclature, preparation, properties and applications of alkyls of Li and Mg elements

2. General Principles of inorganic qualitative analysis 5h

Solubility product,common ion effect**,**charecterstic reactions of anions,elimination of interfering anions,separation of cations in to groups,group reagents,testing of cations.

ORGANIC CHEMISTRY - I 30hrs (2h /w)

UNIT-III

Structural theory in Organic Chemistry 10 h

Types of bond fission and organic reagents (Electrophilic, Nucleophilic, and free radical reagents including neutral molecules like H_2O, NH_3 & $AlCl_3$).

Bond polarization : Factors influencing the polarization of covalent bonds, electro negativity - inductive effect. Application of inductive effect (a) Basicity of amines (b) Acidity of carboxylic acids (c) Stability of carbonium ions. Resonance or Mesomeric effect, application to (a) acidity of phenol, and (b) acidity of carboxylic acids. Hyper conjugation and its application to stability of carbonium ions, Free radicals and alkenes, carbanions, carbenes and nitrenes.

Types of Organic reactions : Addition - electrophilic, nucleophilic and free radical. Substitution - electrophilic, nucleophilic and free radical. Elimination-Examples. (Mechanisms not requires)

UNIT-IV

1.Benzene and its reactivity 12h

Concept of resonance, resonance energy. Heat of hydrogenation, heat of combustion of Benzene, mention of C-C bond lengths and orbital picture of Benzene. Concept of aromaticity - aromaticity (definition), Huckel's rule - application to Benzenoid (Benzene, Naphthalene) and Non - Benzenoid compounds (cyclopropenyl

cation, cyclopentadienyl anion and tropylium cation)

Reactions - General mechanism of electrophilic substitution, mechanism of nitration, Friedel Craft's alkylation and acylation. Orientation of aromatic substitution - Definition of ortho, para and meta directing groups. Ring activating and deactivating groups with examples (Electronic interpretation of various groups like NO_2 and Phenolic). Orientation of (i) Amino, methoxy and methyl groups (ii) Carboxy, nitro, nitrile, carbonyl and sulphonic acid groups (iii) Halogens

(Explanation by taking minimum of one example from each type)

UNIT – V

1. **Poly nuclear hydrocarbons** **4h**

Structure of Napthalen,and Anthracene(Molecular orbital diagram and resonance energy) ant two methods of preparation of naphthalene and reactivity.Reactivity towards electrophilic substitution.Nitration and Sulphonation as examples.

2. **Alicyclic hydrocarbons (Cycloalkanes)** **4 h**

Nomenclature, Preparation by Freund's method, heating dicarboxylic metal salts. Properties - reactivity of cyclopropane and cyclobutane by comparing with alkanes, Stability of cycloalkanes - Baeyer's strain theory, Sachse and Mohr predictions and Pitzer's strain theory. Conformational structures of cyclobutane, cyclopentane, cyclohexane.

SEMESTER – II PHYSICAL CHEMISTRY

w.e.f. From 2017-2018 (2015-16 admitted batch)

Paper II (Physical & General Chemistry) 60 hrs. (4h/w)

UNIT-I

Solidstate **l0h**

Symmetry in crystals. Law of constancy of interfacial angles. The law of rationality of indices. The law of symmetry. Definition of lattice point, space lattice, unit cell. Bravis lattices and crystal systems. X-ray diffraction and crystal structure. Bragg's law.Determination of crystal structure by Bragg's method and powder method. Indexing of planes and structure of Nacl and Kcl crystals

Defects in crystals. Stoichiometric and non-stoichiometric defects. Band theory of semi conductors. Extrinsic and intrinsic semi conductors, n-and p-type semi conductors and their applications in photo electro chemical science.

UNIT-II

1.Gaseous state **6 h**

Compression factors, deviation of real gases from ideal behavior. Vander Waal's equation of state. P-V Isotherms of real gases, Andrew's isotherms of carbon dioxide, continuity of state. Critical phenomena. The vander Waal's equation and the critical state..Relationship between critical constants and vander Waal's constants. Joule Thomson effect.Liquefaction of gasesi) Linde's method and ii) Claude's method.

2.Liquid state **4 h**

Intermolecular forces,structure of liquids (qualitative description)Structural differences between solids, liquids and gases. Liquid crystals, the mesomorphic state. Classification of liquid crystals into Smectic and Nematic. Differences between liquid crystal and solid/liquid. Application of liquid crystals as LCD devices.

UNIT-III

Solutions l0h

Liquid-liquid - ideal solutions, Raoult's law. Ideally dilute solutions, Henry's law. Non- ideal solutions. Vapour pressure - composition and vapour pressure- temperature curves. Azeotropes-HCl-H_2O, ethanol-water systems and fractional distillation. Partially miscible liquids-phenol-water, trimethylamine-water, nicotine-water systems. Effect of impurity on consulate temperature. Immiscible liquids and steam distillation.

Nernst distribution law. Calculation of the partition coefficient. Applications of distribution law.

GENERAL CHEMISTRY 30 hrs (2h / w)

UNIT-IV

l.Surface chemistry 8 h

Definition of colloids. Solids in liquids(sols), preparation, purification, properties - kinetic, optical, electrical. Stability of colloids, Hardy-Schulze law, protective colloid. Liquids in liquids (emulsions) preparation, properties, uses. Liquids in solids (gels) preparation, uses.

Adsorption: Physical adsorption, chemisorption. Freundlisch, Langmuir adsorption isotherms. Applications of adsorption

2.ChemicalBonding 7h

Valence bond theory, hybridization, VB theory as applied toClF_3 **,** Ni(CO)**4 ,** Molecular orbital theory - LCAO method, construction of M.O. diagrams for homo- nuclear and hetero-nuclear diatomic molecules (N_2, O_2, CO and NO).

UNIT-V

Stereochemistry of carbon compounds 15 h

Molecular representations- Wedge, Fischer, Newman and Saw-Horse formulae.Stereoisomerism,stereoisomers,enantiomers,diastestereoisomers- definition and examples.Conformational and configurational isomerism- definition.Conformational isomerism of Ethane and n-Butane

Enantiomers: Optical activity- wave nature of light, plane polarised light,interaction with molecules, optical rotation and specific rotation.

Chiral molecules- definition and criteria absence of plane ,center ,and S_n axis of symmetry – asymmetric and dissymmetric molecules. Examples of asymmetric molecules (Glyceraldehyde, Lactic acid, Alanine,)and dissymmetric molecules(Trans-1,2 dichloro cyclopropane)

Chiral centers diffinition - molucles with similar chiral carbon(Tartaric acid), definition of mesomers – molecules with dissimilar chiral carbons (2,3 – dibromopentang). Number of enantiomers and mesomers – calculation.

D,L and R,S configuration for asymmetric and dissymmetric molecules.Cahn-Ingold-Prelog rules.Racemic mixture-racemisation and resolution techniques. Diasteromers – definition Geometrical isomerism with reference to Alkenes-Cis,Trans and E,Z- configuration with examples.

II B.Sc. CHEMISTRY Syllabus - III SEMESTER
Paper III - INORGANIC & ORGANIC CHEMISTRY
From 2016-2017 (2015-16 admitted batch)

UNIT-I INORGANIC CHEMISTRY - 30hrs (2h/w)

1. Chemistry of d-block elements: - 9 hrs

Chemistry of d- block elements with special reference to electronic configuration, variable valence, magnetic properties, catalytic properties and ability to form complexes. Stability of various oxidation states.

2. Theories of bonding in metals: - 6 hrs

Metallic properties and its limitations, valence bond theory, free electron theory, explanation of thermal and electrical conductivity of metals, limitations, band theory, formation of bands, explanation of conductors, semiconductors and insulators.

3. Metal carbonyls and related compounds: **- 7 hrs**

EAN rule, classification of metal carbonyls, structures and shapes of metal carbonyls of V, Cr, Mn, Fe, Co and Ni.

4. Chemistry of f-block elements: - 8 hrs

Chemistry of lanthanides - electronic structure, oxidation states, lanthanide contraction, consequences of lanthanide contraction, magnetic properties. Chemistry of actinides - electronic configuration, oxidation states, actinide contraction, comparison of lanthanides and actinides.

UNIT-II ORGANIC CHEMISTRY -30hrs(2h/w)

1.Halogen compounds: - 5 hrs

Nomenclature and classification of alkyl halides (into primary, secondary, tertiary), aryl, arylalkyl, allyl, vinyl, benzyl halides. Nucleophilic aliphatic substitution reactions - classification into SN^1 and SN^2 - reaction mechanism with examples - ethyl chloride, t-butyl chloride and optically active alkyl halide 2-bromo butane.

2. Hydroxy compounds: - 5 hrs

Nomenclature and classification of hydroxyl compounds.

Alcohols: Preparation with hydroboration reaction, Grignard synthesis of alcohols.

Phenols: Preparation i) from diazonium salt, ii) from aryl sulphonates, iii) from cumene

Physical properties: Hydrogen bonding (intermolecular and intramolecular).

Effect of hydrogen bonding on boiling point and solubility in water. Identification of alcohols by oxidation with KMnO4, ceric ammonium nitrate, Lucas reagent and phenols by reaction with $FeCl_3$.

Chemical Properties: a) Dehydration of alcohols b) Oxidation of alcohols by CrO_3, $KMnO_4$.

c) Special reactions of phenols: Bromination, Kolbe-Schmidt reaction, Riemer - Tiemann reaction, Fries rearrangement, azocoupling, Pinacol-Pinacolone rearrangement.

3. Carbonyl compounds - 10 hrs

Nomenclature of aliphatic and aromatic carbonyl compounds, structure of the carbonyl group.

Synthesis of aldehydes from acid chlorides, synthesis of aldehydes and ketones using 1,3-dithianes, synthesis of ketones from nitriles and from carboxylic acids.

Physical properties: reactivity of carbonyl group in aldehydes and ketones.

Nucleophilic addition reaction with a) $NaHSO_3$, b) HCN, c) RMgX, d) NH_2OH, e) $PhNHNH_2$, f)2,4 DNPH g) alcohols - formation of hemiacetal and acetal.

Base catalysed reactions: a)Aldol condensation, b) Cannizzaro reaction, c) Perkin reaction, d) Benzoin condensation, e) Haloform reaction, f) Knoevenagel reaction.

Oxidation of aldehydes, Baeyer-Villiger oxidation of ketones .

Reduction: Clemmensen reduction, Wolf-Kishner reduction, MPV reduction, reduction with $LiAlH_4$ and $NaBH_4$.

Analysis of aldehydes and ketones with a) 2, 4-DNP test, b) Tollen's test, c) Fehling test, d) Schiff's test, e) Haloform test (with equation)

4. Carboxylic acids and derivatives: - 6 hrs

Nomenclature, classification and structure of carboxylic acids. Methods of preparation by a) Hydrolysis of nitriles, amides, b) Hydrolysis of esters by acids and bases with mechanism, c) Carbonation of Grignard reagents. Special methods of preparation of aromatic acids by a) oxidation of side chain, b) hydrolysis by benzotrichlorides, c) Kolbe reaction.

Physical properties: Hydrogen bonding, dimeric association, acidity, strength of acids with examples of trimethyl acetic acid and trichloroacetic acid. Relative differences in the acidities of aromatic and aliphatic acids.

Chemical properties: Reactions involving H, OH and COOH groups - salt formation, anhydride formation, acid chloride formation, amide formation and esterification (mechanism). Degradation of carboxylic acids by Huns-Diecker reaction, decarboxylation by Schimdt reaction, Arndt-Eistert synthesis, halogenation by Hell-Volhard - Zelinsky reaction.

5. Active methylene compounds - 4 hrs

Acetoacetic ester: Preparation by Claisen condensation, keto-enol tautomerism. Acid hydrolysis and ketonic hydrolysis. Preparation of a) monocarboxylic acids, b) dicarboxylic acids c) reaction with Urea

Malonic ester: Preparation from acetic acid. Synthetic applications: Preparation of a) monocarboxylic acids (propionic acid and n-butyric acid), b) Dicarboxylic acids (succinic acid and adipic acid), c) α, β-unsaturated carboxylic acids (crotonic acid). d) reaction with urea.

II B.Sc. CHEMISTRY Syllabus - IV SEMESTER
Paper IV - SPECTROSCOPY & PHYSICAL CHEMISTRY
From 2016-2017(2015-16 admitted batch)

UNIT-I SPECTROSCOPY - 30hrs (2h/w)

1. Molecular Spectroscopy

(i) Electronic spectroscopy: - 8 hrs

Interaction of electromagnetic radiation with molecules and types of molecular spectra. Potential energy curves for bonding and antibonding molecular orbitals. Energy levels of molecules (σ,π,n). Selection rules for electronic spectra. Types of electronic transitions in molecules, effect of conjugation. Concept of chromophore and auxochrome.

(ii) Infra red spectroscopy - 8 hrs

Different regions in Infrared radiatons. Modes of vibrations in diatomic and polyatomic molecules. Characteristic absorption bands of various functional groups. Interpretation of spectra - Alkanes, Aromatic Hydrocarbon, Alcohols, Carbonyls and amines with one example to each

(iii) Proton Magnetic Resonance spectroscopy (^{1}H-NMR) - 8 hrs

Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, NMR splitting of signals - spin-spin coupling, coupling constants. Applications of NMR with suitable examples - ethyl bromide, ethanol, acetaldehyde, 1, 1, 2-tribromo ethane, ethyl acetate, toluene and acetophenone.

2. Spectrophotometry - 6 hrs

General features of absorption - spectroscopy, Beer-Lambert's law and its limitations, transmittance, Absorbance and molar absorptivity. Single and double beam spectrophotometers. Application of Beer-Lambert law for quantitative analysis of

i. Chromium in $K_2Cr_2O_7$
ii. Manganese in manganous sulphate

UNIT-II PHYSICAL CHEMISTRY - 30hrs (2h/w)

1. Dilute solutions - 10 hrs

Colligative properties. Raoult's law, relative lowering of vapour pressure, its relation to molecular weight of non-volatile solute. Elevation of boiling point and depression in freezing point. Derivation of relation between molecular weight and elevation in boiling point and depression in freezing point. Experimental methods of determination. Osmosis, osmotic pressure, experimental determination. Theory of dilute solutions. Determination of molecular weight of non-volatile solute from osmatic pressure. Abnormal colligative properties.

2. Electrochemistry - I **- 10 hrs**

Specific conductance, equivalent conductance. Variation of equivalent conductance with dilution. Migration of ions, Kohlrausch law. Arrhenius theory of electrolytic dissociation and its limitations. Ostwald's dilution law. Debye-Huckel-Onsagar's equation for strong electrolytes (elementary treatment only). Definition of transport numbers, determination by Hittorf's method. Applications of conductivity measurements - conductometric titrations. Types of reversible electrodes - the gas electrode, metal-metal ion, metal-insoluble salt and redox electrodes. Electrode reactions, Nernst equation, Single electrode potential.

3. Electrochemistry - II **- 4 hrs**

Standard Hydrogen electrode, reference electrodes, standard electrode potential, sign convention, electrochemical series and its significance. Reversible and irreversible cells, conventional representation of electrochemical cells. EMF of a cell and its measurements. Computation of cell EMF. Applications of EMF measurements - Potentiometric titrations.

4. Phase rule **- 6 hrs**

Concept of phase, components, degree of freedom. Derivation of Gibbs phase rule. Phase equilibrium of one component – water system. Phase equilibrium of two-component system, solid-liquid equilibrium. Simple eutectic diagram of Pb-Ag system, desilverisation of lead. Freezing mixtures.

List of Text Books

1. Advanced Physical Chemistry by Guru deep Raj
2. Elementary Organic Spectroscopy by Y.R.Sharma
3. Unified Chemistry Vol-II by O.P.Agarwal
4. Unified Chemistry Vol-II by K.Ramarao and Y.R.Sharma (Kalyani Publisher)

List of Reference Books

1. Spectroscopy by William Kemp
   Organic Spectroscopy by J.R. Dyer

SEMESTER-V

Paper - V (INORGANIC, PHYSICAL & ORGANIC CHEMISTRY)

w.e.f. From 2017-2018 (2015-16 admitted batch)

UNIT – I

Coordinatio n Chemistry: **8h**

IUPAC nomenclature - bonding theories - Review of Werner's theory and Sidgwick's concept of coordination - Valence bond theory - geometries of coordination numbers

4-tetrahedral and square planar and 6-octahedral and its limitations, crystal filed theory - splitting of d-orbitals in octahedral, tetrahedral and square-planar complexes - low spin and high spin complexes - factors affecting crystal-field splitting energy, merits and demerits of crystal-field theory. Isomerism in coordination compounds - structural isomerism and stereo isomerism, stereochemistry of complexes with 4 and 6 coordination numbers.

UNIT-II

1. Spectral and magnetic properties of metal complex es: 4h

Types of magnetic behavior, spin-only formula, calculation of magnetic moments, experimental determination of magnetic susceptibility-Gouymethod.

2. Stability of metal complexes: 3h

Thermodynamic stability and kinetic stability, factors affecting the stability of metal complexes, chelate effect, determination of composition of complex by Job's method and
mole ratio method.

Nitro hydrocarbons: **3h**

Nomenclature and classification-nitro hydrocarbons, structure -Tautomerism of nitroalkanes leading to aci and keto form, Preparation of Nitroalkanes, reactivity - halogenation, reaction with HONO (Nitrous acid),Nef reaction and Mannich reaction leading to Micheal addition and reduction.

UNIT – IV

Nitrogen compounds : 12h

Amines (Aliphatic and Aromatic): Nomenclature, Classification into 1 °, 2°, 3° Amines and Quarternary ammonium compounds. Preparative methods –
1. Ammonolysis of alkyl halides 2. Gabriel synthesis 3. Hoffman's bromamide reaction (mechanism).
Reduction of Amides and Schmidt reaction. Physical properties and basic character - Comparative basic strength of Ammonia, methyl amine, dimethyl amine, trimethyl amine and aniline - comparative basic strength of aniline, N-methylaniline and N,N-dimethyl aniline (in aqueous and non-aqueous medium), steric effects and substituent effects.
Chemical properties: a) Alkylation b) Acylation c) Carbylamine reaction d) Hinsberg separation e) Reaction with Nitrous acid of 1°, 2°, 3° (Aliphatic and aromatic amines). Electrophillic substitution of Aromatic amines – Bromination and Nitration. Oxidation of aryl and Tertiary amines, Diazotization.

UNIT- V

PHYSICAL CHEMISTRY

Thermodynamics 15h The first law of thermodynamics-statement, definition of internal energy and enthalpy. Heat capacities and their relationship. Joule-Thomson effect- coefficient. Calculation of w, for the expansion of perfect gas under isothermal and adiabatic conditions for reversible processes. State function. Temperature dependence of enthalpy of formation- Kirchoff s equation. Second law of thermodynamics. Different Statements of the law. Carnot cycle and its efficiency. Carnot theorem. Concept of entropy, entropy as a state function, entropy changes in reversible and irreversible processes. Entropy changes in spontaneous and equilibrium processes.

SEMESTER-V w.e.f. From 2017-2018 (2015-16 admitted batch)

Paper - VI (INORGANIC, ORGANIC & PHYSICAL CHEMISTRY)

45 hrs (3 h / w)

INORGANIC CHEMISTRY

UNIT-I

1. Reactivity of metal complexes: 4h

Labile and inert complexes, ligand substitution reactions - SN^1 and SN^2,substitution reactions of square planar complexes - Trans effect and applications of trans effect.

2.Bioinorganic chemistry: 4h

Essential elements, biological significance of Na, K, Mg, Ca, Fe, Co, Ni, Cu, Zn and Cl^-. Metalloporphyrins – Structure and functions of hemoglobin, Myoglobin and Chlorophyll.

PHYSICAL CHEMISTRY

UNIT-II

1. Chemical kinetics 8h

Rate of reaction - Definition of order and molecularity. Derivation of rate constants for first, second, third and zero order reactions and examples. Derivation for time half change. Methods to determine the order of reactions. Effect of temperature on rate of reaction, Arrhenius equation, concept of activation energy.

d photochemical processes. Laws of photochemistry- Grothus-Draper's law and Stark-Einstein's law of photochemical equivalence. Quantum yield-Photochemical reaction mechanism- hydrogen- chlorine, hydrogen- bromine reaction.

Qualitative description of fluorescence, phosphorescence, Photosensitized reactions- energy transfer processes (simple example)

UNIT- III

ORGANIC CHEMISTRY

Heterocyclic Compounds 7h

Introduction and definition: Simple five membered ring compounds with one hetero atom Ex. Furan. Thiophene and pyrrole - Aromatic character – Preparation from 1,4,- dicarbonyl compounds, Paul-Knorr synthesis.

Properties : Acidic character of pyrrole - electrophillic substitution at 2 or 5 position, Halogenation, Nitration and Sulphonation under mild conditions - Diels Alder reaction in furan.

Pyridine – Structure - Basicity - Aromaticity - Comparison with pyrrole - one method of preparation and properties - Reactivity towards Nucleophilic substitution reaction.

UNIT-IV

Carbohydrates 8h

Monosaccharides: (+) Glucose (aldo hexose) - Evidence for cyclic structure of glucose (some negative aldehydes tests and mutarotation) - Proof for the ring size (methylation, hydrolysis and oxidation reactions) - Pyranose structure (Haworth

formula and chair conformational formula).

(-) Fructose (ketohexose) - Evidence of 2 - ketohexose structure (formation of pentaacetate, formation of cyanohydrin its hydrolysis and reduction by HI). Cyclic structure for fructose (Furanose structure and Haworth formula) - osazone formation from glucose and fructose – Definition of anomers with examples.

Interconversion of Monosaccharides: Aldopentose to Aldohexose (Arabinose to D- Glucose, D-Mannose) (Kiliani - Fischer method). Epimers, Epimerisation - Lobry de bruyn van Ekenstein rearrangement. Aldohexose to Aldopentose (D-Glucose to D- Arabinose) by Ruff degradation. Aldohexose to Ketohexose [(+) Glucose to (-) Fructose] and Ketohexose to Aldohexose (Fructose to Glucose)

UNIT- V

Amino acids and proteins

7h Introduction: Definition of Amino acids, classification of Amino acids into alpha, beta, and gamma amino acids. Natural and essential amino acids - definition and examples, classification of alpha amino acids into acidic, basic and neutral amino acids with examples. Methods of synthesis: General methods of synthesis of alpha amino acids (specific examples - Glycine, Alanine, valine and leucine) by following methods: a) from halogenated carboxylic acid b) Malonic ester synthesis c) strecker's synthesis.

Physical properties: Zwitter ion structure - salt like character - solubility, melting points, amphoteric character, definition of isoelectric point.

Chemical properties: General reactions due to amino and carboxyl groups - lactams from gamma and delta amino acids by heating peptide bond (amide linkage). Structure and nomenclature of peptides and proteins.

w.e.f. 2014 - 15 (2012 - 13 admitted batch)

Paper VIII A (Chemistry and Environment)

Unit – I (Molecular spectroscopy)

1. **Electronic spectroscopy: - 4 hr**

   Interaction of electromagnetic radiation with molecules and types of molecular spectra. Potential energy curves for bonding and antibonding molecular orbitals. Energy levels of molecules (σ,π,n) . Selection rules for electronic spectra. Types of electronic transitions in molecules, effect of conjugation. Concept of chromophore.

2. **Infra red spectroscopy - 4 hr**

   Energy levels of simple harmonic oscillator, molecular vibration spectrum, selection rules. Determination of force constant. Qualitative relation of force constant to bond energies. Anharmonic motion of real molecules and energy levels. Modes of vibrations in polyatomic molecules. Characteristic absorption bands of various functional groups. Finger print nature of infrared spectrum.

3. **Proton magnetic resonance spectroscopy (^{1}H-NMR) - 4 hr**

   Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, NMR splitting of signals – spin-spin coupling, coupling constants. Applications of NMR with suitable examples – ethyl bromide, ethanol, acetaldehyde, 1,1,2 -

tribromo ethane, ethyl acetate, toluene and acetophenone.

4. **Spectral interpretation - 3 hr**

Interpretation of IR, UV-Visible, ^{1}H-NMR and mass spectral data of the following compounds 1. Phenyl acetylene 2. Acetophenone 3. Cinnamic Acid 4. para-nitro aniline.

Unit – II (Chemistry of Environment)

1. **Lithosphere: - 4 hr**

Composition of lithosphere, inorganic and organic compounds in soil, soil pollution, wastes and pollutants in soil.

2. **Noise pollution - 3 hr**

Measurement of noise, classification of noise. Ill effects of noise with examples, noise control criteria

3. **Chemical Toxixology - 8 hr**

Toxic chemicals in air, water and soil. Impact of toxic chemicals on enzymes, biochemical effects of cadmium, carbon monoxide, cyanides, oxone and pesticides. Carsinogens.

Unit-III: (Materials Science and Green Chemistry)

1. **Nanomaterials - 5 hr**

Synthetic techniques, bottom-up-sol-gel method, top-down- electro deposition method. Properties and applications of nano-materials. Composites - definition, general characteristics, particle reinforce and fiber reinforce composites and their applications.

2. **Green Chemistry - 10 hr**

Introduction: Definition of green Chemistry, need of green chemistry, basic principles of green chemistry

Green synthesis: Evaluation of the type of the reaction i) Rearrangements (100% atom economic), ii) Addition reaction (100% atom economic), Pericyclic reactions (no by-product).

Selection of solvent: i) Aqueous phase reactions ii) Reactions in ionic liquids iii) Solid supported synthesis iv) Solvent free reactions (solid phase reactions)

Green catalysts: i) Phase transfer catalysts (PTC) ii) Biocatalysts

Microwave and Ultrasound assisted green synthesis:

1. Aldol condensation
2. Cannizzaro reaction
3. Diels-Alder reaction
4. Strecker synthesis
5. Willaimson synthesis
6. Dieckmann condensation

III B.Sc., V Semester – Chemistry Syllabus
w.e.f. 2014 - 15 (2012 - 13 admitted batch)
Paper VI E2 (Chemistry and Environment)

Unit – I (Physico Chemical methods of analysis)

1. Separation techniques - 12 hr

i. Solvent extraction: Principle and process, Batch extraction, continuous extraction and counter current extraction. Application – Determination of Iron (III)

ii. Chromatography: Classification of chromatography methods, principles of differential migration adsorption phenomenon, Nature of adsorbents, solvent systems, R_f values, factors effecting R_f values.

a. Paper Chromatography: Principles, R_f values, experimental procedures, choice of paper and solvent systems, developments of chromatogram - ascending, descending and radial. Two dimensional chromatography, applications.

b. Thin layer Chromatography (TLC): Advantages. Principles, factors effecting R_f values. Experimental procedures. Adsorbents and solvents. Preparation of plates. Development of the chromatogram. Detection of the spots. Applications.

c. Column Chromatography: Principles, experimental procedures, Stationary and mobile Phases, Separation technique. Applications

d. High Performance Liquid Chromatography (HPLC): Principles and Applications.

e. Gas Liquid Chromatography (GLC): Principles and Applications

2. Spectrophotometry - 3 hr

General features of absorption – spectroscopy, Beer-Lambert's law and its limitations, transmittance, Absorbance, and molar absorptivity. Single and double beam spectrophotometers. Application of Beer-Lambert law for quantitative analysis of

iii. Chromium in $K_2Cr_2O_7$

iv. Manganese in manganous sulphate

v. Iron (III) with thiocyanate.

Unit – II (Chemistry of Environment)

1. Introduction - 3 hr

Concept and scope of environmental chemistry. Definition of terms – pollutant, contaminant, receptor, sink, pathway of pollutant, speciation, DO, BOD, COD, Environmental segments.

2. Atmosphere - 6 hr

Structure, Earth's radiation balance, air pollution, particles, ions, radicals in the atmosphere, chemical and photochemical reactions in the atmosphere, acid rain, green house effect, ozone layer, significance and chemicals resulting in the depletion of ozone layer.

3. Hydrosphere - 6 hrs

Water resources, hydrological cycle, water pollution and pollutants – industrial pollution, microorganisms, sewage treatment.

Unit-III: (Agricultural Chemistry)

1. Soil - 4 hrs

Definition, classification and properties of soil - soil water, soil oil, soil temperature, soil minerals, soil colloids, soil pH, soil acidity, soil alkalinity.

2. Soil fertility - 3 hrs

Soil fertility and its evaluation, buffering of soil and its effect. Soil formation and its reclamation.

3. Fertilizers - 3 hrs

Importance of fertilizers, examples, secondary nutrients, role on the growth and development compositing and manures.

4. Pesticides - 5 hrs

Classification and examples for insecticides, fungicides and herbicides - fluorine compounds, boron compounds, arsenic compounds, mercury compounds, pyridine compounds - ill effects of use of chemical fertilisers and insecticides.

III B.Sc., VI Semester – Chemistry Syllabus

w.e.f. 2011 - 12 (2009 - 10 admitted batch)

Paper VIII (Chemistry and Industry)

Unit – I (Physico Chemical methods of analysis)

1. Molecular sectorscopy - 15 h

(i) Electronic spectroscopy:

Interaction of electromagnetic radiation with molecules and types of molecular spectra. Potential energy curves for bonding and antibonding molecular orbitals. Energy levels of molecules (σ,π,n) . Selection rules for electronic spectra. Types of electronic transitions in molecules, effect of conjugation. Concept of chromophore.

(ii) Infra red spectroscopy

Energy levels of simple harmonic oscillator, molecular vibration spectrum, selection rules. Determination of force constant. Qualitative relation of force constant to bond energies. Anharmonic motion of real molecules and energy levels. Modes of vibrations in polyatomic molecules. Characteristic absorption bands of various functional groups. Finger print nature of infrared spectrum.

(iii) Proton magnetic resonance spectroscopy (^{1}H-NMR)

Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, NMR splitting of signals – spin-spin coupling, coupling constants. Applications of NMR with suitable examples – ethyl bromide, ethanol, acetaldehyde, 1,1,2 - tribromo ethane, ethyl acetate, toluene and acetophenone.

(iv) Spectral interpretation

Interpretation of IR, UV-Visible, ^{1}H-NMR and mass spectral data of the following compounds 1. Phenyl acetylene 2. Acetophenone 3. Cinnamic Acid 4. para-nitro aniline.

Unit – II (Drugs, formulations, pesticides)

1. Drugs - 08 h

i. HIV-AIDS: Immunity – CD-4 cells, CD-8 cells Retrovirus, replication in human body. Investigation available, prevention of AIDS. Drugs available – examples with structures: PIS: Indinavir (Crixivan), Nelfinavir (Viracept), NNRTIS: Efavirenz (Susrtiva), Nevirapine (Viramune) NRTIs: Abacavir (Ziagen), Lamivudine (Epivir, 3TC) Zidovudine (Retravir, AZT, ZDV)

ii. Monographs of drugs: Eg Paracetamol, Sulpha methoxazole (Tablets)

2. Formulations - 03 h

i. Need of conversion of drugs into medicine. Additives and their role (brief account only)

ii. Different types of formulations

3. Pesticides - 04 h

i. Introduction to pesticides – types – Insecticides, Fungicides, Herbicides, Weedicides, Rodenticides, plant growth regulators, Pheremones and Hormones. Brief discussion with examples, Structure and uses.

ii. Synthesis and present status of the following.

DDT, BHC, Malathion, Parathion, Endrin, Baygon, 2,4-D and Endo-sulphon

Unit-III: (Materials Science and Green Chemistry)

1. Nanomaterials - 05 h

Synthetic techniques, bottom-up-sol-gel method, top-down- electro deposition method. Properties and applications of nano-materials. Composites - definition, general characteristics, particle reinforce and fiber reinforce composites and their applications.

2. Green Chemistry - 10 h

Introduction: Definition of green Chemistry, need of green chemistry, basic principles of green chemistry

Green synthesis: Evaluation of the type of the reaction i) Rearrangements (100% atom economic), ii) Addition reaction (100% atom economic), Pericyclic reactions (no by-product).

Selection of solvent:

i) Aqueous phase reactions ii) Reactions in ionic liquids iii) Solid supported synthesis iv) Solvent free reactions (solid phase reactions)

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Microwave and Ultrasound assisted green synthesis:

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iv. Strecker synthesis
v. Willaimson synthesis
vi. Dieckmann condensation

III B.Sc., V Semester – Chemistry Syllabus

w.e.f. 2011 - 12 (2009 - 10 admitted batch)

Paper VI E1 (Chemistry and Industry)

Unit – I (Physico Chemical methods of analysis)

1. Separation techniques - 12 h

iii. Solvent extraction: Principle and process, Batch extraction, continuous extraction and counter current extraction. Application – Determination of Iron (III)

iv. Chromatography: Classification of chromatography methods, principles of differential migration adsorption phenomenon, Nature of adsorbents, solvent systems, R_f values, factors effecting R_f values.

f. Paper Chromatography: Principles, R_f values, experimental procedures, choice of paper and solvent systems, developments of chromatogram – ascending, descending and radial. Two dimensional chromatography, applications.

g. Thin layer Chromatography (TLC): Advantages. Principles, factors effecting R_f values. Experimental procedures. Adsorbents and solvents. Preparation of plates. Development of the chromatogram. Detection of the spots. Applications.

h. Column Chromatography: Principles, experimental procedures, Stationary and mobile Phases, Separation technique. Applications

i. High Performance Liquid Chromatography (HPLC): Principles and Applications.

j. Gas Liquid Chromatography (GLC): Principles and Applications

2. Spectrophotometry - 03 h

General features of absorption - spectroscopy, Beer-Lambert's law and its limitations, transmittance, Absorbance, and molar absorptivity. Single and double beam spectrophotometers. Application of Beer-Lambert law for quantitative analysis of

vi. Chromium in $K_2Cr_2O_7$

vii. Manganese in manganous sulphate

viii. Iron (III) with thiocyanate.

Unit – II (Drugs, formulations and pesticides)

1. Drugs - 15 h

i. Introduction: Drug, disease (definition), Historical evolution, Sources – Plant, Animal synthetic, Biotechnology and human gene therapy

ii. Terminology: Pharmacy, Pharmacology, Pharmacophore, Pharmacodynamics, Pharmacokinetics (ADME, Receptors - brief treatment) Metabolites and Anti metabolites.

iii. Nomenclature: Chemical name, Generic name and trade names with examples

iv. Classification: Classification based on structures and therapeutic activity with one example each.

v. Synthesis: Synthesis and therapeutic activity of the following drugs, L-Dopa, Chloroquin, Omeprazole, Albuterol and ciprofloxacin.

vi. Drug Development: Pencillin, Separation and isolation, structures of different pencillins

Unit-III: (Macromolecules and materials Science)

1. Macromolecules - 11 h

Classification of polymers, chemistry of polymerization, chain polymerization, step polymerization, coordination polymerization - tacticity. Molecular weight of polymers-number average and weight average molecular weight, degree of polymerization, determination of molecular weight of polymers by Viscometry, Osmometry and Light scattering methods. Preparation and industrial application of polyethylene, PVC, Teflon, polyacrylonitrile, terelene and Nylon66. Introduction to biodegradability.

2. Materials science - 04 h

Superconductivity, characteristics of superconductors, Meissner effect, types of superconductors and applications.

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I B.Sc, BOTANY SEMESTER-I PAPER-I w.e.f.2015-16
(DIVERSITY OF MICROBES AND THALOPHYTES)
SYLLABUS

UNIT- I (Diversity of Microbes) 13Hrs

Introduction to microbiology- WHITTAKER'S Five kingdom concept, prokaryotes and eukaryotes

Virus- Structure, replication and transmission, plant diseases caused by viruses and their control measures. Mycoplasma, HIV

Plant Pathology: Red rot of Sugarcane-Fungal disease, Bhendi vein clearing disease-Virus, Citrus canker- Bacteria.

UNIT-II 14Hrs Bacteria-

Introduction, Archae bacteria, structure, reproduction. Economic importance of bacteria Cyanobacteria- thallus organization, cell structure and life history of *Oscillatoria*, *Nostoc* and their uses as bio fertilizers

UNIT-III 17Hrs

Algae: General characters, outlines of classification (Fritsch's)

Economic importance of Algae.

Structure, reproduction ,life history and systematic position of the following *Oedogonium, Ectocarpus and Polysiphonia*

UNIT- IV 16Hrs

Fungi: General Characters and outlines of Classification(Ainsworth)

Structure, reproduction and life history of *Albugo*, *Penicillium*, *Puccinia* Lichens: Morphology, Anatomy, reproduction, economic importance

(DIVERSITY OF MICROBES AND THALOPHYTES)
I B.Sc, BOTANY SEMESTER-II PAPER-II w.e.f.2015-16
(BRYOPHYTA, PTERIDOPHYTA, GYMNOSPERMS, & ANATOMY)
SYLLABUS

UNIT- I (BRYOPHYTA) 12Hrs

1.Bryophyta - General Characters outlines of classification and alternation of generations. Structure, reproduction, life history and systematic position of Marchantia, Funaria. (Development details not required).

2.Evolution of Sporophyte in Bryophytes

UNIT- II PTERIDOPHYTA 12Hrs

3.Pteridophyta - General Characters and outlines of classification.

4.Structure, reproduction life History and systematic position of Lycopodium and Marsilea.

5.Stelar evolution in pteridophytes.

6.Heterospory and seed Habit.

UNIT- III GYMNOSPERMS 12Hrs

7.General Characters and classification.

8.Morphology, Anatomy, reproduction and life History of Pinus and Gnetum.

UNIT- IV ANATOMY 24HrS

9.Meristamatic Tissues: Introduction, Meristems, classification of the meristems. Shoot apical meristem, root apical meristem.

10.Permanent Tissues: Introduction, Simple Tissues, Complex Tissues, Secretory Tissues.

11.Anomalous secondary growth Dicot. Secondary growth in some Dicots. Anomalous secondary growth in monocotyledons.

Dicots : Boerhavia, Bignonia

Monocots : Dracaena

12.**Wood Anatomy**

Introduction

Structure of Gymnosperm wood

Structure of Angiosperm wood

Properties of wood

Seasoning of wood

Wood preservation.

uses of wood

Important Timber yielding plants - Teakwood, Rosewood, Redsanders, Nallamaddi.

II B.Sc, BOTANY SEMESTER-III PAPER-III w.e.f.2015-16

(PLANT TAXONOMY & EMBRYOLOGY)

SYLLABUS

Total teaching hours 60 hrs @ 4 Hrs/week

UNIT – I: Introduction to PLANT TAXONOMY (12 hrs)

1 .Fundamental components of taxonomy (identification, nomenclature, classification types and phylogeny)

2. Salient features and comparative account of Bentham & Hooker and Engler & Prantl classification

3. Role of chemotaxonomy, Cytotaxonomy.

UNIT –II: SYSTEMATIC TAXONOMY (12 hrs)

1. Nomenclature and Taxonomic resources: An introduction to International code of Botanical Nomenclature; Principles, Rules and Recommendations.

2. Systematic study and economic importance of plants belonging to the following families Annonaceae, Caparidaceae, Rutaceae, Curcurbitaceae, and Apiaceae

UNIT –III: SYSTEMATIC TAXONOMY (12 hrs)

1. Systematic study and economic importance of plants belonging to the following families Asteraceae, Asclepiadaceae,,Lamiaceae, Euphorbiaceae, Orchidaceae and Poaceae.

UNIT – IV: EMBRYOLOGY (24hrs)

1. Introduction: History and Importance of Embryology.

2. Anther structure, Microsporogenesis and development of male gametophyte.

3. Ovule structure and types; Megasporogenesis; Monosporic; Bisporic and Tetrasporic types of female gametophyte/embryosac development

4. Pollination -Types, Fertilization (outlines).
5. Endosperm Development and types.
6. Embryo - development and types:
7. Polyembryony and Apomixis - an outline.
8. **Palynology**: Pollen grains in Hibiscus, Grass and Acacia.

(12hrs)

1. Growth and development: Physiological effects of phytohormones - Auxins, Gibberellins, Cytokinins, ABA, Ethylene
2. Physiology of flowering and photoperiodism, role of phytochrome in flowering
3.Stress Physiology: Concept and plant responses to water, salt and temperature stresses.

III B.Sc, BOTANY SEMESTER-V PAPER-V w.e.f.2015-16

(PLANT PHYSIOLOGY & CELL BIOLOGY)

SYLLABUS

Total teaching hours 45 hrs @ 3 Hrs/week

UNIT-I PLANT PHYSIOLOGY 33hr

Water relations- importance of water to plant life, physical properties of water, diffusion, osmosis, imbibitions, water potential and plasmolysis.

Absorption of water- introduction, water absorbing parts, mechanism of water absorption.

Ascent of sap- introduction, mechanism of ascent of sap, cohesion tension theory.

Transpiration- introduction, stomatal structure, mechanism of stomatal movement and theories.

Mineral nutrition- criteria of essentiality, Marco and micro elements, absorption of mineral ions- passive and active mechanism.

UNIT II PLANT PHYSIOLOGY

Enzymes – structure and properties of enzymes, nomenclature and classification, enzyme action, factors affecting enzyme actions.

Photosynthesis- photosynthetic pigments, absorption and action

spectrum, hill reaction and Emerson's enhancement effect, concept of photo systems, mechanism of photosynthesis- electron transport, proton transport, photophosporylation, carbon assimilation path ways, C3, C4 and CAM , photo respiration.

Translocation of organic solutes- evidences in support of, phloem, source and sink relationship, mechanism of phloem transport.

UNIT-III CELL BIOLOGY 12hr

Cell organelles- cell membrane, mitochondria, plastids, and ribosome.

Ultra structure of nucleus

DNA as genetic material-DNA structure and replication, genetic code, protein synthesis.

III B.Sc, BOTANY SEMESTER-V PAPER-VI w.e.f.2015-16

(PLANT GENETICS & ECOLOGY)

SYLLABUS

Total teaching hours 45 hrs @ 3 Hrs/week

UNIT-I GENETICS 22 Hrs

1. Mendelism- Mendelian laws of inheritance, law of segregation, independent assortment, test cross, back cross.
2. Linkage
3. Crossing over- genetic maps, construction genetic maps, two point test cross.
4. Mutation- Find structure of gene, types of mutagens, practical application, DNA repair mechanism, gene mutation.

UNIT-II ECOLOGY 23 Hrs

5. Ecosystem-concept and components of ecosystem, energy flow, food chain and food webs and ecological pyramids.
6. Plants and environment- general account of ecological factors, climatic, edaphic and biotic, ecological adaptations of plants.
7. Population ecology- outlines ecotypes and ecads.
8. Community ecology- outlines of frequency, density, cover life forms, biological spectrum, ecological succession- hydrosere and xerosere.
9. Production ecology- concepts of productivity, GPP, NPP, CR (community respiration) and secondary production P/R ratio of ecosystems.

III B.Sc, BOTANY SEMESTER-VI PAPER-VI(A) ELECTIVE w.e.f.2015-16

(APPLIED MICROBIOLOGY)

SYLLABUS

Total teaching hours 45 hrs @ 3 Hrs/week

UNIT-I Introduction to Microbiology 15Hrs

Introduction, history of microbiology and Koch's postulates
Whittaker classification and Importance of Microbiology
Bacterial cell structure (out lines only) and Growth
Diseases of Human beings-Typhoid Malaria, Hepatitis, AIDS

Unit: II Industrial Microbiology 15Hrs

Types of media, Preparation of medium
Physical conditions required for growth (Temp, Gaseous requirement, P^H)
Production of Bread and Wine

UNIT:III Diseases and control 15Hrs

Downy of Mildew of grapes, Tobacco mosaic disease, Soft rot of vegetables
Production of Antibiotics and Drugs derived from microorganisms
Methods control of infectious diseases

III B.Sc, BOTANY SEMESTER-VI PAPER-VII w.e.f.2015-16
(PLANT PHYSIOLOGY, SEED TECHNOLOGY & HORTICULTURE)
SYLLABUS

Total teaching hours 45 hrs @ 3 Hrs/week

UNIT-I PLANT PHYSIOLOGY 27 Hrs

1. Respiration – types of respiration, Glycolsis, Kreb's cycle, Electron transport system, mechanism of oxidative phosphorylation, R.Q, Pentose phosphate path way.
2. Nitrogen metabolism- importance of nitrogen, nitrate reduction, ammonia assimilation, biological nitrogen fixation.

UNIT-II

3. Phytohormones-Structure and physiology effects of Auxins , Gibberellins, Cytokines,ABA, Ethylene and their role in horticulture.
4. Stress physiology- Concept, plant responses to water salt and temperature stresses.
5. Physiology of flowering photoperiodism, role of phytochrome in flowering.

UNIT-III (SEED TECHNOLOGY AND HORTICULTURE) 18 Hrs

Seeds and seed storage-seed dormancy, causes and methods of breaking seed dormancy, seed banks, seed testing and seed certification.

Horticulture techniques-Introduction, divisions of horticulture, cultivation of ornamental plants, vegetable gardening, general principles of vegetable gardening, bonsai plants, hydrophonics.

Floriculture- Introduction, importance of garden of green house, poly house, mist chamber, shade nets, micro irrigation system.

Vegetative propagation of plants-Stem and leaf cutting, layering and bud grafting. Ornamental plants-Rose, jasmine, Bougainvillea

III B.Sc, BOTANY SEMESTER-VI PAPER-VIII w.e.f.2015-16
(BIO DIVERSITY & BIO TECHNOLOGY)
SYLLABUS

Total teaching hours 45 hrs @ 3 Hrs/week

UNIT- I 22Hrs

Biodiversity; Concept, types of biodiversity, earth summit convention on Bio diversity, levels, value , threats to Bio diversity. Endemism Vavilov centers of crop plants

Principles of conversation

IUCN- Threat categories, red data book, Threatened and Endangered plants of India. Role of organization in the conservation of Bio diversity WCED, IUCN, UNEP, WWF, NBPGR, NBD.

UNIT- II **23Hrs**

Bio technology – Introduction, application.

r- DNA technology – steps, vectors, gene cloning, transgenic plants.

Tissue culture: Introduction, Sterilization procedure, Culture media – composition, preparation, Explants

Cell and protoplast culture- Cell and protoplast culture, Somatic hybrids and cybrids

Applications of Tissue culture, Production of Pathogen free plants , somaclonal variants , stress resistant variants. Synthetic seeds.

III B.Sc, BOTANY SEMESTER- VI PAPER-VIII(A) ELECTIVE w.e.f.2015-16

(HORTICULTURE)

SYLLABUS

Total teaching hours 45 hrs @ 3 Hrs/week

UNIT- I Introduction to Horticulture **15 hrs**

1. Definition, history, branches of horticulture.
2. Nutritive value of fruits and vegetables.
3. Propagation: seed treatment seed germination and seed dormancy.

UNIT- II Methods of vegetative propagation **15hrs**

6. Cuttings: Root, stem, leaf cuttings.
7. Layering: Simple, Air and Mound layering.
8. Budding: Shield, Patch and Ring budding.
9. Grafting: Simple, tongue and venur grafting.

UNIT- III Ornamental plants and nursery management **15hrs**

10. Introduction classification and cultivation of ornamental plants.
11. Definition, importance, scope and types of nursery management.
12. Site selection components and layout nursery.
13. After care in nursery.

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I B.SC. SYLLABUS w.e.f.2015-16

ZOOLOGY - SEMESTER I PAPER - I

ANIMAL DIVERSITY OF INVERTEBRATES - I

Marks:- 70 **Periods: 60Hours**

UNIT I **17 hours**

1.0 Introduction of Invertebrates

1.1 Phylum Protozoa:- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Elphidium,**

1.3 Phylum Porifera:- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Sycon,** Canal System In Sponges

1.4 Phylum Coelenterata :- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Aurelia** ,Polymorphism In Coelenterates: Corals And Coral Reef Formation.

UNIT II **17 hours**

2.1 Phylum Platy helminthes :- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Fasciola hepatica.- Struc**ture, reproductive system and life history

2.2 Phylum Nemathelminthes :- General Characters And Outline Classification Upto Classes With Examples.

2.3. Phylum Annelida :- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Leech.,** Metamerism In Annelida.

2.4. ***Vermiculture** : Scope, Significance of Vermiculture Earthworms Sps, Processing of Vermiculture,Vermicompost,Economic Importance Of Vermicost.

UNIT- III **16 hours**

4.0 Phylum Arthropoda:- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Macrobrachium rosenbergii (Scampi).**

4.1. ***Peripatus**-Structure ,Affinities

4.2. Phylum Mollusca:- General Characters And Outline Classification Upto Classes With Examples.

4.3. * Pearl Formation In Pelecypoda. *Torsion In Gastropoda.

UNIT-IV 10 **hours**

5.0 Phylum Echinodermata: General Characters And Outline Classification Upto Classes With Examples; Water Vascular System Of Star Fish.

5.1 Invertebrates Larval Forms: Amphiblastula, Ephyra, Trochophora, Nauplius, Glochidium , Bipinnaria .

5.2 Hemichordata: General Characters And Outline Classification Upto Classes With Examples; **Balanoglossus:**Structure , Affinities& Tornaria Larvae

I B.SC. SYLLABUS w.e.f.2015-16
ZOOLOGY SEMESTER II PAPER - II
ANIMAL DIVERSITY OF VERTEBRATES - II

Marks:- 70
Periods: 60 Hours

UNIT-I **16hours**

1.0 General characters Of Chordata

1.1 Protochordates : Salient Features Of Urochordata And Cephalochordata

1.2 structure **of Branchiostoma** & affinities

1.3 Structure And Life- History Of **Herdmania** , Significance Of Retrogressive Metamorphosis.

1.4. General Characters Of Cyclostomes, Difference between Petromyzon & Myxine.

UNIT-II **16hours**

2.0. General Characters Of Fishes , Classification Up To Sub-Class Level With Example.

2.1. Type Study - **SCOLIODON :** Morphology , Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

2.2. * Migration In Fishes and Types Of Scales, Dipnoi fishes.

2.3. General Characters And Classification Of Amphibian Up To Order Level.

2. 4. Type Study - **RANA :** Morphology , Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

2.5. * Parental Care In Amphibians.

UNIT-III **16 hours**

3.0. General Characters And Classification Of Reptilian Up To Order Level.

3.1 Type Study – **CALOTES :** Morphology , Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

3.2. General Characters And Classification Of Aves Up To subclass Level With Examples.

3.3. Type Study-**PIGEON** (Columbia livia) : Exoskeleton, Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

3.4. Migration In Birds, Flight Adaptations in Birds.

UNIT-IV **12hours**

4.0. General Characters And Classification Of Mammalia Up To Sub-class Level With Examples.

4.1. Type Study**: RABBIT** : Morphology , Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

Cytology - I

1.1.1 Electron microscopic structure of cell 2 hours

1.1.2 Plasma membrane - Fluid mosaic model, Transport functions of plasma membrane. 3 hours

1.1.3 Structure and functions of cell organelles - Endoplasmic reticulum, Golgi body, Ribosome, Lysosomes and Mitochondria 8 hours

1.1.4 Nucleus

1.1.5 Chromosomes - Structure, types, functions

Unit - II

2.1 Biomolecules

2.1.1 Carbohydrates - Classification of carbohydrates, Structure of glucose

2.1.2 Proteins - Classification of proteins, General properties of amino acids

2.1.3 Lipids - Classification of lipids

2.2 Nucleic acids

2.2.1 Deoxyribo Nucleic Acid - Structure, replication

2.2.2 Ribo Nucleic Acid - Structure, types

Unit - III

3.1 Genetics - I

3.1.1 Mendel's Laws of inheritance

3.1.2 Incomplete dominance and co-dominance

3.1.3 Lethal alleles, Epitasis, Complementary genes

3.1.4 Sex determination

3.1.5 Sex linked inheritance

3.1.6 Chromosomal aberrations in man

3.1.7 Extra chromosomal inheritance

3.1.8 Human karyotyping

Unit - IV

5.1 Evolution

5.1.1 Lamarckism, Darwinism, Neo – Darwinism

5.1.2 Types of natural selection (directional, stabilizing, disruptive)

5.1.3. Isolation

5.1.4 Speciation (Allopatric and Sympatric)

II B.SC. SYLLABUS w.e.f.2016-17

ZOOLOGY - SEMESTER IV PAPER - IV

EMBRYOLOGY, PHYSIOLOGY AND ECOLOGY

Periods: 60 **Max. Marks: 70**

Unit - I

1.1 EMBRYOLOGY

1.1.1. Gametogenesis (Spermatogenesis, Oogenesis) 3 hours

1.1.2. Fertilization 2hours

1.1.3. Types of eggs 2 hours

1.1.4. Types of cleavages 2 hours

11.5. Formation and functions of Foetal membrane in chick embryo 2 hours

1.1.6. Development, types and functions of Placenta in mammals 3 hours

Unit - II

2.1 PHYSIOLOGY - I

2.1.1 Digestion of carbohydrate, proteins, lipids and cellulose. 3 hours

2.1.2 Absorption of digested food 2 hours

2.1.3 Respiration - Pulmonary ventilation, transport of oxygen and carbon dioxide 3 hours

2.1.4 Circulation - Structure and functioning of mammalian heart, Cardiac cycle 3 hours

2.1.5 Excretion - Structure of nephron, urine formation, and counter current mechanism 3 hours

Unit - III

3.1 PHYSIOLOGY - I I

3.1.1 Nerve impulse transmission - Resting membrane potential, origin and propagation of action potentials along myelinated and non myelinated nerve fibers 3 hours

3.1.2 Muscle contraction - Ultra structure of skeletal muscle fiber, sliding filament mechanism of muscle contraction. Chemical changes during muscle contraction 3 hours

3.1.3 Endocrine glands - Structure, secretions and the functions (of hormones) of pituitary, Thyroid, parathyroid, adrenal glands and pancreas 7 hours

3.1.4 Hormonal control of reproduction in a mammal 2 hours

Unit - IV

4.1 Ecology

4.1.1. Meaning and scope of Ecology 2 hours

4.1.2. Important abiotic factors of Ecosystem - Temperature, light, oxygen and CO2 5 hours

4.1.3. Nutrient cycles - Nitrogen, carbon and phosphorus 3 hours

4.1.4. Community interactions - Mutualism, commensalism, parasitism, competition, Predation 3 hours

4.1.5. Ecological succession 2 hours

III B. Sc ZOOLOGY - SYLLABUS, V - SEMESTER

ANIMAL PHYSIOLOGY ……. PAPER-V- w.e.f. 2014-15

UNIT-1 45 HOURS

(3hrs/week)

1.1.Physiology of digestion:

6hrs

Types of digestion: – extra and intracellular, Digestion of carbohydrate, proteins, lipids and cellulose, Digestion. Absorption , and assimilation of digested food materials. gastrointestinal hormones-control of digestion.

1.2. Physiology **of Respiration**

7hrs

Types of respiration-external and internal respiration, Structure of mammalian lungs and gaseous exchange, Transport of oxygen-formation of oxyhaemoglobin and affinity of hemoglobin for oxygen, o2 dissociation curve. Transport of $co_{2:}$ - chloride shift, Bohr effect.

1.2.Physiology of Circulation 5hrs

Open and closed circulation, Structure of mammalian heart and its working mechanism,

Heart beat, & cardiac cycle. Myogenic heart, and neurogenic heart.

UNIT-II

2.1Physiology of excretion 7hrs

Definition of excretion, Forms of nitrogenous waste material and their formation, Classification of animals on the basis of excretory products, Gross organization of mammalian excretory system and Structure of kidney. Structure and function of Nephron - Counter current mechanism.

2.2. Physiology of muscle contraction 4hrs

Ultra structure of skeletal muscle ; sliding filament mechanism of muscle contraction. Chemical changes during muscle contraction-role of calcium, ATP utilization and its replenishment.

2.3. Physiology of Nerve Impulse 6hrs

Structure of nerve cell; Nature of nerve impulse:resting potential and action potential. Properties of nerve impulse-Threshold value, refractory period, All or None Response, Structure of synapse, mechanism of synaptic transmission-electrical and chemical transmissions.

UNIT-III

3.1. Physiology of Endocrine System 7hrs

Pituitary gland and its hormones; Hormones of pineal gland, thyroid gland, parathyroid, thymus, adrenal and pancreas; Endocrine control of mammalian reproduction-Male and female hormones; Hormonal control of menstrual cycle in humans.

3.2. Physiology of Homeostasis: 3hrs

Concept of Homeostasis, and its basic working mechanism . Mechanism of Homeostasis-Water and ionic regulation by fresh water and marine animals; temperature regulation in man.

APPLIED ZOOLOGY – FISHERIES AND AQUACULTURE

III.B.Sc. V Semester - Paper - VI – Syllabus. w.e.f 2014 – 15

UNIT I

45 hours

(3hours / Week)

1.1. Capture fisheries – Resources, Statistics 2 hour

1.2. Culture fishery resources- Freshwater, Brackish water and Marine habitats 3hours

1.3. Types of fisheries: Fin fish fisheries and Shell fish fisheries 3hours

1.4 .Culture fisheries: Freshwater, Brackish water and Mariculture -Types 5hours

1.5 .Fishing gear and fishing craft 4hours

UNIT II

2.1. Preservation and processing – Freezing, solar drying, Canning, salting, Smoking.

2.2. Aquaculture systems: Polyculture, Integrated culture 4 hours

2.3. Induced breeding in Major Carps 3hours

2.4. Fish Hatchery design and Management-Chinese system and Jar system. 4hours

UNIT III

3.1. Fish Pond Management: Nursery ponds, rearing and Stocking ponds 5hours

3.2. Shrimp culture. 3hours

3.3. Shrimp Hatchery Management, Seed transport

3.4. Common diseases and control; Fish: Fin or tail rot diseases, 5hours
Spring viremia of carp, Branchiomycosis , Ichthyophthiriasis, Gas bubble disease
Shrimp: YHV, Vibriosis, Larval mycosis, Cotton shrimp disease& scurvy

Reference Books:

1. 'Text book of Brackishwater Fish and Shrimp Farming' – Susheela Jose and K.Jayasree Vadhyar, Kalyani Publishers, New Delhi, 2000.
2. 'Fisheries and Aquaculture' – Dr. Ravishankar Pisca., Lahari Publications, Hyderabad,1999.
3. 'A Text book of fish biology and Indian fisheries' – Dr. Rahul P. Parihar, Central Publishing House, Allahabad, 1999.
4. 'Aquaculture in India' – C.Gnaneswar and C.Sudhakar, Sri Sai Agriculture Consultants, Bhimavaram, 1997.
5. 'Fresh water fish culture', V.R.P.Sinha and V.Ramachandran, ICAR,1985.
6. 'Hand book on Shrimp farming' - , MPEDA, Kochi.
7. 'Matyasastram', - Telugu Akademi, 2000.
8. 'Fish and fisheries of India'- V.G. Jhingran, Hindustan publishing company.,1985
9. Aquaculture productivity - V.R.P. Sinha and H.C. Siaslara Oxford IBH, 1991.

III B. Sc ZOOLOGY-SYLLABUS, VI SEMESTER

GENETICS & ORGANIC EVOLUTION PAPER VII w. e.f.2014 – 15

45 HOURS (3hrs/week)

UNIT-1

Genetics

1.1. Gene interactions-Incomplete dominance, codominance **2hrs**

1.2. Epistasis((12:3:1) supplementary genes (9:3:4) complimentary genes(9:7) Duplicate genes(15:1) Lethal genes(2:1& 9:3) **5hrs**

1.3. Identification of D.N.A as genetic material- Griffith's- experiment and Hershey-chase experiment. **4hrs**

1.4. Modern concept of gene-Definition, fine structure of the gene ; One Gene-One Enzyme Concept and One Gene –One polypeptide Concept **2hrs**

UNIT-II

2.1. Gene regulation as exemplified by Lac - Operon. **2hrs**

2.2. D.N.A finger printing, gene mapping, and gene therapy. **4hrs**

2.3. Human karyotyping, barr bodies, Lyon hypothesis and Amniocentesis**. 3hrs**

2.4. Chromosomal; disorders-Autosomal and Allosomal **3hrs**

UNIT-III

Organic Evolution.

3.1. Genetic basis of evolution **2hrs**

3.2. Gene pool and gene frequency **2hrs**
3.3.Hardy-Weinberg's Law **2hrs**
3.4. Natural selection **2hrs**
3.5. Genetic drift **2hrs**
3.6. Mutation **3hrs**
3.7. Isolation **3hrs**
2.2. Speciation - Allopatry & Sympatry. **4hrs**

Reference books.

1. Genetics-V.B. Rastogi - Kedar Nath Ram Nath-Ediition-2007.
2. Genetics & Evolution-P.S. Varma & V.K.Agarwal-1983-S. Chand and company Ltd
3. Organic evolution-V.B. Rastogi -Kedar Nath Ram Nath- Edition - 2007.
4. Organic evolution-N. Arumugam-Saras publications.
5. The text book of Telugu Academy.
6. Principles of Genetics-Sinnot E .W & Dobzhansky.
7. Organic Evolution-R.S. Lull-Light & Life Publishers.
8. Organic Evolution-M. P. Arora & Chandrakanta.
9. Genetics Vol-I-C. B. Power, Himalaya Publishing House Pvt. Ltd.

III .B. Sc APPLIED ZOOLOGY-CLINICAL SCIENCE AND ANIMAL BIOTECHNOLOGY

VI Semester - Paper - VIII - Syllabus -w.e.f 2014 - 15

UNIT I - CLNICAL SCIENCE 45 hours (3hours/ week)

1.1. Hematology: **7 hours**
1.1.1. Blood composition and functions
1.1.2. Blood groups and transfusion problems
1.1.3. Blood diseases – Anemia, Leukemia, Leucocytosis, and Leucopenia
1.2. Cancer: **4 hours**
1.2.1. What is Cancer? Causative factors & suspected symptoms
1.2.2. Characteristics of carcinogenic cells & Types of Cancer.
1.2.3. Biopsy and autopsy – clinical importance
1.3. Diabetes: **4 hours**
1.3.1. Diagnostic features & complications of Diabetes
1.3.2. Risk factors & Types of Diabetes.
1.3.3.Hyperglycemia, Hypoglycemia & GTT

UNIT –II IMMUNOLGY

2.1. Types of Immunity: Innate and Acquired **2 hours**
2.2. Cells involved in Immunity **2 hours**
2.3. Organs involved in Immunity **2 hours**
2.4. Immunoglobulins-classes- IgG,IgA,IgM, IgD and Ig E, Basic structure and role in Immunity.**2 hours**
2.5. Cholesterol and its significance in cardiovascular problems. **4 Hours**

(HDL, LDL &Triglycerides**)**

UNIT- III ANIMAL BIOTECHNOLOGY:

3.1. Animal Biotechnology: Scope of Biotechnology, Cloning vectors - Characteristics of vectors, Plasmids. 4 **hours**

3.2. Gene Cloning – Enzymatic cleavage of DNA, Restriction enzymes (Endonucleases) and Ligation. 6 **hours**

3.3. Transgenesis and Production of transgenic animals (Fish and Goat). 4 **hours**

3.4. Application of Stem Cell technology in cell based therapy. 4 **hours**

Reference Books

- 'Elements of Biotechnology' - P.K.Gupta - - Rastogi Publications-1999
- 'Biotechnology' V.Kumarasan. Saras Publications-2001
- Biotechnology – Keshav Trehan -Wiely. Eastern Limited- Bangalore-1991
- A Text book of Biotechnology – R.C.Dubey – S. chand Company Ltd-1993.
- Genetics & Genetic Engineering - Saras Publications – 1998.
- Parasitology –K.D. Chatterjee- Eighth Edition- Re. Print-1991.
- Clinical Pathology - Telugu Academy - 2005

III B.Sc ZOOLOGY V SEMESTER PAPER VI

ELECTIVE PAPER –II POULTRY –SYLLABUS, w.e.f.2015-16

UNIT -I 45 hours

1.1 Introduction :

1.1.1 Meaning-Importance of Poultry farming 1 hr

1.1.2 Characteristics of poultry Birds 1hr

1.1.3 Economics of Poultry production 1hr

1.2. Study of structure of Poultry

1.2.1 External structure 1hr

1.2.2 Digestive system 1hr

1.2.3 Reproductive system 1hr

1.2.4 Formation and structure of an egg 2hr

1.3. Breeds and breeding of Chicken

1.3.1 Standard classes 1hr

1.3.2 Breeds and varieties of Chicken 1hr

1.3.3 Inheritance of qualitative and quantitative characters 3hr

1.3.4 Selection methods 1hr

1.3.5Systems of Breeding 1hr

1.3.6Methods of mating including artificial Insemination 1hr

UNIT-II

2.1 Poultry nutrition and feeding

2.1.1 Principles of poultry feeding 1hr

2.1.2Nutrients – their nature and function 3hr

2.1.3Poultry feeds and composition 2hr

2.1.4Methods of feeding in Poultry 1hr

2.2. Poultry diseases and their prevention

2.2.1Classification of poultry diseases (viral, Bacterial, Fungal, Protozoal, Prasitic and Miscellaneous) 6hr

2.2.2Mode of transmission 1hr

2.2.3General methods of prevention 1hr

2.2.4 Vaccination 1hr

2.3 Hatching of eggs

2.3.1Selection and Care and handling of good hatching eggs 1hr

2.3.2 Egg testing and Methods of hatching eggs 1hr

2.3.4Brooding and Rearing sexing of Chickens 1hr

UNIT-III

3.1. Housing and Equipment of Poultry

3.1.1. Important principles of poultry housing 1hr

3.1.2. Poultry houses 1hr

3.1.3. Systems of poultry farming 1hr

3.2. Management of poultry farms

3.2.1Management of chicks 1hr

3.2.2. Management of growers 1hr

3.2.3 Management of layers 1hr

3.2.4. Management of broilers 1hr

3.3. Poulry Products

3.3.1. Eggs and Meat –their quality and Nutritive value 1hr

3.3.3. Storing preservation 1hr

3.3.4. Packing and transport 1hr

Reference books:

Poultry production by Sunil Kumar Das 1994
CBS Publishers and Distributors, Shahdara, Delhi-110022

III B.Sc ZOOLOGY VI SEMESTER PAPER VIII

ELECTIVE PAPER –II COMMUNICABLE DISEASES AND MANAGEMENT - SYLLABUS w.e.f 2015-16 45 hours

UNIT-I

1.1. Air Borne Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 12hrs

1.1.1. Influenza

1.1.2. Measles

1.1.3. Mumps

1.1.4. Small Pox

1.1.5. Tuberculosis

1.1.6. Diphtheria

1.1.7 .Meningitis

1.1.8. Whooping Cough

1.2. Food, Water and Air Borne Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 11 hrs

1.2.1. Polio
1.2.2. Cholera
1.2.3. Botulism
1.2.4. Typhoid
1.2.5. Amoebiasis
1.2.6. Tetanus
1.2.7. Anthrax
1.2.8 .Enterobiasis
1.2.9 .Ancylostomiasis

UNIT-II

2.1. Insect Borne Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 10hrs

2.1.1. Yellow Fever
2.1.2 .Dengue Fever
2.1.3. Malaria
2.1.4. Filariasis
2.1.5. Sleeping Sickness
2.1.6. Kala azar
2.1.7. Oriental sores
2.1.8. Chikungunya

2.2. Sexually Transmitted Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 5hrs

2.2.1. Gonorrhea
2.2.2. Chancroid
2.2.3. Vaginitis
2.2.4 Syphilis

UNIT-III

3.1. Direct Contact Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 7hrs

3.1.1. Viral hepatitis
3.1.2. Rabies
3.1.3 .Cold Sores
3.1.4 .AIDS

References:

1.M.J.pelezar and R.D.Reid,Microbiology-McGraw Hill Publ.
2.Larry McKane and Judy Kandel, Microbiology-McGraw Hill Publ.New York
3.R.C.Dubey and D.K.Maheswari.A Text book of Microbiology-S.Cand&co.Ltd New Delhi
4.Mani.A, A.M.Selvaraj,L.Narayanan,N.Arumugam.Microbiology-Saras Publ.Nagercoil
5.Shukla.G.S. and V.B.Upadhyay.Economic Zoology.Rastogi Publ.Meerut
6. ,N.Arumugam Immunology-Saras Publ.Nagercoil

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DEPARTMENT OF HOME SCIENCE 2016-17

LIST OF PAPERS TAUGHT—I, III &V SEM

Sl. NO	Semester	Class	Papers	Title of the paper
1.	I	I B.Sc	101	Basic Nutrition
2.	I	I B.Sc	102	Principles of Bio chemistry
3.	I	I B.Sc	103	Food Microbiology
4.	III	II B.Sc	301	Food Science
5.	III	II B.Sc	302	Natural Fibers
6.	III	II B.Sc	303	Housing for Better family living
7.	V	III B.Sc	501	Fabric science
8.	V	III B.Sc	502	Family &Community Nutrition
9.	V	III B.Sc	503	Family resource management
10.	V	III B.Sc	504	Life span development
11.	V	III B.Sc	505	Fundamentals of extension
12.	V	III B.Sc	506	Family life education

Elective:- Event Management

DEPARTMENT OF HOME SCIENCE 2016-17

LIST OF PAPERS TAUGHT—II, IV &VI SEM

Sl. NO	Semester	Class	Papers	Title of the paper
1.	II	I B.Sc	201	Human physiology
2.	II	I B.Sc	202	Nutritional Bio chemistry
3.	II	I B.Sc	203	General psychology
4.	IV	II B.Sc	401	Family nutrition
5.	IV	II B.Sc	402	Manmade Fibers
6.	IV	II B.Sc	403	Interior decoration
7.	VI	III B.Sc	601	Family Attire &Consumer Education
8.	VI	III B.Sc	602	Clinical Nutrition
9.	VI	III B.Sc	603	House hold Economics &Consumer education
10.	VI	III B.Sc	604	Early childhood care & education
11.	VI	III B.Sc	605	Extension programme planning
12.	VI	III B.Sc	606	Entrepreneurship development skills

Elective:- Research Methodology

DEPARTMENT OF HOME SCIENCE

Class: I B.Sc**.** **Semester**: I **Paper: HSc-101 Basic Nutrition**

Theory: 4 hours **+ Practical: 3** hours**/ week** **w. e. f.** 2015-16 **(modified in March 16)**

Objectives:

1. To know the functions of various macro-nutrients in the body.
2. To explore the role of minerals and vitamins in human nutrition and the clinical manifestations of their deficiency.
3. To learn the RDA of various nutrients for different age groups.
4. To study the principles of calorimetry, water and electrolyte metabolism.

Unit	Topic	No of hours
I	***Macronutrients:***	
	a. Carbohydrates- Definition, classification, functions, dietary sources, recommended allowances; **Dietary fiber-** its role in the body.	5
	b. Lipids- Definition, composition, classification, essential fatty acids, phrynoderma, functions of lipids, refined and hydrogenated fat, rancidity, recommended allowances	5
	c. Proteins- Definition of protein, PER, BV, reference protein, composition, essential amino acids, nutritional classification (complete, partially complete, incomplete), functions, dietary sources, recommended allowances	5
II	***Micronutrient***:	
	Vitamins- Definition, classification.	8
	A. Fat-soluble vitamins- A, D, E, K- dietary sources, functions, effects of deficiency, requirements.	
	B. Water-soluble vitamins- B-complex vitamins (thiamin, riboflavin, niacin, biotin, pyridoxin, pantothenic acid, folic acid, vitamin B-12), vitamin C- dietary sources, functions, and effects of deficiency, requirements.	8
III	**Minerals:**	
	a. Macro minerals: Dietary sources, absorption, effects of deficiency and requirement of- calcium, phosphorus, sodium, chloride.	8
	b. Micro minerals: Dietary sources, absorption, effects of deficiency and requirement of- iron, iodine, fluorine, zinc.	6
	c. Inter-relationship between nutrients-(i)Nutrition and health-visible symptoms of good health (ii) Nutrition and infection.	2
IV	***Energy metabolism***: Definition-energy, calorimety –direct, indirect; energy units, determination of energy value of food using bomb calorimeter, direct calorimetry (Atwater-Benedict Respiration Calorimeter) , basal metabolism, factors affecting B.M.R., S.D.A. of food, indirect calorimetry(determination energy metabolism based on oxygen consumption: Benedict-Roth apparatus) BMI, WHR formula	9
V	***Importance of water and water balance:*** Sources and **f**unctions of water, distribution of water in the body, regulation of water metabolism, water requirement; acid-base (electrolyte) balance.	4

PRACTICALS

1. Laboratory rules
2. Consulting Nutritive value of Indian Foods, writing names of common foodstuffs in Telugu
3. Calculating the nutritive value of recipe
4. Standardization of weights and measures of various food items
5. Identification of nutrient rich sources of foods, their seasonal availability and price (fiber,protein, energy, calcium, iron, carotene/vitamin A,vitamin C etc.).
6. Baking – preparation of cakes and biscuits
7. Preparation of Soups
8. Preparation of salads
9. Food preservation-preparation of jams, jellies, pickles, dehydrated products, etc.
10. Study of nutrition labeling on selected foods.

PRACTICAL MODEL QUESTION PAPER

Practical: 35 (external) **Continuous assessment**: 10(internal)

Prefinal Practical exam: 5 (internal)

Blue print for question paper

Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	2	2
Unit-II	1	10	1	5	2	2
Unit-III	1	10	1	5	2	2
Unit-IV	1	10	1	5	2	2
Unit-V	1	10	1	5	2	2

***- -- 6th question can be given from any unit.**

NOTE: QUESTIONS NUMBERS MUST BE IN SERIAL ORDER

Long Essays 3 to be answered out of 5 3 x 10=30M
Short Essays 4 to be answered out of 6 4 x 5 = 20M
Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

DEPARTMENT OF HOME SCIENCE

Class: I B.Sc.Semester: I

Subject: Biochemistry **Title:** Principles of Biochemistry **Paper:** HSc 102

Theory: 4 hours + Practical: 3 hours/ week (w.e.f. 2015-16 modified in 16 March)

Objectives:

- To help the students to understand the importance of Biochemistry as the basis for Nutrition.
- To acquire knowledge about digestion of foodstuffs.
- To make them aware of the fundamentals of macronutrients and their reactions.

Unit	Topic	No of hours
1	**Introduction to the study of Biochemistry-** **Digestion of food:** Structure of alimentary canal, Digestion of carbohydrates, lipids and proteins; Role of salivary glands, liver, pancreas in digestion; Absorption of food.	2 8
2	**Chemistry of carbohydrates:** Carbohydrate -definition, classification, and isomerism in carbohydrates- stereo isomerism: a. geometrical/ cis-trans isomerism, b. optical isomerism	3
	A. Monosaccharides: structure and configuration of glucose, fructose, galactose Properties: a. Physical b. Chemical i. Reactions of the carbonyl group: 1. Formation of osazones. 2. Oxidation. 3. Action of alkali upon sugars (tautomerism). 4. Reducing property of sugars. ii. Reactions of hydroxyl group: 1. Formation of glycosides with alcohol. 2. Formation of esters. 3. Degradation by strong acids. Colour reactions of carbohydrates	2 3 2
	B. Oligosaccharides: structure and properties of maltose, lactose and sucrose	2
	C. Polysaccharides: structure of starch, glycogen.	2
3	Chemistry of lipids: Definition, classification	2
	A. Structure and properties of fatty acids- general formula, structure of saturated, monounsaturated, polyunsaturated fatty acids. Properties –a. physical b.chemical- 1. Formation of esters with alcohol. 2. Formation of soaps with alkali.	3

	3. Reactions due to double bond i. hydrogenation ii. halogenation iii. oxidation	3
	B. Structure and properties of triglycerides- a. Physical b. Chemical i. Hydrolysis ii. Additive reactions (refinement, hydrogenation) iii. Oxidation iv. Rancidity (hydrolytic, oxidative, and kenotic)	3
	Characterization of fat: i. Saponification number ii. Acid number iii. Iodine number	1
	C.Compound lipids-structure and functions of phospholipids D.Derived lipids- structure of cholesterol	3
4	Chemistry of proteins: Amino acids- general molecular formula, structure, classification, Properties- 1. Physical a. Formation of zwitterions b. Isoelectric pH 2. Chemical A .Due to –COOH group a. Formation of esters with alcohol b. Formation of salts with bases c. Formation of corresponding amides with ammonia B. Due to –NH2 group a. Formation of salts with acids. b. Reaction with nitrous acid to liberate nitrogen c. Reaction with formaldehyde (HCHO)-Formol titration d. Reaction with Sanger's reagent (FDNB) e. The peptide bond	3 2 3 3
	Proteins-definition, classification, structure, denaturation.	4
5	**Nucleic acids:** A. Structure of purines, pyrimidines, nucleosides, nucleotides. B. Structure and properties of nucleic acids-DNA& RNA C. The role of nucleic acids in protein synthesis.	2 2 2

PRACTICALS

1. **Carbohydrates:**
   a. Qualitative analysis of monosaccharides
      i. Glucose ii. Fructose.
   b. Qualitative analysis of disaccharides

i. Maltose ii. Lactose iii. Sucrose

c. Qualitative analysis of polysaccharides
   i. Starch
d. Solubility tests for starch and sugars

2. Lipids:

a. Qualitative analysis of lipids
   i. Solubility test
   ii. Formation of translucent spot on paper
   iii. Emulsification test
   iv. Acrolein test
   v. Test for unsaturation
   vi. Test for cholesterol
      1. Leibermann Burchard test
      2. Salkowski test.

3. Qualitative analysis of proteins and amino acids:

a. Precipitation reactions
   i. Precipitation by heavy metals (10% lead acetate, 10% Cu So_4, 1% ferric chloride)
   ii. Precipitation by alkaloid reagents (meta phosphoric acid, 20% sulphosalysilic acid, potassium ferrocyanide)
b. General reactions of proteins
   i. Biuret test
   ii. Nin-hydrin test
c. Tests for "R" group of proteins
   i. Xanthoproteic test
   ii. Millon's test
   iii. Hopkin-cole test
   iv. Sakaguchi test
   v. Sulphur test.

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Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	2	2
Unit-II	1	10	1	5	2	2
Unit-III	1	10	1	5	2	2
Unit-IV	1	10	1	5	2	2
Unit-V	1	10	1	5	2	2

***- -- 6th Short Essay question can be given from any unit.**

NOTE: QUESTIONS NUMBERS MUST BE IN SERIAL ORDER

Long Essays 3 to be answered out of 5 3 x 10=30M

Short Essays 4 to be answered out of 6 4 x 5 = 20M

Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

DEPT.OF HOME SCIENCE – SEMESTER-I

CLASS: 1ST BSC Subject: **Food Microbiology PAPER CODE-H.Sc-HSc-103**

W.e.f.2016-2017(Modified in March 16 BOS)

THEORY: 4 hrs/ week **PRACTICAL: 3 Hrs / Week**

CREDITS: 3

OBJECTIVES

- To understand the fundamentals of Microbiology.
- To create awareness about role of microbes in food sources.
- To know about useful and harmful microorganisms

UNIT-I

1. IntroductiontoMicrobiologyanditshistory.
2. Economicimportance, Classification, general characteristics and reproduction of

UNIT–II

a. Bacteria
b. Saccharomyces c.
Moulds
d. Viruses
e. Algae

Microbialpathogenesis

A)Importantbacterialdiseases
(Tuberculosis,Diphtheria)
Rickettsial(typhus,groupofspottedfever)
Viral(Measles,Influenza)
Protozoa:Diseases(Amoebiass,Malarialdiseaseofman)
(Modes ofinfection, diagnosis, treatment, and control of infection of the above mentioneddiseases)

B) Immunity–definition,-types-active-passiveimmunity

UNITIII

FoodPoisoning

1. Foodintoxication: Botulism,staphylococcus
2. Foodandwater borneinfections:Salmonellosis,Cl.welchi,Diarrheaandtyphoid.

UNITIV

Methodsof FoodPreservation

1. Physicalagentsinfoodpreservation(heat, lowtemperature,dehydration,irradiation, mechanicaldestructionofmicro-organisms)
2. Chemicalagentsinfoodpreservation
    a. Chemicalsusedat home
    b. Inorganicchemicals
    c. Organicchemicals
    d. Antibiotics

UNITV

Spoilageand preservationoffollowingfoods

1. Cereals
2. Fruits
3. Vegetables
4. Milk& Milkproducts
5. Meat&Fish
6. Eggs

3. Water-waterpurificationmethods

PRACTICALS

1. Study of Microscope and its parts
2. Simple staining method
3. Gram staining
4. Acid fast staining
5. Laboratoryequipment
6. Observationoffixedslides
7. Hanging drop

Blue print for question paper

Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	2	2
Unit-II	1	10	1	5	2	2
Unit-III	1	10	1	5	2	2
Unit-IV	1	10	1	5	2	2
Unit-V	1	10	1	5	2	2

NOTE: QUESTIONS NUMBERS MUST BE IN SERIAL ORDER
*- -- 6th short essay question can be given from any unit.
Long Essays 3 to be answered out of 5 3 x 10=30M
Short Essays 4 to be answered out of 6 4 x 5 = 20M
Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

DEPARTMENT OF HOME SCIENCE – SEMESTER-II

CLASS: 1st BSC Subject: **Human Physiology** **PAPER CODE-HSc-201**

W.e.f.2016-2017(Modified in March 16 BOS)

THEORY: 4 hrs/ week **PRACTICAL: 3 Hrs / Week**
CREDITS: 3 THEORY
OBJECTIVES

- To impart knowledge regarding Human Physiology.
- To create awareness about functioning of various systems of human body.

UNIT-I **10 hrs**

(A) Circulatory system: Blood- Composition, functions, clotting of blood, blood groups, Rhfactor, anemia.

(B) Cardiovascular system: Anatomy of the heart, heart rate, Cardiac cycle, Blood Pressure, Factors maintaining blood pressure.

UNIT-II **10 hrs**

Respiration: Structure of respiratory organs; Mechanism and Chemistry of respiration. Abnormal types of respiration- anoxia, hypoxia, asphyxia and Artificial respiration.

UNIT-III **10 hrs**

Excretory system: Structure and functions of Kidney, blood and nerve supply to the kidney, urine- composition volume, formation and micturition

UNIT-1V

Nervous system:

7hrs

(a) Structure of neuron, reflex action, spinal cord, brain and their membranes, autonomic nervous System.

UNIT-V **8 hrs**

Endocrine glands: Hormones, Secretion of hormones, and their influence on growth Metabolism & reproduction.

Physiology of Reproduction: Anatomy of male and female reproductive system. Puberty changes.

PRACTICALS

I. Slides

1 .Types of epithelium -any three (columnar, ciliated, squamous, etc)
2 Types of muscle -any three (striated, non-striated, cardiac, etc.)
3. T.S of organs -any three (cartilage, bone, kidney, testes, ovary, etc.)

II. Experiments.

4. Identification of Blood groups & Rh factor
5. Preparation of Blood smear.
6. Observation and recording of body temperature and pulse rate before and after exercise.
7. Estimation of Hb -Demonstration

Blue print for question paper

Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	2	2
Unit-II	1	10	1	5	2	2
Unit-III	1	10	1	5	2	2
Unit-IV	1	10	1	5	2	2
Unit-V	1	10	1	5	2	2

NOTE: QUESTIONS NUMBERS MUST BE IN SERIAL ORDER
*- -- 6th short essay question can be given from any unit.
Long Essays 3 to be answered out of 5 3 x 10=30M

Short Essays 4 to be answered out of 6 4 x 5 = 20M
Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

DEPARTMENT OF HOME SCIENCE

Class: I B.Sc**.** **Semester**: II

Subject: Biochemistry **Title:** Nutritional Biochemistry **Paper:** HSc 202

Theory: 4 hours **+ Practical: 3** hours**/ week** **w.e.f.**2015-16 modified in 16 March BOS

Objectives:

- To enable the students to know the metabolism of macronutrients.
- To highlight the inter-relationship among macronutrients.
- To pinpoint the nuances of energy metabolism.
- To emphasize the role of enzymes and co-enzymes in the metabolism.

Unit	Topic	No. of hours.
1	**Metabolism of Carbohydrates:** Introduction, definition of anabolism, catabolism, metabolism. Glycogenesis, Glycogenolysis, Glycolysis, Kreb's cycle, energy output, Gluconeogenesis, interconversion of hexoses, Homeostasis of blood sugar-role of hormones, Glucose Tolerance Test.	2 11
2	**Metabolism of lipids:** Introduction, β-oxidation of fatty acids, Biosynthesis of fatty acids, Synthesis of triglycerides, Metabolism of ketone bodies Synthesis of cholesterol, cholesterol and atherosclerosis (in brief)	11
3	**Metabolism of proteins:** Dynamic equilibrium, nitrogen balance, Essential Amino Acids, glycogenic, ketogenic, and both glycogenic and ketogenic amino acids.	4
	Oxidation of amino acids-(i) Transamination, (ii) Transamidation, (iii) Deamination- a. Oxidative, b. Non-oxidative, (iv) Decarboxylation.	5
	Metabolism of carbon skeleton, ***Metabolism of ammonia*** (i) Glutamine pathway (ii) Urea cycle.	4
4	**(a) Integration of carbohydrate, lipid and protein metabolism.**	3
	(b) Bioenergetics: Exergonic and endergonic reactions, Source of energy, Release of energy Oxidative Phosphorylation, High energy compounds, Biological Oxidation-Reduction (Electron Transport Chain)	5
5	**Enzymes**: Introduction, Definitions, Mechanism of action of enzymes and	7

	coenzymes, Physical factors altering enzyme activity, classification of enzymes.	
	Vitamins as coenzymes in the metabolism of carbohydrates, lipids and proteins: Sources, coenzyme functions, requirement and deficiency of -- Thiamine, Riboflavin, Niacin,PyridoxinePantothenic acid, Biotin, Folic acid, Vitamin B 12	8

PRACTICALS

1. Estimation of reducing sugar by Benedict's quantitative method
2. Estimation of ascorbic acid in limejuice
3. Enzymes- ptyalin or salivary amylase action on boiled starch solution- spot plate
   testing with iodine.
4. Separation of amino acids by paper chromatography
5. Isolation of casein from milk
6. Isolatioin of starch from potatoes
7. Titration curve of the amino acid glycine

Demonstrations:

Estimation of blood glucose (Glucose Tolerance Test)

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Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	2	2
Unit-II	1	10	1	5	1	2
Unit-III	1	10	1	5	1	2
Unit-IV	1	10	1	5	3	2
Unit-V	1	10	1	5	3	2

***- -- 6th short essay question can be given from any unit.**

NOTE: QUESTIONS NUMBERS MUST BE IN SERIAL ORDER

Long Essays 3 to be answered out of 5 — 3 x 10=30M
Short Essays 4 to be answered out of 6 — 4 x 5 = 20M

Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

DEPARTMENT OF HOME SCIENCE – SEMESTER-II

CLASS: 1ST BSC Subject: General psychology PAPER CODE-HSc-203

W.e.f.2016-2017(Modified in March 16 BOS)

THEORY: 4 hrs/ week PRACTICALS: 3 hrs/week

CREDITS : 3

Objectives:

1. To understand the various aspects of human behavior.
2. To familiarize students to the field of psychology and give them necessary exposure to develop interest in the subject.
3. To introduce basic concepts to understand life span development.

UNIT-I **8Hrs**

Introduction to Psychology: Definitions, scope and methods used –observational, Experimental,clinicalandsurvey methods.

Branches of Psychology- 1. Purepsychology2. Appliedpsychology variousapproachestoPsychology–Neurobiological,Behaviouristic, psycho-analytical, CognitiveandHumanisticapproaches.

UNIT-II **8Hrs**

a. Perception:Definition,meaning-perceptual organizationand itsprinciples- perceptual constancies:shape,size,brightness, space,cues for depth and distance perception- perception of distance and direction - perceptual illusions (size, length, perspective, curvature, horizontal and vertical, movement).

b. Attention-Definition-Types–DeterminantsofAttention.Meaning ofspanofAttention, Shiftingofattention, Divisionofattention, Distractionofattention.

UNIT-III **10Hrs**

LearningandRemembering:

a. L e a r n i n g -Definition–classicalandoperantconditioning-learning byimitation–Learning by insight

b. Memory: Definition, kindsofmemory-Immediate, Shortterm, and Longterm memory

c. Forgetting: Definition, Nature offorgetting–Improvingmemory.

UNIT-IV **8Hrs**

a. Motivation: Definition–psychologicalbasis–classification –Physiological,psychologicalandsocialmotives, unconsciousmotivation.

b. Emotion: Definitionsofemotionandfeelings-Developmentofemotions. -Theories-Someexamples ofadaptiveanddisruptiveemotions.

UNIT–V **11Hrs**

a. Intelligence: Definitionofintelligence anditsnature– classificationof Intelligence,gifted,slowlearners,andretardedandtheir characteristics,conceptofI.Q,testsofintelligence,-verbalandnonverbal,.

b. Personality: Definition-,Personalitytypes, personalitytheories: (Freud, Adlers, Dollard &Miller, Bandura and Walter), assessment of personality.

PRACTICALS

1. MullerlyerillusionofPerception.
2. Principle of figure –ground relationship
3. Immediate Memory test
4. Self concept Inventory
5. Emotional Intelligence Scale
6. Koh's Block design test
7. Psychological Wellbeing Inventory
8. Sentence Completion Test
9. Rorscarch Ink Blot Test(any 7 tests)

Blue print for question paper

Units	Long Essay	Marks	Short Essay	Marks	Very Short Notes	Marks
Unit-I	1	10	1	5	2	4
Unit-II	1	10	1	5	2	4
Unit-III	1	10	1	5	2	4
Unit-IV	1	10	1	5	2	4
Unit-V	1	10	1	5	2	4

**..question numbers must be in serial order.
..6^{TH} short essay can be given from any unit.**

DEPARTMENT OF HOME SCIENCE

Class: II B.Sc**.** **Semester**: III **Paper: HSc-301** **Food Science**

Theory: 4 hours **+ Practical: 3** hours**/ week**

w.e.f. 2016-17 **(modified in March 16 BOS)**

Objectives:

1. To impart basic knowledge about the composition of various food stuffs and their products.
2. To understand the advantages and disadvantages of various cooking methods.
3. To know the miscellaneous food products available in the market.

Unit	Topic	No of

		hours
I	**Introduction to food, nutrition and nutrients-** ***Definitions*:** food, food science, nutrition, nutrients, health, malnutrition, under nutrition, over nutrition, balanced diet.	3
	Functions of food	2
	Classification of food, basic five food groups (NIN), energy yielding, bodybuilding and protective foods; food guide pyramid	2
II	**Methods of cooking**-Definition, advantage and disadvantages of cooking,	2
	Classification of cooking methods- *i. Wet methods*- boiling, simmering, stewing, steaming (direct, indirect), cooking under pressure *ii .Dry methods*- baking, broiling or grilling, pan-broiling, parching/drying/puffing. *ii. Frying methods*- deep fat frying, shallow fat frying, *iv. Microwave* cooking, *solar* cooking.	3
	Effect of cooking on food and nutrients. Minimizing the loss of nutrients while processing/cooking	2
III	**Study of food from vegetable origin**: ***a. Cereals, cereal products and millets***- Introduction. ***i. Rice***- Structure, composition, nutritive value, parboiling, gelatinization-definition, rice products (rice flakes, puffed rice). ***ii. Wheat***- Structure, composition, nutritive value, factors influencing gluten formation, wheat products (spaghetti, vermicelli, bread, noodles). ***Iii .Maize***- Structure, composition, nutritive value. ***iv. Millets***-Ragi, jowar, bajra, oats; malting.	3 3 2
	b.Legumes or pulses- Composition, nutritive value, sprouting or germination, fermentation, natural toxins present in pulses, lathyrism, factors affecting the cooking of dhals and legume.	5
	c.Nuts and oil seeds- Groundnut, coconut, gingili seeds, soybean, etc., and their role in cookery.	2
	d.Fruits and vegetables- Classification, composition, nutritive value, pigments, ripening changes, browning reaction(enzymatic and non-enzymatic).	5
	***e.Spices and condiments*-** Definition, uses, role in cookery, common spices and condiments used in India.	2
IV	**Study of food from animal origin**: ***a. Milk and milk products*-** Importance, composition, nutritive value, and types of milk available in the market (non fermented, fermented, etc), physical and chemical properties.	6
	***b.Eggs*-** Structure, composition, nutritive value, evaluation of egg quality (brine test, candling), deterioration of egg quality, coagulation of egg proteins, formation of dark green discoloration in hard boiled eggs,	6

	role of eggs in cookery.	
	c.Flesh food- **i.Meat-** Composition, nutritive value, tenderness of meat, means of altering tenderness, changes that take place on cooking. **ii.Poultry-** Composition, nutritive value. **iii.Sea foods-** Fish, shrimp: composition, nutritive value.	5 1 1
V	**Miscellaneous foods**: ***a.Beverages-*** Definition, classification, uses, ingredients used in beverages (coffee, tea, cocoa, milk, fruits, sugar, jaggery), preparing and serving beverages.	3
	b.Ready-to-eat or convenience foods- Advantages and disadvantages, types of convenience foods available in the market.	2

PRACTICALS

1. Preparations with cereals and millets.
2. Preparations with legumes.
3. Preparations with fruits.
4. Preparations with vegetables.
5. Preparations with Milk
6. Preparations with Egg
7. Preparations with Flesh foods
8. Preparation of Beverages
9. Experimental cookery on:
   a. Cereals b. Pulses c. Fruits d. Vegetables
   e. Greenleafyvegetables f. Milk g. Eggs.
10. Evaluation of one's own diet for 3 days against balanced diet
11. Market survey on the availability of ready-to-eat and convenience foods.

Blue print for question paper

Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	2	2
Unit-II	1	10	1	5	2	2
Unit-III	1	10	1	5	2	2
Unit-IV	1	10	1	5	2	2
Unit-V	1	10	1	5	2	2

Long Essays 3 to be answered out of 5 3 x 10=30M

Short Essays 4 to be answered out of 6 4 x 5 = 20M

Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

DEPARTMENT OF HOME SCIENCE – SEMESTER-III

CLASS: 2nd B.Sc Subject: Natural fibers PAPER CODE-HSc-302

W.e.f.2016-2017(Modified in March 16 BOS) PAPER: II

THEORY: 4 hrs/ week PRACTICAL: 3 Hrs / Week CREDITS: 3

Objectives:

- To understand about fiber-staple, filament
- Yarn-simple and compound
- Yarn formation-its importance and kinds of natural yarns.
- To know about various textile fibers

Unit	Topic	No. of hours.
I	**IntroductiontoTextilesandClothing:** a. Importanceofstudyoftextilestotheconsumer b. **Terminology**-Staple,filament,tenacity,abrasionresistance,heat conductivity, absorbency, dyeability, dimensionalstability,drapabilityandwrinkleresistance **Classification of textile fibers:** a. Based on Length-Stapleandfilament b. Basedonsource-Natural,manmade,synthetic	10
II	**Natural fibers (a) vegetable fibers:** **i) Cotton:** Introduction, history, types, manufacturing process, properties, and uses. **ii) Linen:** Introduction, history, types, manufacturing process, properties, and uses.	10
III	**b) Animal fibers:** **i) Wool:** Introduction, history, varieties- according to sheep, fleece, reprocessed and reused wool; manufacturing process, properties, differences between woolen and worsted fabrics and uses. **Silk:** introduction, history, sericulture, filature operations, manufacturing of silk yarn, varieties- spun, wild, pure; evaluating silk fabrics, and properties	10
IV	**Non-conventional natural fibers**: Introduction, fiber extraction, properties and uses of – **(a). Cellulose fibers**: banana, jute, sisal, Mesta, pina. **(b). Mineral fibers**- asbestos and glass. **Blends and mixtures**: Reasons for blending.	10
V	**Yarn formation:** Definition, steps in spinning-mechanical and chemical, yarn count (denier-used for manmade fibers), yarntwist, classification of yarns-simple, novelty, texturized yarns.	5

Blue print for question paper

Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	2	2
Unit-II	1	10	1	5	2	2
Unit-III	1	10	1	5	2	2
Unit-IV	1	10	1	5	2	2
Unit-V	1	10	1	5	2	2

*- -- 6th short essay question can be given from any unit.

NOTE: QUESTIONS NUMBERS MUST BE IN SERIAL ORDER

Long Essays 3 to be answered out of 5 3 x 10=30M

Short Essays 4 to be answered out of 6 4 x 5 = 20M

Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

PRACTICALS:

1.	Sewingmachinedescription,use,careandsimplerepairsSewingkit,sewingequipment,measuringtools,markingtoolsandtoolsusedduring construction
2.	
3.	**Basic hand stitches**:
4.	**Decorativestitches**-stem,chain,lazy-daisy,satin, buttonhole,feather,Frenchknot,
5.	bullionstitch,etc.(any10stitches) **II.Constructivestitches** ***a. Temporarystitches:*** i. Even basting ii Un-even basting iii. Diagonal basting iv. Slip basting ***b. Permanentstitches*:**
6.	i. Running ii. Backstitch
7.	**Hemstitches**:
8.	i. Ordinary hemming ii. Slip hemming **Seamsandseamfinishes:** i. Plain ii. French iii. Run and fell **Introducing fullness:**
9.	6.1. Darts: i. Single ii. Double pointed 6.2. Pleats:
10.	i. Box ii. Knife 6.3. Tucks: i. Pin tucks **Neck line finishes:** Preparation of bias strip, stay stitching, facing and binding. **Plackets:** i. Two way ii. Continuous **Fasteners:** i. Buttons and buttonholes ii. Hooks and eyes iii. Zipper

11.	Textiles chemistry-identification of textile fibers –microscopic examination-burning test

DEPARTMENT OF HOME SCIENCE – SEMESTER-III

CLASS: 2nd BSC Subject: **Housing for BetterFamilyLiving PAPER CODE-HSc-303**
W.e.f.2016-2017(Modified in March 16 BOS)
THEORY: 4 hrs/ week PRACTICAL: 3 Hrs / Week CREDITS : 3

Objectives:

1. To introduce basic terminology regarding housing.
2. To train the students to have a comprhensive knowledge of planning and designing kitchens, storage areas and home altogether.
3. To impart knowledge regarding various household equipment.

THEORY

Unit-I **8Hrs**

Housing

a) Definition of basic terms- house, home, household, apartments, multi-stored buildings, row-houses, villas, gated communities.
b) Homemanagementandits importance,Functionsofahouse
c) Housingneedsindifferentstagesoffamily lifecycle.
d) Selectionofsite.
e) Orientation.
f) Factors tobeconsidered whileplanning differentrooms:aspect, prospect, privacy,grouping,circulation,sanitationLanguage Of draftsman.

Unit-II **8 Hrs**

a) Practicalconsiderations-plumbinganddrainagefacilities
b) Planningforefficientworkcentersandstorageareasinthe kitchen,bathroom, laundryandother areasofhouse.

Unit-III

Unit-IV **6 Hrs**

Kitchen plans, worktriangle,storeareainkitchen(differentiateL,U,Broken L, U,Singlewalled,peninsular shapedkitchen)

a)House plansfordifferentgroups i.
Highincome
ii. Middleincome
iii. Lowincome

b) Advantagesofowingandrentingahouse **8 Hrs**

Unit-V **15Hrs**

a) Household equipment- importance, classification, factors in selection of equipment

b)Construction,mechanismuseandcareofrefrigeratorvacuumcleaner,washing

machine,geysers,microwave,mixer,ironbox,pressurecooker,A.C,dishwasher &inductionstove.

c)costeffectiveappliances–smokelesschulah,gobargas,solarcookerandrural refrigerator

PRACTICALS

1. Houseplan-symbols,site plan,floorplan, elevation,landscape
2. Kitchenplans- Lshape,Ushape,broken,L,UShape,peninsular,onewalled
3. Fieldvisit toobservevarioustypesofkitchens
4. Marketstudyonbuildingmaterial-floorfinishes-wallfinishes-ceilingfinishes
5. Studyofhouseholdsequipmentwithdemonstration
6. Studyofcosteffectiveappliances withdemonstration
7. Differentlevelsofhouseplans-lowincomehouseplan,middleincomehouseplan,and highincomehouseplan.

Blue print for question paper

Units	Long Essay	Marks	Short Essay	Marks	Very Short Notes	Marks
Unit-I	1	10	1	5	2	4
Unit-II	1	10	1	5	2	4
Unit-III	1	10	1	5	2	4
Unit-IV	1	10	1	5	2	4
Unit-V	1	10	1	5	2	4

**..question numbers must be in serial order.

..6^{TH} short essay can be given from any unit.**

NOTE:

Long Essays 3 to be answered out of 5 3 x 10=30M

Short Essays 4 to be answered out of 6 4 x 5 = 20M

Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

DEPARTMENT OF HOME SCIENCE

Class: II B.Sc**.** **Semester**: IV **Paper: HSc-401**

FAMILYNUTRITION

Theory: 4 hours **+ Practical: 3** hours**/ week** **w.e.f.** 2016-17**(modified in March 16 BOS)**

Objectives:

1. To understand the influence of socio-economicandsocio-culturalfactors and food fads and fallacies on food choices.
2. To gain awareness on planning diets for persons of different age groups.

3. To impart basic knowledge about physiological changes during pregnancy and lactation and plan diets accordingly.

Unit	Topic	No of hours
I	**Selection of food:** Socio-economic and socio-cultural factors influencing family food choices with special emphasison foodfadsandfallacies.	5
II	**Principles of meal planning, dietary guidelines, nutrient needs and balanced diets for different age groups** a. infancy(breast and bottlefeeds,weaningandsupplementaryfoods) b. Pre-school children c. Schoolgoingchildren-importanceofsnacks-Packedlunch	10
III	**Principlesofmealplanning,dietaryguidelines,nutrientneedsandbalanceddiets for** d. Adolescentboysandgirls e. Adult- Referenceman,Referencewoman-nutrientrequirementsforvarious physicalactivities(sedentary,moderate,andheavywork)	6+8
IV	**Principlesofmealplanning,dietaryguidelines,nutrientneedsandbalanceddiets for** Geriatricnutrition-physiologicalchanges,factorsaffectingfoodintake,nutritionrelated problems,nutritionandhealthconcernsinoldageandtheirmanagement	6
V	**Principlesofmealplanning,dietaryguidelines,nutrientneedsandbalanceddiets for** Differentphysiologicalconditions- i. Pregnancy–weightgain, physiological changesandcomplications ii. Lactation	6+6

PRACTICALS

1. Planningandpreparationofa balanceddietforpregnantwomen.
2. Planningandpreparationofa balanceddietforaNursingMother.
3. Preparationoflowcostweaningmixes
4. Planningandpreparationofa balanceddietforaPreSchoolChild.
5. Planningandpreparationofpackedlunchforschoolgoingchild
6. Planningandpreparationofa balanceddietduringAdolescence.
7. Planningandpreparationofa balanceddietforadultmanand womandoingdifferentphysicalactivities-sedentary,moderate, heavyworker.
8. Planningandpreparationofa balanceddietforelderly.

.Blue print for question paper

Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	1	2
Unit-II	1	10	1	5	2	2
Unit-III	1	10	1	5	3	2

Unit-IV	1	10	1	5	1	2
Unit-V	1	10	1	5	3	2

***- -- 6th short essay question can be given from any unit.**
NOTE: QUESTIONS NUMBERS MUST BE IN SERIAL ORDER

Long Essays 3 to be answered out of 5 3 x 10=30M
Short Essays 4 to be answered out of 6 4 x 5 = 20M
Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

DEPARTMENT OF HOME SCIENCE – SEMESTER-IV

CLASS: 2nd B.Sc Subject: **Manmade fibers PAPER CODE-HSc-402**

W.e.f.2016-2017(Modified in March 16 BOS) paper: II

THEORY: 4 hrs/ week PRACTICAL: 3 Hrs / Week
CREDITS: 3

Objectives:

- To gain basic knowledge about manmade fibers
- To understand the process of fabric construction
- To know about finishes

Unit	Topic	No. of hours
I	**(a)Manmade fibers:** Introduction. **Rayon**: viscose rayon- history, manufacturing, yarn production, types of yarn, finishing process, evaluating viscose rayon fabrics (properties), rayon blends.	8
II	**(b)Synthetic fibers:** Introduction. **Polyesters-(**i) Polyester/ Dacron (ii) Acrylic/ orlon Manufacturing, properties, uses, blends of the above fibers.	8
III	**Fabric Construction**: i. Weaving – Introduction, parts of a loom, essential weaving operations,. ii. Types of weaves – Basic-plain, basket, rib, twill, satin and sateen. iii. Thread count, selvage, grain, fabric balance. iv. Non-Woven fabrics – Knitting: Felting, Braiding, Netting, Laces-crochet.	10
IV	**Care of clothing:** Laundry equipment – reagents uses and applications. i. Principles of laundering-washing machines-brands available and types ii. Methods of laundering – Bleaching and finishing. iii. Stain removal **iv.** d. Dry cleaning.	8
V	**Preparation of fabric for cutting**-importance of grain, steps in preparing the fabric for cutting, laying the pattern on fabric, cutting, marking and stay	9

	stitching.	

PRACTICALS

1. Preparationoffabricforgarmentconstruction-straightening-shrinking-pressing-
2. **Takingbodymeasurements**
3. **Construction of Sleeve**:Basic (plain)sleeve
4. **Weaving:**
   a. Plainweave b. Basketweave c. Ribweave d. Twill
   e. Satinandsateenweave f. Threadcount 4. Fieldvisit totextilemill.
5. Constructionofababyfrock(5-6years)

Blue print for question paper

Units	Long Essay	Marks/ each question	Short Essay *	Marks/ each question	Very Short Notes	Marks/ each question
Unit-I	1	10	1	5	2	2
Unit-II	1	10	1	5	2	2
Unit-III	1	10	1	5	2	2
Unit-IV	1	10	1	5	2	2
Unit-V	1	10	1	5	2	2

*- -- 6th question can be given from any unit

NOTE: QUESTIONS NUMBERS MUST BE IN SERIAL ORDER

Long Essays 3 to be answered out of 5 3 x 10=30M

Short Essays 4 to be answered out of 6 4 x 5 = 20M

Very Short Notes 10 to be answered out of 10 10 x 2 = 20M

ModelQuestion Paper

Time:3hrs Max.Marks: 70

PART – A

Answer all questions 10 x 2 = 20M

1. Whatisselvage?
2. Whatisweaving?
3. Waterrepellency
4. Whatisgrain
5. Whatis the purpose of stay stitching
6. Define Napping
7. What is finish
8. Creaseresistance
9. What is Mercerizing
10. State any two special purpose finishes

PART –B

Answer any **FOUR**questions. Each answers not exceeding one page 4 x 5 = 20M

11. Explainaboutloomanditsparts.
12. Write about the importanceofgrain
13. Writeaboutany3mechanical finishes
14. Explainbasicweavesdiagrammatically
15. WriteaboutCrepeeffect and Flameproof finish
16. Writeaboutthreadcountandfabricbalance.

PART C

Answer the following questions. Each answer not to exceed 3-4 pages 3 x 10=30M

17. Explain in detail with illustrations the interlacing of fibers and characteristics of right hand twill, left hand twill and satin weaves.
18. Explain stepsinpreparing thefabric forcutting and write about Importanceofgrain,
19. Whatisfinish? Classifyfinishes?AndWriteaboutanythreespecialpurpose finishes
20. Elucidate on various non-woven fabrics and their characteristics.

Practical Examination Model paper

Time: 3 hours **Marks: 50**

Practical: 35 (external)
Garments and other items: 10(internal)
Pre-practical exam: 5 (internal)

1.Prepare the sample of the weave – 2 marks
2. Draft and construct the following.
   a. Sleeve or
   b. Zabla
   Drafting – 8 marks
   Construction – 7 marks
3. Write the steps for preparationoffabricforgarmentconstruction – 8 marks
4. Prepare the sample of the weave - 3 marks
5. Count threads in a given fabric -7 marks

Total: 35 marks

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DEPARTMENT OF HOME SCIENCE – SEMESTER-IV

CLASS: 2nd BSC Subject: **Interior Decoration PAPER CODE-HSc-403**

W.e.f.2016-2017(Modified in March 16 BOS)

THEORY: 4 Hrs/ week **PRACTICALS: 3 Hrs/week** **CREDITS : 3**

Objectives:

1. To understand the elements and principles of Design
2. To learn the importance of art elements in room arrangements.
3. To learn the application of art principles in beautifying various rooms.
4. To learn the concepts of colour and its applications

UnitI: **13Hrs**

InteriorDesignMeaningandimportanceofinteriordesign
Elements of Art: Line, form, texture, light, pattern and space.
PrinciplesofArt: Harmony,Balance, Rhythm,EmphasisandProportion.

UnitII: **8Hrs**

Colour-prangcolourchart, colourschemes,emotional effectsofcolours, Colour Harmonies

UnitIII: **10Hrs**

Accessories–importance, classificationtypes, useininteriordecoration
Flowerarrangement- Introduction, History, Importance, Styles, Types, Shapes. Equipment needed for flower arrangement, selection and care of flowers, steps in making and placement of flower arrangements.

UNIT IV: **8Hrs**

Furniture:Types of furniture, Factors in Selection, Materials used in Furniture, arrangement of Furniture in different Rooms.
Tablesetting: Introduction, requisites for Table Laying, Place setting for formal and informal meals, seating arrangements, General rules for serving food in westernandIndianstyles

UnitV: **6Hrs**

Householdcleaningandcare, Dailycleaning, Pestcontrol Safety inhome- gasleakage- shortcircuits- accident,slipperyfallsetc.

Practicals

1. Interior Design- A) Elements of Design, B) Types of Design- Natural, Decorative conventional,Geometricabstractdrawing/painting/clippingusingmagazines.
2. Applicationofprinciplesofartindifferentrooms-a)Harmonyb)Balancec)Rhythm,d) Emphasisande)Proportion,Drawing/painting/clippingfrommagazine.
3. Colour- value chart, prang colour chart, six standard colours, application of colour harmoniesindifferentroomsofthehouse.
4. Differenttypesofflowersarrangement
5. Tablesetting-Indianandwesternstyles
6. NorthIndianandsouthIndianmeallaying
7. Buffetarrangement

Blue print for question paper

Units	Long Essay	Marks	Short Essay	Marks	Very Short Notes	Marks
Unit-I	1	10	1	5	2	4
Unit-II	1	10	1	5	2	4
Unit-III	1	10	1	5	2	4
Unit-IV	1	10	1	5	2	4

Unit-V	1	10	1	5	2	4

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: V

Subject: Textiles and Clothing **Title:** Fabric Science **Paper:** I

Theory: 3 hours **+ Practical:** 3 hours**/ week** **w.e.f.** 2010-11

Objectives*:*

- To acquaint students with different methods of fabric finishing.
- To develop awareness and appreciation of fabric embellishment.
- To make them understand the prestige of traditional Indian textiles and embroidery.

Unit	Topic	No of Hours
1	**Finishes:** Introduction, definition, classification. a. **Mechanical finishes** – Beetling; Brushing and shearing: Calendaring, Sanforising, Crepe effect. Embossing, Moireing, Glazing; Naping: Smooth finish: Tentering. b. **Chemical finishes**; Sizing and Dressing; Mercerizing: Crease resistant, Crêpe effect. Flame proof. c. **Special purpose finishes** – Water repellency: Water proof; Absorbent finishes, Moth proof, mildew proof, slip resistance; Antiseptic and anti static finishes.	2 3 2 2
2	**Dyes and Dyeing: Definition-dye, mordant, dyeing, fastness.** **Classification of dyes:** **Natural Dyes**: Vegetable Animal, Mineral **Synthetic Dyes**: Direct or substantive dyes, Vat dyes, Mordant or Chrome dyes, Acid, Basic, Sulphur, Disperse. **Methods of Dyeing**: Preparation of material for dyeing and printing Stock dyeing, Yarn dyeing, Piece dyeing, solution dyeing, Pigment or dope dyeing, garment dyeing.	2 2 2 2
3	**Printing**: Introduction, definition. **Various methods of printing:** Direct-:Block, Stencil, Roller, Duplex Discharge, Resist- Screen, Transfer, Warp, Photo, Batik, Tie Dyeing and Flocking.	1 3 1 3
4	**Traditional Indian Textiles** : History of art of weaving in India,. **North Indian Textiles:** Dacca muslins and Saris, Chanderi muslins, Silk Saris,	1 4

	Baluchar, Buttedar, Paithanis, Patola, Benaras brocades, Himrus & Amrus, Bandhani. **South Indian Textiles**: Kanjeevaram, Mysore silk, Venkatagiri, Mangalagiri, Gadwal, Uppada, Narayanpet, Pochampalli, and Kalamkari (Machilipatnam, Kalahasthi) fabrics.	4
5	**Traditional Indian Embroidery**: Kashida and Namdas of Kashmir, kasuti of Karnataka, Phulkari of Punjab, Chamba Roomals, Kanthas of Bengals, Lucknow Chikankari work – motifs, stitches used, colours used.	9

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: V

Subject: Nutrition & Dietetics **Title:** Family and Community Nutrition

Paper: II

Theory: 4 hours **+ Practical: 3** hours**/ week** **w.e.f.** 2015-16 (Modified in B.O.S 5-03-2015)

Objectives:

- To know about family and community nutrition.
- To learn how to adopt and use diets.
- To understand the factors influencing family food choices
- To gain knowledge about food standards

Unit – I

1. **Food adulteration-**
    a. Adulterants in different foods, their harmful effects.
    b. Prevention of Food Adulteration Act
    c. Food standards-ISI, Agmark.FPO, Meat Products Order
2. **Food additives-** intentional, incidental **8 Hours**

Unit-II: Meal planning -Principles of meal planning and balanced diets for different age groups.

1. **Selection of food:**
    a. Socio-economic and socio-cultural factors influencing family food choices with special emphasis on food fads and fallacies.
2. **Meal planning -Principles of meal planning and balanced diets for different age groups**
    a. Infancy (breast and bottle feeds, weaning and supplementary foods) **12 Hours**
    b. Preschool children
    c. School going children
    d. Adolescent boys and girls
    e. Adult
    f. Old age

g. Different physiological conditions- pregnancy and lactation, their nutrient requirements.

Unit: III: Assessment of nutritional status of the community. 8 Hours

1. Anthropometry
2. Clinical
3. Biochemical and diet surveys.
4. Standards used for evaluation.

Unit – IV: Welfare programmes

1. **ICDS Programmes 10 Hours**
    a. Objectives
    b. Under-nutrition and growth monitoring in preschoolers (by weight)
    c. Supplementary feeding programmes
    d. Special nutrition programmes
    e. Prophylaxis programmes – vitamin A, iron, iodine, etc.
2. National institutions related to nutrition-NIN, CFTRI
3. International organizations involved in nutrition programmes-FAO, WHO.

Unit-V: Nutrition and infection 2hours

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc. **Semester:** V

Subject: Home Management **Title:** Family Resource Management **Paper:** III

Theory: 3 hours + Practical: 3 hours / week **w.e.f.** 2015-16 (Modified in B.O.S 5-03-2015)

Unit-I: HOME MANAGEMENT

Definition- concept- process of management ,characteristics of good manager

Values –meaning, importance,typesGoals-types,characteristics

Interrelationship of values goals and standards

10hrs

Unit-II DECISION MAKING

Definition, kinds of decisions, steps in decision making

5hrs

Unit-III: RESOURCES

Meaning, classification, characteristic, factors affecting management of Resources 10 hrs

Unit-V: TIME

1. Time- Nature and significance
2. Time costs of house hold activities
3. Time norms
4. Tools of time management
    a. Peak load
    b. Rest periods
5. Work Curve and Work Unit

6. Tips for time management 12 hrs

Unit-V: ENERGY MANAGEMENT 8 hrs

1. Definition of energy- concepts related to energy costs of household activities.
2. Fatigue - Meaning types and methods of avoiding fatigue.
3. Managerial process as applied to energy.
4. Techniques of work simplification and Mundel's classes of change in work

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: V

Sub: Human Development **Title:** Life Span Development **Paper –**IV

Theory: 3 hours + **Practical:** 3 hours /Week. **w.e.f.** 2015-16

Objectives:

- To enable the students to understand strategies of human development
- To make them aware of human behavior at various stages of life

Unit I. Growth and Development- 8 Hours

Definition of growth , development, maturity, learning

Principles of development - factors influencing development -(Heredity ,Environment, Health, Nutrition)

Developmental task- Definition; Developmental tasks in babyhood, early childhood, late childhood and adolescence.

Unit II. Needs of Children- 7 Hours

1 .Biological needs 2.Psycho -social needs 3. Egoistic needs 4.Effect of non satisfaction of needs 5. Tips to parents regarding need fulfillment

Unit III

A.**Infancy** **10 Hours**

Introduction ,period of infancy - activities of infant (mass, specific reflexes, generalized responses) Adjustments- appearance -features -Physiological functions - ,Social behavior , Emotions , vocalization.

B .**Babyhood**

Characteristics -Physical, social, emotional, moral & language developments.

Unit IV: 10 Hours

A. Early Childhood- characteristics-Physical, motor, Social, Emotional, language, Moral and cognitive Development

B. Late Childhood- Characteristics- Physical, Social, Emotional, language, Moral &cognitive Development

Unit V : **10 Hours**

A.Puberty: Introduction, characteristics, physical and physiological changes

Introduction-characteristics-Social relationships-Emotional development-Moral values-Different stages of human life cycle- Adulthood- Middle age- old age in brief.

B. Adolescence: Introduction- characteristics of early , middle, and late adolescence -Social relationships-Emotional Development-Moral values, Identity crisis -

C. Adulthood: - Early adulthood- Middle adulthood – Late adulthood- in brief.

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc. **Semester**: V

Subject: Home Science Extension **Title**: Fundamentals of Extension Education **Paper –V**

Theory: 3 hours + **Practical:** 3 hours /Week. **W.e.f**. 2010-11(BOS13.3.10)

Objectives:

- To introduce the students to the concept and philosophy of extension education
- To acquaint them with the elements and scope of communication.
- To make them understand the principles of teaching and learning, different teaching aids..

Unit	Topic	No of hours
1	**Nature and scope of Extension education**– - Definitions - Meaning of Extension - Concept of Extension - Need for Extension Education - Distinguishing features of Extension Education/ Objectives and functions of extension - Principles and Philosophy of Extension Education/ Principles underlying the philosophy of extension. Role and qualities of Extension worker/ agent	1 1 2 2 1 2 1
2	**Communication-** Introduction - What is communication?-definition - Definitions - Types/ forms, and functions of communication. - Concept of communication process. - Nature and importance of communication - Components of communication process (Leagan's model)	1 1 2 1 2 1 1

	- Common barriers/Obstructions in communication	
3	**Basic Principles of Teaching and Learning**. - Definition: Teaching, Learning, learning experiences, learning situation. - Basic elements of learning situation and their characteristics. - Principles of learning and their implications for teaching. - Steps in Extension teaching. - Steps in conducting a class/techniques of conducting a class.	2 2 2 1 1

4	**Teaching aids** - Definition and advantages - Classification of audio-visual aids - Audio-aids, Visual aids, Audio-usual aids • Public address system, telephone • Models, mock-ups, specimens, objects • Exhibits, motion pictures, video, recordings • Still pictures (a) projected, (b) non-projected • Other visual aids- chalk board, bulletin board, flannel graph, flash cards, poster, charts- different types of charts. • Dust and mud sketching. • Dramatization, puppets, role play, harikatha, burrakatha, etc. - Cone of experience - Principles of preparation of teaching aids - Selection and use of teaching aids - Advantages and limitations of each aid.	1 1 1 1 2 2 1 1 1 1
5	**Role of Home Science in community Development** - Meaning and scope of Home Science - Role of Home Science in Community Development - Role of Home Science Extension	2 3

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: V

Sub: Family Dynamics **Title:** Family Life Education **Paper –**VI

Theory: 4 hours /Week. **W.e.f**. ---- 2015-16**(Modified in B.O.S-**5.3.15)

Objectives:

To enable the students to understand family relations & changing trends in the family system.

UNIT- I: Family **12 Hours**

Definition-functions-types of family (joint, nuclear, extended) changing trends in family system- values needed for better family relations.

UNIT-II : Marriage **17 Hours**

Marriage –definition-goals of marriage-factors in mate selections-ritual followed in various religions-Hindu. Muslim and Christian.Marital adjustments (financial, sex, in-law adjustments.)

Marital Problems Laws related to marriage divorce-adoption-legal rights of women.

Unit III: Preparation for parenthood **11 Hours**

Parenting styles-authoritarian, permissive and democratic styles and their impact on child development

UNIT -IV : **Status Of Woman** **10 Hours**

Current problems of Indian women –dowry--domestic violence- trafficking -causes and remedies-legal provisions offered by government

UNIT V Women Welfare Programs **10 Hours**

State homes –service homes-working women's hostels –homes for the aged-homes for the college girls ,family courts-women development corporation.

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: V

Sub: Event Management **Paper –**Elective

Theory: 4 hours /Week. **W.e.f**. ---- 2015-16

EVENT MANAGEMENT

Unit I: Introduction to Event management: -meaning, concept, aims and objectives of event. Types and category of events-conference, exhibition, sports, rallies wedding and others, Planning-meaning and process; role and contribution of event management in hospitality industry.

Unit II: Planning Events: The nature of planning; planning for one time events; planning the setting. Location and site; the operation plan; developing the strategic plan, event planning principle- theme, logistics, graphics and special effects. Sponsorship, Developing a marketing plan;

Unit III: Convention services: The service function; the convention service manager and other convention service staff; guest room reservation system; room assignment; preparing the event, function rooms and meeting setups; audio visuals requirements; budgeting and financial control for the events; convention billing and post convention review/performance.

Food services- Type of food function ; menu planning; managing food for the events; factor affecting for the food and beverage decisions; food and beverage services for various types of events; staffing requirements for serving the food and beverage; food and beverage control procedure; display and exhibitions.

Unit IV: Event Production & Logistics – Concept, theme, fabrication, light & sound, handling venders, Logistic policy, procedures, performance standards, functional areas, motivation and leadership.

Unit V: Organizing: Arrangement of infra-structure and facilities - Venue, Material, Transport facilities, P A system, decoration, tenting, Furniture, food supplying, Fire fighting requirement, First aid , electrical safety , refreshment and recreation, General amenities, Legal formalities & Permission from competent authority Cost estimation. Feed back and Evaluation - Communication processing skill, Gathering the all relevant information analyzing the existing discrepancies, adopting the means to plug it, Documentation & Record keeping.

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: VI

Paper: I **Subject:** Textiles and Clothing

Title: FAMILY ATTIRE AND CONSUMER EDUCATION

Theory: 3 hours **+ Practical:** 3 hours**/ week** **w.e.f.** 2010-11

Objectives:

- To get the students acquainted with the Indian costumes and accessories
- To equip them with the necessary skills to make their own wardrobe inventory, comprehend fashion trends.
- To make them aware of the factors influencing personal/ household fabric consumption.

Unit	Topic	No. of hours
1	**Study of Traditional Indian Costumes and accessories-** Introduction, definition of costume, accessory. Traditional male and female costumes prevalent in different states of India: their importance in present scenario in textiles and apparel industry. Different types of accessories	2 4 2 2
2	**Wardrobe planning:** Introduction, wardrobe-definition. a) Aims, personal analysis, inventory & clothing extenders b) Principles of wardrobe planning – budget, occasion, climate, occupation, interest, number of family members, age, figure, fashion, quality, accessories etc. c) Principles applied to general figure problems and use of colour, prints, lines and checks. d) Renovation of old garments. **Readymade clothing:** (a)Selection and examination of cloth, shape of garment, fitting, label information and price. (b) Comparison of ready-made garments with homemade and tailor-made garments for quality of cloth, shape of garment, fitting and cost.	1 2 2 2 2 2 2
3	**Household textiles:** introduction, definition, classification Table linen: fabric count, size, finish, design suitability, serviceability, workmanship, use and care. Towels and bathroom ensembles: size, fiber construction, dimensions of pile, absorption, strength, compactness of background, colour co-ordination, use and care.	1 2 2
	Bed linen- types, brands, size, quality, attraction, fiber content, colour co-ordination, construction, weight, finish, warmth, comfort, workmanship, use and care.	2
4	**I.Consumer Buying*:*** a) Factors influencing buying – budget, advertising, labeling and standards	2

	b) Problems faced by Indian consumer in selecting textiles and clothing c) Factors which control price: i. Fashion ii. Advertising iii. Production cost iv. World condition v. Availability of raw materials. **(II)Criteria for selection of Fabric for garments and household linen.** a) Characteristics and Need. b) Characteristics of fibers. c) Thread count d) Shrinkage, labels/brands e) Size of budget	2 2 2
5	**Fashion trends*:*** Fashion- terminology, factors affecting fashion change, theories of fashion adoption; NIFT – basic courses Fashion analysis Terms related to fashion industry- style, fashion, apparel, garment, silhouette, Avant-garde, fad, craze, classic items	

Practicals

1. Non-woven fabrics

i). Knitting

ii). Crocheting

2 Dyeing and Printing

i) <u>Direct dyeing/printing</u>
   (a) Stencil- with brush, spray techniques
   (b) Block printing.

ii) <u>Resist dyeing/printing</u>
   (a) Batik using cold dyes.
   (b) Tie dyeing with naphthals and vats

3. Textile Chemistry

i. Shrinkage Test/ dimensional stability
ii. Colour fastness for sunlight.

4. Fabric embellishment

i. Fabric Painting.
ii. Appliqué work/ Patch work

5. Wardrobe inventory:

i. Making an inventory of one's own clothing.
ii. Planning wardrobe for two income groups.

6. Attaching sari fall

7. Picot

8. Renovating old garments

9. Creative use of rags (crazy patch)

10. Drafting, pattern laying, cutting and Construction of

i. Pillow cover
ii. Sari petticoat
iii. Adult's Bodice Block
iv. House Coat/ night suit
v. Kameez/ kurthi
vi. Salvar/chudidar.

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: VI

Subject: Nutrition & Dietetics **Title:** Clinical Nutrition **Paper:** II

Theory: 3 hours **+ Practical:** 3 hours**/ week** **w.e.f.** 2015-16**(Modified in B.O.S** 5.3.15)

Objectives:

1. To know the role and responsibilities of a dietitian
2. To understand the modifications of the normal diet in to therapeutic diet
3. To be aware of the effect of various diseases on nutritional status and nutrients

Unit – I **12 Hours**

1. Role & responsibilities of dietician- Ethics of a dietician
2. Indian Dietetic Association, introduction- history, membership, registered dietitian
3. Food exchange lists- Indian exchange lists, and meal planning.
4. The therapeutic adaptation of normal diet and principals
5. Routine hospitals diets- clear fluid, full fluid, soft and regular normal diet
6. Diet in febrile conditions- T.B and typhoid

Unit-II: Diet in malnutrition- **8 Hours**

1. Under nutrition – PEM, Iron deficiency anemia
2. Over nutrition - Obesity

Unit: III: Diet in Diabetes Mellitus **8 Hours**

Introduction, types of diabetes, etiology, metabolism in diabetes, symptoms, diagnosis, GTT, and drugs, patient education, Glycemic index.

Unit – IV: Dietary management for cardiovascular diseases. **7 Hours**

1. Hypertension

2. Atherosclerosis- Arteriosclerosis- Ishaemic heart disease -congestive heart failure - risk factors, - symptoms

Unit-V: Dietary management for diseases of the gastro intestinal tract **10 Hours**

1. Diarrhea, constipation and peptic ulcer.
2. Liver diseases- hepatitis/ jaundice- cirrhosis of the liver.
3. **Dietary management in kidney diseases**- functions of kidney- Acute and Chronic glomerulo nephritis- nephrosis- urinary calculi
   Modification of diet in chronic glomerulonephritis

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: VI

Subject: Nutrition & Dietetics **Title:** Clinical Nutrition **Paper:** II

Theory: 3 hours **+ Practical:** 3 hours**/ week** **w.e.f.** 2015-16**(Modified in B.O.S** 5.3.15)

PRACTICALS

1. Low cost, high nutritious recipes
2. Invalid preparations
3. Weaning preparations
4. Planning and preparation of diets for
    a. Pregnant women
    b. Lactating mother
    c. Preschool child
    d. Adolescent anemic girl
    e. Kwashiorkor child
    f. Obesity
5. Modification of normal diet.
6. Planning and preparation of diets for the following conditions
    a. Diabetes Mellitus
    b. hypertension
    c. Atherosclerosis
    d. Peptic Ulcer
    e. Jaundice
    f. Nephritis
7. Planning a diet for typhoid patient
8. Planning a diet for Tuberculosis patient
9. Visit to dietary department

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc. **Semester:** VI

Subject: Home Management **Title:** Household Economics & Consumer Education **Paper:** III

Theory: 3 hours + Practical: 3 hours / week **w.e.f.** 2015-16 (Modified in B.O.S 5.3.15)

Hours required

UNIT I: ECONOMICS **8** Hours

1. Meaning and definition of economics; importance and scope of economics

2. Basic terms and concepts of economics

3. Human wants – nature and classification

4. Laws of consumption in brief – law of diminishing marginal utility – law of equimarginal utility – consumer surplus

UNIT II: INCOME AND EXPENDITURE 12 Hours

Definitions – functions of money, types of income -sources of income - items of household expenditure, - budget - types characteristics of good budget - steps in making budget - account keeping – records

Taxes – Definition – Cannons of taxation, types of taxes

UNIT III: SAVINGS 8 Hours

Definition - importance of saving –insurance- banking- taxation- investments- shares –bonds – finance institutions. **7**

UNIT IV: CONSUMER RIGHTS 8 Hours

Definition of consumer – rights of consumer in detail –responsibilities -need of consumer education

Consumer protection –legal acts - consumer problems , consumer protection - consumer courts .

UNIT V: CONSUMER ECONOMICS

1. Purchasing methods – cash – credit – wholesale – retail. 9 Hours
2. Consumer co-operative stores/ Super markets
3. Guidelines for wise purchase

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc. **Semester:** VI

Subject: Home Management **Title:** Household Economics **Paper:** III

Theory: 3 hours + Practical: 3 hours / week **w.e.f.** 2015-16 (Modified in B.O.S 5.3.15)

PRACTICALS

1. Preparation of time plan for
   a) Employed home maker
   b) Unemployed home make
   c) College student
2. Work simplification Technique
   a) Preparation of –Process chart, path way chart and operation chart to observe the performance of household activities
3. Preparation of Budget for different income families
4. Maintain savings by opening an account in the bank.
5. Practice, maintain financial records for the pocket money of a student
6. Event management of various occasions:
   a) Festival (Any three religious festivals)
      i) Ramzan
      ii) Christmas
      iii) Sankranthi, Ugadi, Deepavali, or any festivals
   b) Special Occasions
      i) Birthday party
      ii) Marriage reception
      iii) Shastipoorthi
      iv) Farewell party
7. Group living experience for the Management of resources in a batch of 6-8 students –for a period of 6-8 days

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: VI

Sub: Human Development **Title:** Early Childhood Care and Education **Paper –**IV

Theory: 3 hours + **Practical:** 3 hours /Week. **W.e.f**. 2015-16**(Modified in B.O.S** 5.3.15)

Objectives:

- To enable the students to understand the significance of Early Childhood
- To equip them with skills essential to Pre-school teacher
- To equip them with knowledge to cater to the needs of children with special needs

Unit I Early Childhood Education

History and significance of E.C.E., Types of Schools- Anganwadi, Balwadi, Preschool, Approaches to Pre-school -Montessori, Froebel- Objectives of preschool education

Unit II PRE SCHOOL

Characteristics of Pre-school- Site, location, space, equipment, facilities- Qualities of Pre-school teacher

Parent –Teacher Meetings (PTA) – Records and Registers to be maintained-

Unit III Programme Planning in Pre-school

Principles of programme planning- weekly, monthly, term and annual planning

Daily programme- Informal talk, outdoor play, snack, rest, indoor play, storytelling, rhymes, creative activity and science experimentation

Unit IV Child Welfare

Definition - Govt. Policies- Programmes-Rights of child

Organizations working for the welfare of children- National- NIPCCD, ICCW, IAPE, International-SOS Children Village, UNICEF, etc.

Unit V. Children With Special Needs

Classification of children with special needs- Mentally challenged, Physically challenged, Hearing impaired, visual handicaps, and neurological impairment- learning disabilities-gifted – in brief. Provision for special education.

DEPARTMENT OF HOMESCIENCE

Class: III B.Sc**.** **Semester**: VI

Sub: Human Development **Title:** Early Childhood Care and Education **Paper –**IV

Theory: 3 hours + **Practical:** 3 hours /Week. **W.e.f**. 2015-16**(Modified in B.O.S** 5.3.15)

PRACTICALS

1. Observation of Newborn baby.
2. Preparation of Soft toys – 3.
3. Art for the child – Preparation of 20 creative activities.
4. Preparation of any one teaching aid related to the subject.

5. Collection of dietary information from pregnant and lactating women from 3 income groups. Low – middle and high.
6. Visit to P.H.C. – Report on services rendered on that day.
7. Visit to Anganwadi, and local pre-school/ Nursery schools.
8. Observation and recording the behavior of pre-school child in all aspects- physical, cognitive, emotional, language, social, etc.
9. Observation of characteristics of pre-school teacher.
10. Observation of characteristics of pre-school.
11. Planning a day's programme/ weekly programme/ term and annual programme.
12. Organizing/ participating in PTA meetings.
13. Preparation of play equipment with indigenous materials.

Note:

All the teaching aids will be valued for 20 marks by the course instructor. They should be submitted to the Textiles practical external examiner for verification. Record will be valued for 10 Marks by the Textiles practical external examiner.

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: VI

Subject: Home Science Extension **Title**: Extension Programme Planning **Paper –**V

Theory: 3 hours + **Practical:** 3 hours /Week. **W.e.f**. 2010-11(BOS13.3.10)

Objectives:

- To explore the students to different teaching methods.
- To introduce them to the basic elements of programme planning.
- To get them learn the lesson planning techniques.
- To acquaint them with the concept of non-governmental organizations.

Unit	Topic	No of hours
1	**Extension teaching methods**:	
	- Introduction	2
	- Definition	
	- Classification of Extension teaching methods 1. According to use 2. According to form	2
	- **Individual contacts** (i) Form and home visits (ii) Office calls (iii) Personal letters (iv) Result demonstration	4
	- **Group contacts** (i) Method demonstration (ii) General meetings (iii) Field trips	4 3

	- **Mass contacts** (i) Publications (ii) Circular letters (iii) News articles (iv) Radio (v) Television (vi) Campaign - Strong and weak points of three categories of Extension methods - Factors to be considered in the selection, combination and use of Extension methods.	2
2	**Extension Programme Planning** * Definitions ➢ Extension Programme ➢ A plan of work ➢ A project ➢ A calendar of work. • Need to have a programme • Principles of Programme planning • Steps for making a programme	1 1 2 2
3	**Methods to be used to find out felt and unfelt needs of the community** PRA (Participatory Rural Appraisal) methods • Methods of evaluation in extension - formal, informal	 2 2
4	**Planning lessons for specific groups**. • Definition • Introduction • values and necessities of lesson plan • components of lesson plan, • Important aspects of good lesson plan, etc.	1 2 2
5	**Contribution of voluntary organizations in Extension** **International**- CARE- REDCROSS **National**--DWACRA -TRYSEM -YFA -KVK- MAHILA MANDAL- NES Non-governmental Organizations, registration, funding agencies, functioning	2 2

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: VI

Subject: Home Science Extension **Title**: ExtensionProgramme Planning **Paper –**V

Theory: 3 hours + **Practical:** 3 hours /Week. **W.e.f**. 2010-11(BOS13.3.10)

I. Practicals

- **Preparation of Teaching aids**

- Model
- Poster
- Flesh cards
- Flannel graph
- PPT/ OHP Slides
- Charts

  - Pull chart
  - Tree chart
  - Flip chart
  - Striptease chart

- Overlay chart
- Puppets

2. Putting up display:

- Bulletin board
- Exhibition

3. Preparation of literature:

(Pamphlet/folders)
4. Survey in a community to find out needs and interests of people and resources available.
5. Planning lessons for the women based on their needs and interests.
6. Lecture cum method demonstration in Home Science subjects based on the needs of the community…. e.g.,

- Nutrition Education
- Child care

7. Conducting workshop to teach any craft.
8. Planning and conducting a field trip to any institute related to Extension work to get acquainted with the set-up.
9. Extension programme planning- a model.

Note:
All the teaching aids will be valued for 20 marks by the course instructor. They should be submitted to the Nutrition practical external examiner for verification. Record will be valued for 10 Marks by the Nutrition practical external examiner.

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: VI

Sub: Family Dynamics Title: Entrepreneurship Development Skills Paper –VI

Theory: 4 hours /Week. **W.e.f**. ---- 2015-16**(Modified in B.O.S 5.3.15)**

OBJECTIVES

1. To know the responsibilities of an entrepreneur.
2. To understand the types of business.
3. To be aware of project formulation.

UNIT I

Introduction – Benefits – Processes – Factors involved – Human & Environmental factors – Entrepreneur development cycle.Entrepreneurial behavior.Values needed – entrepreneurial trials – attitudes.

UNIT II

Entrepreneurial motivation

Types of motivation- need of achievement motivation- characteristics of high achievers- obstacle in achievements.

Entrepreneurial goals

Needs of goal setting- risk taking behavior-achievement planning-reorganizing the opportunities- characteristic of successful entrepreneurs.

UNIT III

Entrepreneurship management

Competencies to be developed- four Cs of entrepreneur ship-stages of enterprise building and behavioral competency required sources of behavioral competences of entrepreneur.

UNIT IV

Planning for small enterprise

Concept of micro & macro level enterprises related to food , textiles and boutiques.

Factors responsible for initiative of units.

Scopes of activities related to production – related to business - business opportunity identification - scanning of environment – market assessment techniques needed.

UNIT V

Project formulation & funding agencies DIC, KUIC, NABARD, etc. Elements of project report project appraisals-technical-commercial – financial management etc, preparation of model projects.

DEPARTMENT OF HOME SCIENCE

Class: III B.Sc**.** **Semester**: VI

Elective Subject: Research Methodology

Theory: 2 hours + **Practical:** 2 hours /Week

Unit I :Introduction,Meaning and Significance of research.

Types of research: pure, applied, analytical, exploratory, descriptive, surveys.

Unit II: *Research process :*

Sources of Data - primary and secondary

Methods of collecting primary data in brief:

observation, interview, schedule, case study and questionnaire

Sources of secondary data

Unit III: *Analysis of data*

Classification and tabulation

Graphical presentation

Measures of central tendency

Unit IV: *Hypothesis*: definition, role of hypothesis types, of hypothesis criteria of good hypothesis

Unit V: Report writing

Meaning and significance

Types of research report

Format of research report

Principles of writing research report

DEPARTMENT OF COMPUTER SCIENCE

I B.Sc (MPComp & MCS) – I Semester

COMPUTER FUNDAMENTALS & PHOTOSHOP

Syllabus w.e.from 2016-17

UNIT-I:

Introduction to computers, characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems :binary, hexa and octal numbering system.

UNIT-II:

Input and output devices: Keyboard and mouse, inputting data in other ways, Types of Software: system software, Application software, commercial, open source, domain and freeware software, Memories: primary, secondary and cache memory. Windows basics: desktop, start menu, icons.

Unit –III

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and back ground, photoshop program window-title bar,menu bar,option bar,image window,image title bar,status bar,ruler,paletts,tool box,screen modes,saving files,reverting files,closing files.

Unit –IV

Images: working with images, image size and resolution ,image editing,colour modes and adjustments , Zooming & Panning an Image,, , Rulers, Guides & Grids- Cropping & Straightening an Image,image backgrounds ,making selections.

Working with tool box: working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels – Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches-Advanced Retouching- smoothing skin.

Unit-V

Layers: Working with layers- layer styles- opacity-adjustment layers

Filters: The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds ,artstic filter,blur filter,brush store filter,distort filters,noice filters,pixelate filters,light effects,difference clouds,sharpen filters,printing.

I B.Sc (MPComp & MCS) – I Semester

COMPUTER FUNDAMENTALS & PHOTOSHOP

LAB CYCLE w.e.from 2016-17

1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organixation
6. Create Broacher for you college
7. Create Titles for any forthcoming film
8. Custom shapes creation

9. Create a Web template for your college
10. Convert color photo to black and white photo
11. Enhance and reduce the given Image size
12. Background changes
13. Design Box package cover
14. Design Texture and patterns
15. Filter effects & Eraser

I B.Sc (MPComp & MCS) – II Semester
Paper II: C Programming
Syllabus w.e.f 2015-16

Unit – I

Chapter 1. Introduction to Algorithms and Programming Languages
Chapter 2. Introduction to C

Unit – II

Chapter 3. Decision Control and Looping Statements
Chapter 4. Functions

Unit – III

Chapter 5. Arrays
Chapter 6. Strings

Unit – IV

Chapter 7. Pointers
Chapter 8. Structure, Union, and Enumerated Data Types

Unit – V

Chapter 9. Files

II B.Sc (MPComp & MCS) – III Semester
OBJECT ORIENTED PROGRAMMING USING JAVA
Syllabus w.e.from 2016-17

UNIT-1

FUNDAMENTALS OF OBJECT – ORIENTED PROGRAMMING : Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java Features.

OVERVIEW OF JAVA LANGUAGE: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments.

CONSTANTS, VARIABLES & DATA TYPES: Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values.

OPERATORS & EXPRESSIONS.

UNIT-II

DECISION MAKING & BRANCHING: Introduction, Decision making with if statement, Simple if statement, if. Else statement, Nesting of if. else statements, the else if ladder, the switch statement, the conditional operator.

LOOPING: Introduction, The While statement, the do-while statement, the for statement, Jumps in loops.

CLASSES, OBJECTS & METHODS: Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods.

UNIT-III

INHERITANCE: Extending a class, Overloading methods, Final variables and methods, Final classes, Abstract methods and classes.

ARRAYS, STRINGS AND VECTORS: Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes.

INTERFACES: MULTIPLE INHERITANCE: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables.

UNIT-IV

MULTITHREADED PROGRAMMING: Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

MANAGING ERRORS AND EXCEPTIONS: Types of errors : Compile-time errors, Runtime errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally Statement.

UNIT-V

APPLET PROGRAMMING: local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state.

PACKAGES: Introduction, Java API Packages, Using System Packages, Naming conventions, Creating Packages, Accessing a Package, using a Package.

MANAGING INPUT/OUTPUT FILES IN JAVA: Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams, Reading and writing files.

II B.Sc (MPComp & MCS) – III Semester

OBJECT ORIENTED PROGRAMMING USING JAVA LAB

LAB CYCLE w.e.from 2016-17

Max.Marks:50

1. Write a program to perform various String Operations
2. Write a program on class and object in java
3. Write a program to illustrate Function Overloading & Function Overriding methods in Java
4. Write a program to illustrate the implementation of abstract class
5. Write a program to implement Exception handling
6. Write a program to create packages in Java
7. Write a program on interface in java
8. Write a program to Create Multiple Threads in Java and to assign priorities to threads in java
9. Write a program to Write Applets to draw the various polygons
10. Write a program which illustrates the implementation of multiple inheritance using interfaces

II B.Sc (MPComp & MCS) – IV Semester
Data Structures Using Java
Syllabus w.e.f 2016-17

UNIT I: Concept of Abstract Data Types (ADTs)- Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data Structures, Linear and Nonlinear Structures.
Linear Lists - ADT, Array and Linked representations, Pointers.
Arrays - ADT, Mappings, Representations, Sparse Matrices, Sets - ADT, Operations
Linked Lists – Single Linked List, Double Linked List, Circular Linked List, applications.

UNIT II: Stacks: Definition, ADT, Array and Linked representations, Implementations and Applications
Queues: Definition, ADT, Array and Linked representations, Circular Queues, Dequeues, Priority Queues, Implementations and Applications.

UNIT III: Trees: Binary Tree, Definition, Properties, ADT, Array and Linked representations, Implementations and Applications. Binary Search Tree (BST) – Definition, ADT, Operations and Implementations, BST Applications, Threaded Binary Trees, Heap Trees.

UNIT IV: Graphs – Graph and its Representation, Graph Traversals, Connected Components, Basic Searching Techniques, Minimal Spanning Trees

UNIT- V: Sorting and Searching: Selection, Insertion, Bubble, Merge, Quick, Heap, Sequential and Binary Searching.
Student Activity:
1. Create a visible Stack using C-graphics.
2. Create a visible Queue using C-graphics.

II B.Sc (MPComp & MCS) – IV Semester
Data Structures Using Java
Lab Cycle w.e.f 2016-17

Max.Marks:50

1. Write Program to implement the Stack operations using an array and a singly linked list
2. Write Programs to implement the Queue operations using an array and a singly linked list
3. Write a program to implement queque using a doubly linked list
4. Write a program to evaluate postfix expression by using Stack?
5. Write a program to implement insert and delete operations on Priority Queue
6. Write a program to construct Binary Search Tree and implement tree traversing techniques
7. Write a program to search an item in a given list using Linear Search and Binary Search
8. Write a program to Find number of Leaf nodes and Non-Leaf nodes in a Binary Search Tree.
9. Write a program with any Algorithm to Find the Minimum Spanning Tree of a Graph
10. Write programs for Selection Sort, Bubble Sort, Quick Sort, Selection Sort, Merge Sort

DEPARTMENT OF COMPUTER SCIENCE
SEMESTER-V
PAPER V: WEB TECHNOLOGIES
III B. SC (MPCOMP, MCS) V SEMESTER SYLLABUS

Unit I
HTML Basics
Introduction: HTML, XML, and the World Wide Web.
HTML: Basic HTML, The Document body, Text, Hyperlinks, Adding more formatting, Lists, Tables, Using colors and images, Images.

Unit II
More HTML: Multimedia objects, Frames, Forms-towards interactivity, The HTML document Head in detail, XHTML- An evolutionary markup.
Cascading Style Sheets: Introduction, Using styles: Simple examples, Defining your own styles, Properties and values in styles, Style sheets- A worked example, Formatting blocks of information, Layers.

Unit III
An introduction to Java Script: What is dynamic html, Java Script, Javascript—The basics, Variables, String manipulation, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit IV
Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.

Unit V
Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, writing to a different frame, Rollover buttons, Moving images, multiple pages in a single download, A text-only menu system, Floating logos.

Unit wise Weight age of marks:

Unit	Essays(15M)	Short Answers(5M)	Very Short Answers(2M)
	Internal Choice		
I	1	1	1
II	1	1	1
III	1	1	1
IV	1	1	1
V	1	1	1

DEPARTMENT OF COMPUTER SCIENCE
PAPER V : WEB TECHNOLOGIES
III B. SC (MP. COMP, MCS) V SEMESTER LAB CYCLE

1. Write a HTML program illustrating text formatting.
2. Illustrate font variations in your HTML code.
3. Prepare a sample code to illustrate links between different sections of the page.
4. Create a simple HTML program to illustrate three types of lists.
5. Embed a real player in your web page.
6. Embed a calendar object in your web page.
7. Create an applet that accepts two numbers and perform all the arithmetic operations on them.
8. Create nested table to store your curriculum.
9. Create a form that accepts the information from the subscriber of a mailing system.
10. Write a Java Script to accept the first, middle and last names of the user and print the name.
11. Evaluate the following:
    a) "10"+"90"
    b) (10<8)>10:8
    c) J=(i++)+(--i)+(++i)+(i++) where i=2
12. Write a script to find the factorial of a given number using functions.
13. Write a script to print all primes with in the given range.
14. Write a program to sort the array elements using "Bubble Sort" technique.
15. Write a program in Java Script to implement "Binary Search" technique.

DEPARTMENT OF COMPUTER SCIENCE
PAPER VI.I: OPERATING SYSTEMS CONCEPTS
III B.SC (MPCOMP, MCS) V SEMESTER SYLLABUS

Unit 1
OS Fundamentals and Structure of OS
Introduction – What Operating Systems do – Computer – system organization Computer System Architecture – Operating Systems structure – Operating System operations : Process management - Memory management, storage management, Protection and security – Distributed systems – Computing environments.
System structures – Operating System services – User Operating System interface – system calls – Types of system calls – system programs – Operating system structure – system Boot.

Unit 2
Process concept – Process scheduling – Operations on processes – Inter process communication
Examples of IPC systems – Communication in Client server systems. Multithreading and Process Synchronization.
Multithreaded programming – Multithreading models –Thread Libraries – Threading issues – Operating System examples. Process Scheduling –Basic concepts – Scheduling Criteria – Scheduling Algorithms – Multiple process scheduling – Thread scheduling .

Unit 3

Process Synchronization – The Critical section problem – Peter's solution –Synchronization Hardware – Semaphores – Classic problems of Synchronization– Monitors – Synchronization examples.

Deadlocks – System model – Deadlock Characterization – Methods for Handling Deadlocks – Deadlock prevention –Deadlock Avoidance – Deadlock Detection – Recovery from Deadlock.

Unit 4

Memory Management Strategies.

Memory – management strategies – swapping – contiguous Memory allocation –paging – structure of the page table – Segmentation. Virtual – Memory management – Demand paying – Page Replacement. File system – File concept –Access Methods – Directory structure – Protection.

Unit 5

File Systems and I/O Management.

Implementing file systems –File system structure -File system implementation– Directory implementation – Allocation methods – Free space management –Efficiency and Performance – Recovery.

Unit wise Weight age of marks:

Unit	Essays(15M)	Short Answers(5M)	Very Short Answers(2M)
	Internal Choice		
I	1	1	1
II	1	1	1
III	1	1	1
IV	1	1	1
V	1	1	1

DEPARTMENT OF COMPUTER SCIENCE
PAPER VI.II: COMPUTER ORGANIZATION
III BSc (MPComp, MCS) V semester Syllabus

Unit I: Digital logic circuits

- Digital computers
- Logic gates
- Boolean algebra
- Combination circuits
- Flip flops

Unit II: Data representation

Data types
Complements
Error detection code

Unit III: Basic computer organization and design

Instruction codes

Computer registers
Computer instructions

Unit IV: Central Processing Unit

Stack Organization
Instruction formats
Addressing modes

Unit V: Memory organization

Main memory
Auxiliary memory
Associative memory
Cache memory
Virtual memory

Unit wise Weight age of marks:

Unit	Essays(15M) (Any three)	Short Answers(5M) (Any three)	Very Short Answers(2M) (All)
I	1	1	1
II	1	1	1
III	1	1	1
IV	1	1	1
V	1	1	1

DEPARTMENT OF COMPUTER SCIENCE
SEMESTER-VI
PAPER VII.I: C#.net
III B.SC (COMP & MCS) VI SEMESTER SYLLABUS

Unit: I

C# And.Net Frame Work

The .net platform
The .net frame work
Compilation and MSIL
The c# language

C# language fundamentals

Data types
Variables & consonants
Statements->conditional & control statements
Operators
Classes, methods-> overriding, overridable

Unit: II

Handling Exceptions

Throwing and catching exceptions
Exception objects

Custom exceptions
Re-throwing exceptions

Unit: III

Programming with C#

Building windows application
Creating a windows form applications
Displaying an application

Unit: IV

Accessing data with Ado.net

Relational database and SQL
The ado.net object model
Using oledb managed providers
Working with data bound controls
Changing data base records

Unit: V

Programming web applications with web forms

Understanding web form
Creating a web form
Adding controls
Data binding
Responding to post back event

Unit wise Weight age of marks:

Unit	Essays(15M) (Any three)	Short Answers(5M) (Any three)	Very Short Answers(2M) (All)
I	1	1	1
II	1	1	1
III	1	1	1
IV	1	1	1
V	1	1	1

DEPARTMENT OF COMPUTER SCIENCE
PAPER VII.I: C#.net
III B.SC (COMP &MCS) VI SEMISTER LAB CYCLE

MAX.MARKS:50

1. Demonstration on combo box.
2. Demonstration on constructor.
3. Demonstration on Dataset.

4. Demonstration on directory.
5. Demonstration on context menu strip.
6. Demonstration on enumerated data types.
7. Demonstration on exception handling.
8. Demonstration on focus related events.
9. Demonstration on animated text (GDI).
10. Demonstration on interface.
11. Demonstration on list box.
12. Demonstration on mouse down events.
13. Demonstration on navigation the records.
14. Demonstration on note pad.
15. Demonstration on create table in oracle.
16. Demonstration on display records one by one from table.
17. Demonstration on developing dynamic rom using oracle.
18. Demonstration on insert the data into table.
19. Demonstration on window explorer.
20. Demonstration on create Screensaver.

DEPARTMENT OF COMPUTER SCIENCE
PAPER VII.II: INTERNET PROGRAMMING
III B.SC (COMP &MCS) VI SEMISTER SYLLABUS

UNIT I

Users of Internet: Internet –What can be done on internet?

Putting business on the internet-standard internet components-world wide web-viewing internet channels-emails

UNIT II

ASP AND XML:

Active server pages and java: active server pages,java

UNIT III

XML: define data for web application: basic XML, document type definition, XMLschema, document object model, presenting

XML

Good design: structure, tables versus frames, accessibility, internationalization, exercises.

UNIT IV

Web based software’s and protocols.

Useful software:web browsers,perl,web servers,mod-perl,databases,accessing your ISP,exercises

Unit V

Web based protocols.

Protocols: protocols,IP and TCP,hyper text transfer protocol,common

Gateway interface, the document object model, introduction the document object model,

Exercises

Unit wise Weight age of marks:

Unit	Essays(15M) (Any three)	Short Answers(5M) (Any three)	Very Short Answers(2M) (All)
I	1	1	1
II	1	1	1
III	1	1	1
IV	1	1	1
V	1	1	1

DEPARTMENT OF COMPUTER SCIENCE
PAPER VII.II: INTERNET PROGRAMMING
III B.SC (COMP &MCS) VI SEMISTER LAB CYCLE

1. Create a web page for a shopping mall that allows the user to tick off his purchases and obtain a bill with the total being simultaneously added up.
2. Design a simple calculator
3. Write an ASP script to update the student information with some number ‘n’ in the table
4. Delete the desired student ‘s rec ord from the table using the ASP script
5. Write an ASP script to send the information accepted from the user and send it to a CGI script
6. Illustrate the procedure of creating user-defined classes
7. Illustrate the creation of embedded style sheet
8. Create an external style sheet for creating a font family
9. Creating an inline style sheet for your web page
10. Create a bio-data format of the student
11. Write a script for the various validations
12. Write an ASP script to print all the perfect numbers
13. Write an ASP script to print all the perfect numbers
14. Write an ASP script to perform stack operations
15. Write an ASP script to sort the array elements using bubble sort

DEPARTMENT OF COMPUTER SCIENCE
PAPER VIII.I: COMPUTER NETWORKS
III B.SC (COMP & MCS) VI SEMESTER SYLLABUS

UNIT-I:

Introduction

Data Communication

Networks

Protocols and Standards

Standards Organizations

Basic Concepts

Line Configuration
Topology
Transmission mode
Categories of networks

UNIT-II:

The OSI Model

Functions of the layers

Signals

Analog & Digital
Periodic Signals & Aperiodic Signals
Analog Signals
Digital Signals

UNIT-III:

Transmission Media

Guided media
Unguided media

Multiplexing

FDM
TDM

UNIT-IV:

Local Area Networks

Ethernet
Token bus
Token ring
FDDI

Switching

Circuit Switching
Packet Switching
Message Switching

UNIT-V: Networking & Internetworking Devices

Repeaters
Bridges
Routers
Gateways
Routing Algorithms

Unit wise Weight age of marks:

Unit	Essays(15M) (Any three)	Short Answers(5M) (Any three)	Very Short Answers(2M) (All)
I	1	1	1
II	1	1	1

III	1	1	1
IV	1	1	1
V	1	1	1

DEPARTMENT OF COMPUTER SCIENCE
PAPER VIII.II: COMPUTER GRAPHICS
III B.SC (COMP & MCS) VI SEMESTER SYLLABUS

UNIT-I:

A survey of Computer Graphics

- Computer Aided Design
- Presentation Graphics
- Computer Art
- Entertainment
- Education & Training
- Visualization
- Image Processing
- Graphical User Interfaces
- Input Devices
- Hard- copy Devices

UNIT-II:

Overview of Graphics Systems

- Video Display Devices
- Refresh CRT
- Raster- Scan Displays
- Random- Scan Displays
- Color CRT Monitors
- Direct View Storage Tubes
- Flat Panel Displays
- 3D Viewing Devices: Stereoscopic views
- Raster- Scan Systems
- Random- Scan Systems

UNIT-III:

Attributes of Output Primitives

- Line Attributes
  - Line Type
  - Line Width
- Curve Attributes
- Character Attributes
  - Text Attributes
  - Marker Attributes

UNIT-IV:

GUI & Interactive input methods

User Dialogue
Input of Graphical Data
Logical Classification of input devices
Locator Devices
Stroke Devices
String Devices
Valuator Devices
Choices Devices
Pick Devices

UNIT-V:

Input Functions

Input mode
Request mode
Locator & Stroke input in request mode
String input in request mode
Valuator input in request mode
Choice input in request mode
Pick input in request mode
Sample mode
Event mode

Unit wise Weight age of marks:

Unit	Essays(15M) (Any three)	Short Answers(5M) (Any three)	Very Short Answers(2M) (All)
I	1	1	1
II	1	1	1
III	1	1	1
IV	1	1	1
V	1	1	1

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

DEPARTMENT OF STATISTICS

I B.Sc. STATISTICS, SEMESTER-I, PAPER-I

SYLLABUS w.e.f 2016 - 17

TITLE: DISCRIPTIVE STATISTICS AND PROBABILITY

UNIT I:

Concepts of Primary and secondary data, Methods of collection and editing of primary data, designing a questionnaire and a schedule, Measures of central tendency – Mean, Median, Mode,

Geometric Mean and Harmonic Mean.

UNIT II:

Measures of dispersion: Range, Quartile Deviation and Standard deviation.

Central and non central moments and their interrelationship. Sheppard's correction for moments, Skewness and Kurtosis.

UNIT III:

Basic concepts of probability, random experiments,trail, outcome, sample space, event, mutually exclusive and exhaustive events, equally likely and favourable outcomes, Mathematical, Statistical, axiomatic definitions of probability, Conditional probability and independence of events.

UNIT IV:

Addition and multiplication theorems of probability for n events, Boole's inequality and Baye's theorems and problems based on Baye's theorem.

UNIT V:

Definition of random variable, discrete and continuous random variables, functions of random variable. Probability mass function, Probability density function, Distribution function and its properties.

Bivariate random variable - meaning, joint, marginal and conditional Distribution, independence of random variables.

Practicals:

1. Diagrammatic representation of data (Bar and Pie)
2. Graphical representation of data (Histogram, Frequency polygon, Frequency curves, Ogives)
3. Central and non central moments and Sheppard's corrections for moments.
4. Measures of skewness and Kurtosis.
5. MS Excel methods for the above Serial Numbers 1,2,4

DEPARTMENT OF STATISTICS

I B.Sc. STATISTICS, SEMESTER-II, PAPER-II

SYLLABUS w.e.f 2016 - 17

TITLE: MATHEMATICAL EXPECTATIONS AND PROBABILITY DISRIBUTIONS

UNIT I:

Mathematical expectation of a random variable and of a function of a random variable. Moments and covariance using mathematical expectation examples. Addition and

multiplication theorems on expectation. Definitions of MGF, CGF, PGF, CF. Statements of properties. Chebyshev and Cauchy- Schwartz inequalities.

UNIT II:

Discrete Distributions: Binomial and Poisson distributions, their definitions, first four central moments, MGF, CGF, PGF, mean , variance, additive property if exists. Poisson approximation to Binomial distribution.

UNIT III:

Negative Binomial, geometric, hyper geometric distributions- Definitions, means, variances, MGF, CGF, PGF, reproductive property if exists. Binomial approximation to Hyper Geometric distribution, Poisson approximation to negative binomial distribution.

UNIT IV:

Continuous Distributions: Rectangular, Exponential, gamma, Beta Distributions of 2 kinds (mean& variance only). Other properties such as MGF, CGF, PGF,C.F, reproductive property.

UNIT V:

Normal Distribution: Definition, Importance, Properties, MGF, additive properties, Interrelation between Normal and Binomial, Poisson distribution. Cauchy Distribution- Definition, CF and additive property.

***PRACTICALS*:**

1. Fitting of Binomial Distribution- Direct and Recurrence Methods
2. Fitting of Poisson Distribution- Direct and Recurrence Methods
3. Fitting of Negative Binomial Distribution
4. Fitting of Geometric Distribution
5. Fitting of Normal Distribution- Areas and Ordinates Methods
6. Ms- Excel methods for the above Serial Numbers 1 and 2.

DEPARTMENT OF STATISTICS
PAPER III: STATISTICAL METHODS(2016-2017)
II B.Sc(MCS) SYLLABUS
SEMESTER- III

UNIT-I: Bivariate random variable joint marginal and conditional distributions.
Principal of least squares, fitting of linear, Quadratic, power curves and Exponential curves.
Bivariate distributions, joint, marginal and conditional, covariance.

UNIT-II: Introduction of correlation & regression, Karl Pearson's coefficient of correlation,
rank correlation, limits of rank correlation, correlation ratio.

UNIT-III: Simple linear regression, lines of regression and properties of regression.
Multiple and partial correlation. Multiple correlation coefficient, coefficient of determination. .

UNIT-IV: Concepts of population, sample, statistic, sampling distributions, standard error.
Exact sampling distributions χ^2 , t, F distributions and statements and their properties and inter relations (t and F, F and χ^2).

DEPARTMENT OF STATISTICS
PAPER: STATISTICAL INFERENCES(2016-2017)
II B Sc (MCS) SYLLABUS
SEMESTER- IV

UNIT-I:

Point estimator, criteria of good estimator – Consistency , Unbiasedness, Efficiency , Sufficiency.Statement of Fisher Neyman Factorization theorem, derivations of sufficient statistic in binomial, Poisson, exponential cases. Estimation by the method of moments,Maximum likelihood method. Confidence interval for parameters of normal populations.

UNIT-II:

Concepts of null hypothesis, alternative hypothesis ,critical region,types of errors, Notion of randomized test procedure, level of significance, and power of a test, NP Lemma for testing a simple versus simple in Normal, statement of NP Lemma, example in the case of binomial& Poisson.

UNIT-III:

Large sample tests of significance of means, standard deviations, proportions, Correlation coefficient.

Small sample tests of significance based on normal $\chi 2$, t and F distributions

UNIT-IV:

Non parametric tests advantages & disadvantages, one sample tests – paired sample tests, sign test, Wilcox on signed rank test, two sample test – Wilcox on Mann Whitney , Wald – wolfitz run test.

PAPERV: Sampling, ANOVA and Time series(2016-2017)
III B.Sc (MCS) SYLLABUS
SEMESTER- V

UNIT-I: SAMPLING

Sampling and non sampling errors, sources and treatment of non – sampling errors, Advantages and limitations of sampling. Type of sampling, SRSWR and SRSWOR, Stratified Random sampling, systematic sampling, optimal, proportional and Neymann allocation, Comparisons and relative efficiency.

UNIT-II: ANALYSIS OF VARIEEENCE

Definition, assumptions and applications of ANOVA, one-way and two-way classification With one observation per cell, concept of Gauss-Markov linear modal, Cochran's theorem And its Application in splitting total variation.

UNIT-III: TIME SERIES

Time series and its components with illustrations, additive, multiplicative and mixed Models, determination of trend by least squares method, concept of smoothing, moving averages determination of seasonal indices by ratio to moving average, ratio to trend and link relatives method.

UNIT-IV: INDIAN STATISTICAL SYATEM

Function and organizations of CSO and NSSO. Agriculture statistics, area yield of Statistics. National income and its computation. Utility and difficulties in estimation National income.

PAPERVI: QUALITY RELIBILITY AND OPERATIONS RESEARCH(2016-2017)

III B.Sc (MCS) SYLLABUS

SEMESTER- V

UNIT-I: STATISTICAL PROCES CONTROL

Importance of SQC in industry, statistical basis of control charts. Control charts for variables (mean,range std. dev) and attributes (p,np and c-charts). Construction and interpretation of control charts. . Concept of six sigma and its importence

UNIT-II: ACCEPTENCE SAMPLING PLANS

Producers risk and consumer risk, concept of AQL and LTPD. Sampling plans for attributes & derivations of their OC and ASN functions.

UNIT-III: LINER PROGRAMMING PROBLEM

Meaning and scope of OR, introduction to OR, development of OR, formulation of Linear Programming Problem, graphical method, applications of LPP. Fundamental theorem of LPP simplex concept of artificial variables. Big M / penalty method and two phase simplex methods (simple problems only). Concept of degeneracy algorithm and cycling, method of resolving them, concept of duality, dual simplex(simple problems)

UNIT-IV: RELIABILITY

Introduction, hazard function, exponential distribution as life model, its memory-less property, reliability function and its estimation. Concept of system reliability – series and parallel systems.

PAPERVII: APPLIED STATISTICS (2016-2017)

III B.Sc (MCS) SYLLABUS

SEMESTER- VI

UNIT-I: DESIGN OF EXPERIMENTS

Principle of experimentations – Randomization, Replication,& Local control.

Mathematical analysis, importance and application of design of experiments. Analysis of Completely randomized design (CRD), randomized block design (RBD), Latin square Design (LSD), need for factorial experiments.

UNIT-II:INDEX NUMBERS

Concept, construction, uses and limitations of simple weighted index numbers.

Fishers index as ideal index numbers. Fixed and chain based index numbers. Cost of living Index and wholesale price index number. Base shifting,splicing and deflation of index number.

UNIT-III:VITAL STATISTICS

Sources of vital statistics, census and registration ,rates and ratios .Fertility rates and mortality rates

Standardized death rates.GRR and NRR, complete and abridged life tables and their construction and uses.

UNIT –IV DEMAND ANALYSIS

Introduction, demand and supply, price elasticity's of supply and demand, methods and determining Demand and supply curves.

PAPERVIII: OPERATIONS RESEARCH-II
III B.Sc (MCS) SYLLABUS(2016-2017)
SEMESTER- VI

UNIT-I TRANSPORTATION PROBLEM

Definition of transportation problem ,TPP as a special case of LPP, feasible solutions by N-W corner rule, row minima method &column minima methods, matrix minima method,VAM, optimal solution through MODI method.Transshipment problem.

UNIT-II ASSIGNMENT PROBLEM

Formulation and description of assignment problem. Un balanced assignment problem, Travelling salesman problem, optimum solution using Hungarian method.

UNIT-III SEQUENCING PROBLEM

Problem of sequencing. Definition of sequencing n-jobs through two machines, three machines and m-machines

UNIT-IV GAME THEORY

Elements of game theory, zero sum game, saddle point ,pay off matrix and strategies, value of the game, solutions of 2x2 games, solutions of mx2 games, solutions of 2xm games and dominance property.

PAPER VIII: OPTIMIZATION TECHNIQUES
III BSC (MCS) SYLLABUS(2016-2017)
SEMESTER – VI, ELECTIVE PAPER II

UNIT I: Introduction and Definition of General Linear Programming Problem(LPP), formulation of LPP, Matrix form of LPP, Graphical Solution of LPP, Simplex Method- Slack variables.Artificial variable techniques- Big M Method, Two Phase Method, Degeneracy problem, Method to resolve Degeneracy.

UNIT II: Duality, primal to dual and dual to primal, |General rules of converting any primal into Its Dual, Statement of fundamental theorem of duality, dual simplex method.

UNIT III: Integer Programming Problem: Introduction and its applications, Branch and Bound (upto two branch problem only), Gromarey's Cutting plane method.

UNIT IV: Network diagram representation, time estimates and critical path in network analysis-
Forward pass computations, Backward pass computations, Determination of critical Path (CPM), Project Evaluation and Review Technique(PERT)- expected time, and variance and expected duration of the project with examples.

List of Test Books:

Operations Research – S.D. Sharma

Operations Research- Taha. H.A.

List of Reference Books

Operations Research – Wagner

Operations Research –Kanthi Swaroop

Operations Research – V.K. Kapoor

Linear Programming- Hadley G

DEPARTMENT OF HISTORY
INDIAN HISTORY & CULTURE FROM EARLY TO 7th CENTURY A.D
I B.A SEMESTER - I SYLLABUS

Unit-I

Source of Indian History – Influence of Geography of Indian History. Prehistoric historic, Palaeolithic ,Mestolitic,and Neolitic cultural.Harapan civilization – Oraganic extebt,urban planning – Nature of polity and economic organization.

Unit-II

Vedic civilization – 6th CAD,Early vedic and later vedic civilization – post Vedic period – social development – verna and Purushaardas.- Rise of new Religious movement – Jainism and Buddhism in 6th century B.C – 16 mahajanapadas – Rise and expansion of Maghada.- Alexandar's invention and its effects.

Unit-III

The Maurya Empire – Asoka's dhjaram its nature and propagation,Mauryan Administraation stste, Economy,Art and Architecture - Poast Mayuran period – social – cultural development with specialReference to Satavahanas and kushans – literature,society and cultural

Unit-IV

Development in the Gupta period administrative system – society – economy – art – architecture – literature – philosophy – science and technoplogy.

Unit-V

Post Gupta period in north India upto 647.D – Harsha Vardhna and his times.

I B.A SEMESTER-II
INDIAN HISTORY & CULTURAL FROM 7TH CENTURY TO 16TH CENTURY
SYLLABUS

1.Chalukyan period – vatapi Chalukyas – Eastern chankeyas of Vengi – Rastrakkutas Development of society, Economy and Culture – Religious Movements.

2. Pallavas and their contribution to society and Culture – Art and Architecture.

3. Cholas, Administraaation, Art and Culture

India's Cultural contacts with South East Asia and Srilanka.

4. Age of the Raja puts – Socio – Cultural conditions.

5. Inventiona of the Arabs, Ghazavis and Ghoris and their impact.

6. Rise and Fall of Delhi Sultanate – Socio – Economic and Cultural study.

7. Impact of Islam on Indian culture and Bhakti and Sufi Movement.

8. Kakatiyas – Socio – Economic and Cultural condition.

9. Vijalyanagara – Bahamani kingdoms – Society, Economy,Art and Architecture.

II B.A.III SEMESTER III PAPER

INDIAN HISTORY & CULTURE FROM 1526 AD to 1856

SYLLABUS

Unit – I

General conditions in India on the Eve of Babur in vasion.Foundation of the Mughal Empire-Babur and Humayan.Sure Dynasty-Reforms of Sher Shah.

Akbar-Policies-Rajiput,Religious,Mansabdari system.Jahangir Nurjahan,ShahJahan and Aurangazeb.Social,Economical,Religious and Cultural conditions under the Mughals. Fall of the Mughal empire.

Unit-II

Rise of Marathas.Shivaji administration.Role of Peshwas.Third battle of Panipat.

Unit-III

Advent of Europeans and Portugues Dutch,French and English and their settlements in India.Anglo French rivalary,causes and the results.

Unit-IV

Establishment of British power in Bengal .Robert Clive.
Expansion of British Power.
Warren Hastings,Cornwallis,Wellesly,Bentincik & Dalhouse.Ranzit Singh of Punjab.

Unit-V

India under the company rule.
Economical, Rrevenue & Agricultural,Rural & Constituional developments,Western Education & Impacts.Decline of Trade& Industry.

II B.A.IV SEMESTER IV PAPER
INDIAN HISTORY & CULTURE FROM 1857 AD to 1950 AD
SYLLABUS

Unit-I

The Revolt of 1857.Its Character,causes,Course,Effects. Procliamation of Queen Victoria.

Unit-II

India Under the Crown: A brief survey of the Viceroys-
Canning,Lytton,Rippon,Curzon,Internal and External Policies.

Unit-III

The Acts of 1858,1909,1919 and 1935.Socio Religious Reform Movements –Growth of Western Education, Literature & Press.

Unit-IV

Indian National Movement-Factors for the rise of Indian National Movement.Foundation of the India National Congress.Era of moderates (1885-1905) – Exremists (1905-1919) Formation of Indian Muslim League-Its role

Unit-V

Gandhian Era (1919-1947)-Gandhian Philosophy and methods of struggle- Non Co-Operation movement, Civil-Disobedience movement,Revolutionary Activities-Gadhar,Bhagat Singh,Subhash Chandra Bose.Quit India Movement- Declaration of independence.Partition of India.Integration of Princely states in to the Indian Union-Sardar Vallabhai Patel .

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SEMESTER – V- PAPER- V
HISTORY OF MODERN WORLD (1453-1945)
SYLLABUS

Unit-I Characteristics of Renaissance:
Reformation, Geographical Discoveries, Natioalism, Rise of Colonialism, Mercantilism and capitalism.

Unit-II French Revolution:
a. Causes of Vienna and the concert of Europe.
B.Rise of Napoleon Bonaparte
c.Conquests, Administrative policies and down fall

Unit – III Era of Metternich:
A.Congress of Vienna and the concert of Europe
B.Liberal revolts – Revolutions of 1830 and 1848
C.America War of Independence.
D.The Industrial Revolution causes and impact
E.National unification movements – Unification of Italy and Germany

Unit – IV World wars Consequences:
a. First World War Causes, Consequences, Treaty of Versalies
B.League of nations its achievements and Failures
C.Russian Revolution causes and impact
d. Italy Facism Mussolini.
e. Nazism – Germany – Hitler
F.Second World War causes and consequences impact

Unit –V Birth of United Nations Organization:
a. Aims and Achievements UNO.
Because of Cold War: Role of U.S.A and U.S.S.R

DEPARTMENT OF HISTORY
COURSE OF SEMESTER – V- PAPER VI
HISTORY OF MODERN ANDHRA [1600-1885]

Unit- I
Andhra Qutib Shahi Dynasty-Administration Policies in Andhra
Asaf Jahi's Dynasty
a. Administration Polices in Andhra
b.Reforms of Salrajung

Unit- II
Establishment of Company rule in Andhra
a. Acquisition of Northern Circars
b.Karnaatic War
c.Position of Andhra during the British Rule.
d.Ceded Districts
e.Nelluru,Chittoor Districts

Unit-III

English East India Company Administration in Andhra

a.Sarkar Rayalaseema Movement

b.Land Revenue system

c.Influence of Industrial Revolution in Andhra

d.Sri Thomas Manro – Industrial Revolution 1857 Revolt of Andhra

Unit – IV

Socio- Religious Reform Movement in Andhra

Kandukuri Veeresalinam,Ragupati Venkataranam,Komaraju Lakshman Rao.

Unit-V

Trends in Modern Telugu Literature

a.Reyaprole Subha Rao

b.Visnata Satyanarayana

c.Sri – Sri

REFERENCE BOOKS;

1.Andhra History,B.S.N.Hanumantha Rao

2.History of Modern Andhra,P.R.Rao

3.Freedom Movement in Andhra,N.Inniah**.**

DEPARTMENT OF HISTORY
SEMESTER – VI –PPAPER VII
TRAVEL AND TOURISM MANAGEMENT

Unit – I

Defininition,Nature,Importance,Components and Typology of Tourism – Tourism as an industry,Growth and Development Of Tourism in India – Impact of Tourism, Economic,Social,Psycholl-Ogical and Environmental.

Unit-II

Culture Tourism in India, Buddhist Tourism in India special reference to Andhra Pradesh,Religious,Sratul centres,fairs & Festivals, Handi -capts, Flok customs,Manuments,Museums,Performing ,Arts, Class Dance & Music of India.

Unit-III

Tour packing concept,Characteristics,Methodology in desining and printing of Tour Broachers.

Unit-IV

Organization of Travel Agencies and Tour Operators – Tour Operators: Different types of Travel agents and their responsibilities-Procedures for becoming a travel agent and tour operator in India Airlines, India Railways and Accommodations types.

Unit-V

Natural – bases products;Eco-tourism-Beaches,Hill-resorts,suri-riding,Balloning,rafting,gliding-Wild-life sanctuaries-National parks,Safaris,Mountain-reining-Trekking-Sking-Sportts tourism.

SEMESTER VI PAPER VIII
MODERN ANDHRA HISTORY 1885-1956
SYLLABUS

Unit-I

Freedom Movemment in Andhra

a.Vandemataram Movvement.
b.Home – Role M ovement.
c.Non – Coparation Movement.
d.Quict India Movement

Unit-II

Movement for separate Andhra

a.Andhra State formation 1953
b.Andhra Pradesh Formation 1956
c.1913 Bapatla Maha Sabha
d.1920-47 Andhra State formation - Putti Sriramulu
e.Andhra Pradesh Zentelmen Agrement

Unit-III

Telangana Freedom Movement

a.Culture and Political awakening in Telangana
b.Osminia University
c.Hydrabad State
d.1947-48 Movement
e.Rajakar Movement

Unit-IV

Andhra State left partices

a.Left Partices
b.Communist movent in Andhra
c.1947 communist Movement
d.1952 Election

Unit-V

Telangana Communist Movement

a. Communist Movement
b.Movement in telangana

DEPARTMENT OF HISTORY

Elective -1 History of the U.S.A paper –V SEM-V

Unit-1

Political and cultural history of Americaup to 1860, American Civil War –Causes courses Results. Reconstruction of the U.S.A

Unit -II

Industrial Development of the U.S.A, Revolution in Agriculture –Peasant Movements.
American Culture Literature - Arts

Unit -III

Theouore Roosevelt –Big stick policy –Internal Policy.

Unit -IV

Wilson –partcipation in the First WORLD war –League of Nations.

Unit –V

Franklin Roosevelt –Second World War, U.N.O Cold War Relation between Amrocan and Russia Truman marshal plan.

DEPARTMENT OF HISTORY

Elective- II INTERNATIONAL RELATIONS

VI-Sem Paper VIII

UNIT- I

Basic Concepts of International Relations

1. Meaning, Nature and Scope of International Relations
2. (a). Balance of power (b). National interests (c). Collective Security (d). Diplomacy

UNIT-II

Approaches to the study of International Relations

1. Idealism – Woodrow Wilson
2. Classical Realism – Hans Morgenthau
3. Neo – realism – Kenneth Waltz

UNIT-III

Phases of International Relations (1914-1945)

1. Causes for the First World War
2. Causes for the Second World War

UNIT-IV

Phases of International Relations (1945 onwards)

1. Origins of First Cold War
2. Rise and Fall of Détente
3. Origins and the End of Second Cold War

UNIT-V

International Organization

1. The role of UNO in the protection of International Peace
2. Problems of the Third World : Struggle for New International Economic Order

DEPARTMENT OF ECONOMICS
I B.A,I B.COM MICRO ECOMNOMICS
I SEM SYLLABUS.

UNIT I: Introduction

- Nature, definition & Scope of Economic
- Micro& Macro Economics
- Static & dynamic analysis
- Economic laws

UNIT II : Consumer Behavior

- Unity Analysis –Cardial & Ordinal approaches
- Law of diminishing marginal utility
- Law of equi marginal utlity
- Consumer surplus

UNIT III : Indifferent curves

- Indifferent curve, properties of indifferent curves
- Price Line
- Equilibrium of the consumer with the help of indifferent curves

UNIT IV : Demand Analysis

- Law of Demand
- Elasticity of Demand,Types,Measures
- Price,|Income and Cross Elasticity of demand
- Factors Influencing on Demand

UNIT V : Production

- Production function
- Law of variable propositions
- Law of returns to scale

DEPARTMENT OF ECONOMICS
I B.A, I B.COM MICRO ECOMNOMICS
II SEM SYLLABUS

UNIT I : Cost curves & evenue curves

Short run & Long run cost curves
Revenue curves TR,MR,AR
Break Even analysis

UNIT II : Market Structure

Perfect Competition
Price determination under perfect competition
Equilibrium of a firm and industry under perfect competition

UNIT III : Monopoly

Price determination under Monopoly
Price Discrimination under Monopoly
Monopolistic competition
Oligopoly - Kinky demand curve.

UNIT IV : Factor pricing

Marginal productivity theory of distribution
Recordian theory of rent
modern theory of rent

UNIT V : Wage and Profit Theories.

Theories of wage determination
Wages - classical & Keynesian theories
Profit theories ,
Uncertainty, Dynamic, Innovations, Rick

II B.A MACRO ECONOMICS
III SEMESTER SYLLABUS

module: I Macro Economics

- Importance of macro Economics
- Meaning, Definitions of Macro Economics
- Circular Flow of income

module: II National Income and social Accounts

- National income meaning
- Components
- concepts of National Income
- Methods of measurement
- Social Accounting
- Significance of National Income

Module III: **Theories of output and Employment**

- Says market and classical theory of employment
- Keynes objection to classical theory
- Keynes out put and employment theory

Module IV : **Consumption and Investment**

- Consumption Function
- Investment
- Autonomous and induced investment concepts
- Multiplier Accelerator
- Marginal efficiency of capital

Module V : Trade Cycles

- Meaning and Definitions of Trade Cycles
- Meaning &Phases
- Causes and Consequences of Trade Cycles

II B.A IV SEMESTER SYLLABUS
MACRO ECONOMICS

Module: I: Money

- .Meaning of Money – Barter System & drawbacks in it
- Functions of Money
- .Classifications of Money
- 4.Greshan's Law

Module: II : Quantitative Theories of Money

- .Transaction &Cash Balance approaches
- The Keynesian approach

Module III : Inflation

- .Definition, Types Causes and effects of inflation
- .Demand pull and cost push inflation
- .Measures to control inflation
- .Philips Curve

Module :IV : Banking

- Meaning & types of commercial Banks
- Function of Commercial banks
- The process of credit creation
- Purpose and limitations
- Liabilities & Assets of Commercial Banks
- Functions of the reserve banks of India
- Quantitative and qualitative methods of credit control

Module: V : Stock Market

- Functions, importance of stock Market ,primary Secondary Markets
- Concepts of (A)Shares,(B)Debentures,
- Insurance: Types of Insurance
- Life Insurance and General Insurance.

III B.A.,V – SEMESTER SYLLABUS
PAPER – V INDIAN ECONOMY

MODULE:1

Meaning of Economic Growth & Development
Measures of Economic Development
GNP, PCL, PQL 1 and HD1
State Factors influencing Economic Development

MODULE:2

Balanced and unbalanced growth
Choice of Techniques- Labour& Capital Intensive methods

MODULE:3

Basic features- Natural Resources
Land,Water and Forest Resources
Basic Demographic Features

MODULE:4

Size and growth of the population
Age and sex Composition
Rural& Urban Population
Occupational Distribution
Population Policy

MODULE:5

National Income in India

Trends& Composition

Poverty , inequalities

Unemployement Causes & Consequenc

A brief review of five years plans , Current five year plan

III B.A., ECONOMIC STATISTICS& COMPUTER APPLICATIONS
V SEMESTER SYLLABUS
(OPTIONAL PAPER)

MODULE.1: Scope of statistics and sources of data. 15M

scope of statistics in Economics Definition of Statistics role of statstics in the measurement of Econmics activity.

Introduction- primary sources and secondry sources of data and tabulation.

Module-II Measures of central Tendency:

15M

Arithematic means, median, Geometric mean, Harmonic mean, weighted Geometric Mean- Merits and Demerits.

Module-III. Index Numbers

Construction of Index Numbers – Laspeyers, passche, Fishers ideal Index Numbers,
cost of living Index numbers, Price Statistics, CSO, NSS and ISI.

Module – IV. Times Series.

Time series – components- Methods of caldulation of trend.

Module – V Fundamentals of Computers

Introduction to Computers: Definition, Charactwristics and Limitations of Computers- Elements of Computers: CPU- primary and secondary Memory _ Input and out put Devices.

M.S office:

M.S.Word : Features of MS. Word – Advantages and applications – Parts of MS word Application Window – Toolbars – Creating, Saving and Closing a document – Opening and editing a documents.

MS. Excel: Features of MS Excle – Spread sheet/ Worksheet, Cell pointer, cell address etc., parts of Ms Excel Window – saving, Opening and Closing workbook- Insertion and Deletion of Worksheet- Entering and Editing data in Worksheet.

III B.A Labour Welfare (Optional)
V Semester Syllabus paper VI.B

Module: I Labour Markets:

Nature and characteristics of Labour Markets in developing economics like Indian-Labour Markets, Demand for Labour. Occupational structure-Growth of Labour force in India.

Module: II Wage Determination:

Concepts of wages-fair, living and minimum wages - problems of implementation of minimum wages-wages in organized and a unorganized sector-productivity and wage inflation and wage-wage differentials-wage Discrimination profit sharing.

Module: III Labour Relations:

Labour disputes in Agriculture and Industry- Causes and effect emergence of unionism in Agriculture and Industry. Growth structure of and pattern of Trade Unionism in

India, Rights and Obligations of Trade Union - Methods for Settlement of Labour Disputes - collective bargaging. Concillation, and Arbitration - Workers Participation in Management.

Module: IV State and Labour welfare:

State and Social security of Labour Concept of Social Security and its evolution, Social Assistance and Social Insurances, Review and appraisal of states policies with respect to Social Security and Labour Welfare in India - Special problems of Labour, Child Labour - Female Labour.

III B.A.,VI – SEMESTER SYLLABUS
A.P. ECONOMY

MODULE:1

Nature& Importance, trends in Agriculture production & productivity
Factors determing productivity
Rural Revolution
Agriculture Marketing

MODULE:II

Structure and growth of Indian Industry.
Industrial policies of 1956,1991
Growth& Problems of Small scale Industries.

MODULE:III

FERA
FEMA
LPG
Dis- investement policy

MODULE:IV

GSDP- Sectoral Countribution
A.P. Agriculture
Trends in Human Resources
Population Trends

MODULE :V

Special Economic Zones.
Growth of Income & Employment in A.P - Service Sector
IT Sector.

IIIB.A- VI SEMESTER
ECONOMICS – Paper VIII.
Public Finance And International Trade
(OPTIONAL PAPERS)

Module – 1: Intorduction:

Role of Govt. in Organized Socity. Meaning and Scope of Public Finance Distinction between private and public Finance. Public goods V.s private goods and Mixed goods.

Module – 2: Public Revenue:

Sources of public Revenue – Classification of Taxes fee and Special assessments – types of taxation – cannons of taxation.

Module – 3: Public Expenditure:

Meaning And Classification of Public Expenditure, Cannons and effects of Public Expenditure.

Module – 4: Public Debit:

Public Debit – Sources of public Debit. Effects of Public debt; Methods of Debt. Redemption – Growth of India's Public Debt

Module – 5:Theories of International Trade.

Inter – Regional And international Tradw – Absolute Advantage. Comparative Advantage and Hecksher – Ohlin Theories.

III B.A International Economics

VI Semester Syllabus paper VIII.B

Module: I Theory of International Trade:

International Trade- Theories of Absolute Advantage - Comparative advantage – Theory - Modern Theory of International Trade - Theorem of Factor Price Equalization - Empirical testing of theory of Absolute cost and Comparative cost-Heckscher-ohlin Theory of Trade .

Module: II Measurement of Gains:

Measurement of Gains from Trade and their distribution - Concepts of Terms of Trade and their distribution - Concepts of Terms of Trade - their uses an d limitations - Hypothesis of Secular deterioration of terms of trade.

Module: III Theory of Interventions:

The theory of Interventions(Tariffs, Quotations and Non-Tariff barriers) Economic effects of Tariffs and Quotas .

Module: IV Balance of Payments:

Meaning and components of Balance of Payments, Equilibrium and Disequilibrium in the Balance of Payments Dis – equilibrium in BOP – Adjustment Mechanism to Rectify the Disqublibrum in BOP . Relative merits and demerits Fixed and Flexible Exchange Rates in the context of growth an development in developing countries.

Module: V Trade Policies in India.

Trade Problems and trade policies in India during the last five decades: Recent Changes in the direction and composition of trade and their implications.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

DEPARTMENT OF POLITICAL SCIENCE
I.B.A, SEMESTER-I SYALLABUS PAPER-I
POLITICAL SCIENCE-CONCEPTS

UNIT-1

Political Science –Introduction

(a) Definition, Scope and Importance

(b) Liberal and Marxist Approaches

UNIT-II

State-Nation and civil Society

(a) State definition, Elements of State

(b) State- Society

(c) State – Government

(d) Nation, Nationality definition- features of Nationality

(e)Origin of the State: Social Contract theory- Thomas Hobbes

(f) Evolutionary theory

UINT-III

Sovereignty – definition, characteristics

(a) Austin's theory of sovereignty

(b) Pluralist theory of sovereignty

UNIT-IV

Law Definition, Sources of Law, Kinds of Law

(a) Concept of Rule of Law

(b) Kinds of Liberty , Safeguards of Liberty

(c) Kinds of Equality

UNIT-V

Rights & Duties

(a) Kinds of Rights

(b) Kinds of Duties

(c) Women's Rights

(d) Relation between rights and duties

(e)Power and Authority: Definition, Kinds

I.B.A, SEMESTER-II SYALLABUS PAPER-II
POLITICAL SCIENCE-THEORIESAND INSTITUTIONS

UNIT-I

Political Ideologies

(a) Individualism - Merits, Demerits

b) Anarchism - Features, Criticism

(c)Socialism - Features, Merits, Demerits

(d) Fascism - Features, Criticism

(e)Theory of Separation of Powers: Explanation, Merits and Demerits

UNIT-II

Democracy : Definition

(a) Direct Democracy - Devices

(b) Indirect Democracy - Features.

UNIT –III

Forms of Government

(a) Unitary and Federal Government – Definitions, Features , Merits and Demerits.

(b) Parliamentary and Presidential Form of Government –Definitions, Features Merits and Demerits.

UNTI-IV

Organs of Government- Legislature

(a) Bicameral Legislature – Arguments for and Against

(b)Unicameral Legislature – Merits and Demerits.

(c)Powers and Functions of Legislature.

(d) Executive :Types of Executive, Powers and Functions of Executive

UNIT-V

Organs of Government- Judiciary

(a)Powers and Functions

(b)Independence of Judiciary

(c)Judicial Review.

(d)Electorate and Representation: Suffrage –Explanation Merits and Demerits,

(e)Proportional Representation –Hare ,List System .

(f)Methods of Popular Control

II BA., III –SEMESTER SYLLABUS:: PAPER –III
INDIAN CONSTITUTION

UNIT-1

A. constituent Assembly
B. Salient features of Indian constitution
C. Fundamental Rights
D. Directive principals of state policy
E. Fundamental Duties
F. Citizenship

UNIT-II

A. President –Election, Powers and Position
B. Vice –President –Powers
C. Prime minister –Powers and functions
D. Council of Ministers-Powers
E. Parliament -composition ,Powers and functions
F. Supreme Court composition ,powers and functions and Judicial Review

UNIT-III

A .Governor- Powers and functions

B. Chief Minister- Powers and functions

C .State Legislature- Composition and Powers

D .High Court- Composition and Powers

UNIT-IV

A .Unitary and Federal features of Indian Political System.

B. Union – State Relations-Legislative, Administrative and Financial Relations

UNIT-V

A. Constitutional Amendment Procedure

B .42nd and 44th Constitutional Amendment Acts

C.73rdand74th Constitutional Amendment Acts

II BA., IV –SEMESTER SYLLABUS: PAPER –IV
DYNAMICS OF INDIAN POLITICAL SYSTEM

UNIT -I

A. Social and Economic Factors in Indian Politics
B. Election Commission –Powers and Functions
C. Determinants of Voting behavior –Influence of Language , Religion, Caste and Regionalism.

UNIT-II

National political parties,

A. Indian National Congress –Party Structure & Ideology
B. BJP –Party Structure and Ideology
C. CPI –Party Structure and Ideology
D. CPI (M) - Party Structure and Ideology
E. B.S.P. - Party Structure and Ideology
F. Coalition Politics

UNIT-III

Regional Political Parties,

A. Akalidal
B. D.M.K & A.I.A.D.M.K.
C. T.D.P.
D. T.R.S
E. Shiva Sena

UNIT-IV

Social Movements,

A. Women Movements
B. Tribal Movements
C. Environmental Movements
D. Dalit Movement

UNIT-V

National Integration,

A. Definition, Meaning ,Factors Promoting National Integration.
B. Challenges to National Integration - Casteism, Communalism, Regionalism, Terrorism.

III BA., V –SEMESTER SYLABUS PAPER –V
WESTERN POLITICAL THOUGHT

UNIT-I:

PLATO:

a. Theory of Justice
b. Theory of Education
c. Philosopher-King
d. Theory of communism

UNIT-II:

ARISTOTLE:

a. Theory of State
b. Classification of Governments
c. Theory of Revolutions
d. Views on Slavery

UNIT-III:

MACHIAVELLI:

a. Advice to the Prince
b. On Religion and Politics

UNIT-IV:

HOBBES:

a. Social Contract Theory

UNIT-V:

JOHN LOCKE:

a. Social Contract Theory

UNIT-VI:

ROUSSEAU

a. Social Contract Theory

UNIT_VII:

HEGEL:

a. Ideal State
b. Dialectic Method

UNIT-VIII:

KARL MARX:

a. Dialectical Materialism and Historical Materialism
b. Theory of Class Struggle
c. Dictatorship of the Proletariat and State less Society

III BA., V –SEMESTER; PAPER –VI

SYLLABUS

PUBLIC ADMINISTRATION-THEORIES AND CONCEPTS

UNIT-I:

INTRODUCTION:

a. Meaning, Nature, Scop and Importance of Public Adminstration
b. Public Administration and Private Administration
c. Politics and Adminstration-Dichotomy- Woodrow Wilson

UNIT-II:

TEORIES AND APPROACHED TO PUBLIC ADMINSTRATION:

a. Bureaucratic Theory – Max Weber
b. Classical Approach - Gulick & Urvick
c. Scientific Management – F.W. Taylor

UNIT-III:

a. Human Relation Approacj – Elton Mayo
b. Socia- Psychological Approach – Mc.Gregor
c. Theory of Hierarchy Needs- Abraham Mas low
d. Decision making Theory – Herbert Simon

UNIT-IV:

PRINCIPLES OF ORGANIZATION:

a. Hierarchy
b. Span of Control
c. Centaliztion
d. Deligation
e. Supervision

UNIT V:

LINE AND STAFF AGENCIES:

a. Meaning & Nature
b. Functions
c. Relationship and Distinction between them with example

III BA., V –SEMESTER SYLABUS PAPER- VI (Elective)

HUMAN RIGHTS

Unit –I Introduction

(a) Human Rights : Definition, meaning nature and Scope.
(b) Growth and evolution of Human Rights.
(c) Importance of Human Rights.

Unit-II Human Rights

(a) Universal Declaration of Human Rights.
(b) International covenant on Civil and Political Rights.
(c) International covenant on Economic ,Social and Culture Rights.
(d) Rights of Women
(e) Rights of Child.

Unit-III Human Rights in India.

(a) Indian Constitution and Human Rights: Fundamental Rights, Directive Principles of state policy, other Rights.
(b) Constitutional Safeguards
(c) Threats to Human Rights in India- Poverty, Caste, Religion, Gender Discrimination.

Unit-IV Human Rights & Mechanism in India-I

(a)National Human Rights Commission.
(b) National Minority Commission.
(c) National Commission for Women.

Unit-V Human Rights & Mechanism in India-II

(a)National Commission for Schedule caste
(b) National Commission for Schedule Tribes
(c) National Commission for Backward Castes

III BA., VI –SEMESTER SYLABUS PAPER –VII
INDIAN POLITICAL THOUGHT

UNIT-I:

Sources of Ancient Indian Political Thought:

a. Manu-Varna System
b. Kingship
c. Welfare State

UNIT-II:

Kautilya:

a. Kingship
b. Religion and Politics
c. Mandal Theory

UNIT-III:

Buddha:

a. Dharma
b. Political ideas

UNIT-IV:

Gandhi:

a. Concepts of Non-Violence
b. Theory of Trusteeship
c. Concept of Gram Swaraj

UNIT-V:

M.N.Roy:

a. Political Ideas
b. Radical Humarism

UNIT- VI

Nehru:

a. Economic Socialism
b. Maker of India's Foreign Policy

UNIT-VII:

Jayaprakash Narayan:

a. Total Revolution
b. Sarvodaya

UNIT-VIII:

Dr. Ambedkar:

a. Views on Indian Society
b. Champion of Weaker Sections.

III BA., VI –SEMESTER SYLABUS PAPER –VIII
PUBLIC ADMINISTRATION-MODERN TRENDS

UNIT I:

Public Administration in the context of Liberalisation, Privatisation & Globalisation

a. Liberalisation
b. Privatisation
c. Globalisation

UNIT II:

Modern Trends in Government

a. E-Governance: Merits & Demerits
b. New Public Administration-Minno Brook I&II
c. New Public Management

UNIT III:

Leadership

a. Definition, Meaning and Elements
b. Leadership Approaches
c. Kinds of Leadership
d. Qualities of Leadership

UNIT IV:

Communication- Public Relation

a. Definition-Meaning of Communication
b. Methods of Communication
c. Principles
d. Public Relation, Meaning & Importance
e. Methods of Public Relations

UNIT V:

Governance & Control

a. Good Governance
b. Right to Information Act 2005
c. Citizen's Control & Administration

UNIT VI:

Post Modern Public Administration

a. Salient Features- Limitations
b. Feminista Perspective
c. Difference between Modern & Post-Modern Administration

III BA., VI –SEMESTER SYLABUS PAPER –VIII (Elective)

A Study of Major Constitutions- U.K,USA, Switzerland, France & South Africa

Unit-I

The Constitution of the U.K.:

a).King (Monarch).
b).Prime Minister and Cabinet
c).Parliament
d).Supreme Court of the U.K.
e). A Special study on the role of the Customs and Conventions.

Unit-II

The Constitution of the U.S.A.:

a).President and Vice –President
b).Congress
c).Supreme Court : Judicial Review
d).Working of Separation of Powers.

Unit-III

The Constitution of Switzerland:

a).Federal Assembly

b).Federal Council-Plural Executive

c).Federal Tribunal

d).Directive Democratic Devices

Unit-IV

The Constitution of France:

a).President and Prime Minister

b). National Assembly and Senate

c). Constitutional Council and Council of State.

Unit-V

The Constitution of South Africa:

a).Salient features of the Constitution.

b).Bill of Rights.

c).President and National Executive

DEPARTMENT OF COMMERCE

B.Com. General Detailed Syllabi w.e.f. 2017-18

Semester - I

Fundamentals of Accounting-I

Unit-I – Introduction to Accounting

Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

Unit –II: Subsidiary Books:

Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-III: Trail Balance and Rectification of Errors:

Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-IV- Bank Reconciliation Statement:

Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances- Preparation of Bank Reconciliation Statement- Problems on both favorable and unfavourable balances.

Unit -V: Final Accounts:

Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

Reference Books

1. T.S.Reddy & A. Murthy, Financial Accounting , Margham Publications

2. R L Gupta & V. K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers
4. Tulasian, Accountancy -I, Tata McGraw Hill Co.
5. V.K.Goyal, Financial Accounting, Excel Books
6. K. Arunjothi, Fundamentals of Accounting; Maruthi Publications

DEPARTMENT OF COMMERCE

I B.Com (Gen), Semester I

Business Organization

Syllabus

Unit-I – Introduction

Concepts of Business, Trade , Industry and Commerce – Features of Business -Trade Classification - Aids to Trade – Industry – Classification – Relationship of Trade, Industry and Commerce.

Unit II- Business Functions and Choice of forms of Organization

Functions of Business and their relationship - Factors influencing the choice of suitable form of organization – Government Business in ____ - Public Enterprises (PES) – Multinational Companies(MNCs).

Unit –III – Forms of Business Organizations

Sole Proprietorship – Meaning – Characteristics – Advantages and Disadvantages – Partnership - Meaning – Characteristics- Kinds of partners – Advantages and Disadvantages – Partnership Deed – Hindu-undivided Family – Cooperative Societies.

Unit-IV- Joint Stock Company

Joint Stock Company – Meaning – Characteristics –Advantages – Kinds of Companies - Differences between Private Ltd and Public Ltd Companies.

Unit-V- Company Incorporation

Preparation of important Documents for incorporation of Company – Memorandum of Association – Articles of Association – Differences Between Memorandum of Association and Articles of Association - Prospectus and its contents.

Reference Books

1. C.D.Balaji and G. Prasad, Business Organization - Margham Publications, Chennai.
2. R.K.Sharma and Shashi K Gupta, Business Organization - Kalyani Publications.
3. C.B.Guptha, Industrial Organization and Management, Sultan Chand.
4. Y.K.Bushan, Business organization and Management, Sultan Chand.
5. Sherlekar, Business Organization and Management, Himalaya Publications.

DEPARTMENT OF COMMERCE

I B.Com (Gen), Semester I

Business Economics-I

Unit-I- Introduction

Meaning and Definitions of Business Economics - Nature and scope of Business Economics- Micro and Macro Economics and their differences.

Unit-II- Demand Analysis

Meaning and Definition of Demand - Determinants of Demand -- Demand function – Law of demand- Demand Curve - Exceptions to Law of Demand.

Unit –III- Elasticity of Demand

Meaning and Definition of Elasticity of Demand – Types of Elasticity of Demand – Measurements of Price elasticity of demand – Total outlay Method – Point Method – Arc Method.

Unit – IV- Cost and Revenue Analysis

Classification of Costs – Total - Average – Marginal and Cost function – Long-run – Short-run – Total Revenue - Average revenue – Marginal Revenue.

Unit-V- Break-Even Analysis

Type of Costs – Fixed Cost – Semi-variable Cost – Variable Cost– Cost behaviour – Breakeven Analysis - Its Uses and limitations.

Reference Books

1. S.Sankaran, Business Economics, Margham Publications, Chennai.
2. Business Economics - Kalyani Publications.
3. Business Economics – Himalaya Publishing House.
4. Aryasri and Murthy Business Economics, Tata McGraw Hill.
5. Business Economics, Maruthi Publications.

DEPARTMENT OF COMMERCE

Fundamentals of Accounting-II

Semester – II Syllabus

Unit-I: **Depreciation**

Meaning of Depreciation - Methods of Depreciation: Straight line – Written down Value – Sum of the Years' Digits - Annuity and Depletion (Problems).

Unit-II: **Provisions and Reserves**

Meaning – Provision vs. Reserve – Preparation of Bad debts Account – Provision for Bad and doubtful debts – Provision for Discount on Debtors – Provision for discount on creditors - Repairs and Renewals Reserve A/c (Problems).

Unit-III: Bills of Exchange

Meaning of Bill –Features of bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the books of Drawer and Drawee (Problems).

Unit-IV: **Consignment Accounts**

Consignment - Features - Proforma invoice - Account sales – Del-credre Commission - Accounting treatment in the books of consigner and consignee - Valuation of closing stock - Normal and Abnormal losses (Problems).

Unit-V: **Joint Venture Accounts**

Joint venture - Features - Differences between Joint-venture and consignment – Accounting procedure - Methods of keeping records (Problems).

Reference Books:

1. R.L. Gupta & V.K. Gupta, Principles and Practice of Accounting, Sultan Chand
2. T. S. Reddy and A. Murthy - Financial Accounting, Margham Publications.
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers.
4. Tulsan, Accountancy-I, Tata McGraw Hill Co.
5. V.K. Goyal, Financial Accounting, Excel Books
6. T.S. Grewal, Introduction to Accountancy, Sultan Chand & Co.

7. Haneef and Mukherjee, Accountancy-I, Tata McGraw Hill
8. Arulanandam, Advanced Accountancy, Himalaya Publishers
9. S.N.Maheshwari & V.L.Maheswari, Advanced Accountancy-I, Vikas Publishers.

DEPARTMENT OF COMMERCE

I B.Com (Gen), Semester II

BUSINESS ENVIRONMENT

Unit – I: Overview of Business Environment

Business Environment – Meaning – Macro and Micro Dimensions of Business Environment – Economic – Political – Social – Technological – Legal – Ecological – Cultural – Demographic – Changing Scenario and implications – Indian Perspective – Global perspective.

Unit – II: Economic Growth

Meaning of Economic growth – Factors Influencing Development – Balanced Regional Development.

Unit – III - Development and Planning

Rostow's stages of economic development - Meaning – Types of plans – Main objects of planning in India – NITI Ayog and National Development Council – Five year plans.

Unit – IV : Economic Policies

Economic Reforms and New Economic Policy – New Industrial Policy – Competition Law – Fiscal Policy – Objectives and Limitations – Union budget – Structure and importance of Union budget – Monetary policy and RBI.

Unit – V -Social, Political and Legal Environment

Concept of Social Justice - Schemes - Political Stability - Leal Changes.

Suggested Readings:

1. Rosy Joshi and Sangam Kapoor : Business Environment.
2. Francis Cherunilam : Business Environment.
3. S.K. Mishra and V.K. Puri : Economic Environment of Business.
4. K. Aswathappa : Essentials of Business Environment.

DEPARTMENT OF COMMERCE

I B.Com (Gen), Semester II

BUSINESS ECONOMICS-II

Unit-I: Production and Costs: Techniques of Maximization of output, Minimization of costs and Maximization of profit - Scale of production - Economies and Dis-economies of Scale - Costs of Production – Cobb-Douglas Production Function.

Unit-II: Market Structure-I: Concept of Market - Market structure - Characteristics - Perfect competition -characteristics equilibrium price - profit maximizing output in the short and long run Monopoly- characteristics - Profit maximizing out-put in the short and long run - Defects of Monopoly – Distinction between Perfect competition and Monopoly.

Unit-III Market Structure-II: Monopolistic Competition - Characteristics - Product differentiation - Profit maximization - Price and output in the short and long - run – Oligopoly - characteristics - Price rigidity - Kinked Demand Curve - Distribution - Concepts - Marginal Productivity - Theory of Distribution.

Unit-IV National Income And Economic Systems: National Income - Definition Measurement - GDP - Meaning Fiscal deficit - Economic systems - Socialism - Mixed Economic System - Free Market economy.

Unit-V Structural Reforms: Concepts of Economic liberalization, Privatization, Globalization - WTO Objectives Agreements - Functions - Trade cycles - Meaning - Phases - Benefits of International Trade - Balance of Trade and Balance of payments.

DEPARTMENT OF COMMERCE

Semester - III

CORPORATE ACCOUNTING

Unit-I: Accounting for Share Capital

Issue, forfeiture and reissue of forfeited shares- concept & process of book building - Issue of rights and bonus shares - Buyback of shares (preparation of Journal and Ledger).

Unit-II: Issue and Redemption of Debentures

Employee Stock Options – Accounting Treatment for Convertible and Non-Convertible debentures (preparation of Journal and Ledger).

Unit –III: Valuation of Goodwill and Shares

Need and methods - Normal Profit Method, Super Profits Method – Capitalization Method - Valuation of shares - Need for Valuation - Methods of Valuation - Net assets method, Yield basis method, Fair value method (including problems).

UNIT – IV: Company Final Accounts

Preparation of Final Accounts – Adjustments relating to preparation of final accounts – Profit and loss account and balance sheet – Preparation of final accounts using computers (including problems).

Unit –V: Provisions of the Companies Act, 2013 relating to issues of shares and debentures - Book Building- Preparation of Balance Sheet and Profit and Loss Account – Schedule-III.

DEPARTMENT OF COMMERCE

II B.Com (Gen & Comp), Semester III

Business Statistics

Unit 1: Introduction to Statistics:

Definition, importance and limitations of statistics - Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation -Diagrammatic and graphic presentation.

Unit 2: Measures of Central Tendency:

Characteristics of measures of Central Tendency-Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Properties of averages and their applications.

Unit 3: Measures of dispersion and Skewness:

Properties of dispersion - Range-Quartile Deviation –Mean Deviation-Standard Deviation- Coefficient of Variation - Skewness definition-Karl Pearson's and Bowley's Measures of skewness.

Unit 4: Measures of Relation:

Meaning and use of correlation – Types of correlation-Karlpearson's correlation coefficient – Spearman's Rank correlation-probable error- Regression analysis comparison between correlation and Regression – Regression Equations- Interpretation of Regression Co-efficient.

Unit 5: Index Numbers:

Index Numbers- Methods of Construction of Index Numbers – Price Index Numbers – Quantity Index Numbers – Tests of Adequacy of Index Numbers – Cost of Index Numbers- Limitations of Index Numbers.

DEPARTMENT OF COMMERCE

Banking Theory & Practice

Unit-I: Introduction

Meaning & Definition of Bank – Functions of Commercial Banks – Kinds of Banks - Central Banking Vs. Commercial Banking.

Unit-II: Banking Systems

Unit Banking , Branch Banking, Investment Banking- Innovations in banking – E banking - Online and Offshore Banking , Internet Banking - Anywhere Banking - ATMs - RTGS.

Unit-III: Banking Development

Indigenous Banking - Cooperative Banks, Regional Rural banks, SIDBI, NABARD - EXIM Bank.

Unit-IV: Banker and Customer

Meaning and Definition of Banker and customer – Types of Customers - General Relationship and Special Relationship between Banker and Customer - KYC Norms.

Unit-V: Collecting Banker and Paying Banker

Concepts - Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course – Statutory Protection to Collecting Banker - Responsibilities of Paying Banker - Payment Gateways.

DEPARTMENT OF COMMERCE

Semester - IV

Accounting for Service Organizations

Unit-I: Non-Trading/ Service Organizations:

Concept - Types of Service Organizations – Section (8) and other Provisions of Companies Act, 2013.

Unit – II Electricity Supply Companies:

Accounts of Electricity supply companies: Double Accounting system – Revenue Account – Net Revenue Account – Capital Account – General Balance Sheet (including problems).

Unit – III - Bank Accounts

Bank Accounts – Books and Registers to be maintained by Banks – Banking Regulation Act, 1969 - Legal Provisions Relating to preparation of Final Accounts (including problems).

Unit-IV: Insurance Companies

Life Insurance Companies –Preparation of Revenue Account, Profit and Loss Account, Balance Sheet (including problems) – LIC Act, 1956.

Unit – V: General Insurance

Principles – Preparation of final accounts – with special reference to fire and marine insurance (including problems) – GIC Act, 1972.

DEPARTMENT OF COMMERCE

Business Laws

Unit-1 Contract

Meaning and Definition of Contract-Essential elements of valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872.

Unit-2 Offer and Acceptance

Definition of Valid Offer, Acceptance and Consideration -Essential elements of a Valid Offer, Acceptance and Consideration.

Unit-3 Capacity of the Parties and Contingent Contract

Rules regarding to Minors contracts - Rules relating to contingent contracts - Different modes of discharge of contracts-Rules relating to remedies to breach of contract.

Unit-4 Sale of Goods Act 1930

Contract of sale – Sale and agreement to sell – Implied conditions and warranties – Rights of unpaid vendor.

Unit-5:

Cyber Law and Contract Procedures - Digital Signature - Safety Mechanisms.

DEPARTMENT OF COMMERCE

II B.Com (Gen), Semester IV

Income Tax

Unit-I

Introduction: Income Tax Law – Basic concepts: Income, Person, Assesse, Assessment year, Agricultural Income, Capital and revenue, Residential status, Income exempt from tax (theory only).

Unit-II

Income from salary: Allowances, perquisites, profits in lieu of salary, deductions from salary income, computation of salary income and qualified savings eligible for deduction u/s 80C (including problems).

Unit-III

Income from House Property: Annual value, let-out/self occupied/deemed to be let-out house, deductions from annual value - computation of income from house property (including problems).

Unit-IV

Income from Capital Gains – Income from other sources – (from Individual point of view) - chargeability – and assessment (including problems).

Unit-V:

Computation of total income of an individual – Deductions under section - 80 (including problems).

SEMESTER-V
FOUNDATION COURSE
Skill Based Course -Business Leadership

Unit-I: Introductory
Leadership - Traits, Skills and Styles- Leadership Development - Qualities of a Good Leader.
Unit-II: Decision-Making and Leadership:
Leadership for Sustainability - Power, Influence, Impact - Leadership Practices - Organizations and Groups**:** Organizational Culture and Leadership - Leadership in Business Organizations
Unit-III: Special Topics: Profiles of a few Inspirational Leaders in Business – Jemshedji Tata - Aditya Birla - Swaraj Paul - L N Mittal - N R Narayana Murthy - Azim Premji, etc.

DEPARTMENT OF COMMERCE
SEMESTER - V
COST ACCOUNTING

Unit-I: Introduction:
Distinguish between Financial Accounting, Cost Accounting and management accounting - Cost Concepts and Classification – Cost Centre and Cost Unit – Preparation of Cost Sheet.
Unit-II: Elements of Cost:
Materials: Material control – Selective control, ABC technique – Methods of pricing issues – FIFO, LIFO, Weighted average, Base stock methods, choice of method (including problems).
Unit-III: Labour and Overheads:
Labour: Control of labor costs – time keeping and time booking – Idle time –Methods of remuneration – labour incentives schemes - Overheads: Allocation and apportionment of overheads – Machine hour rate.
Unit-IV: Methods of Costing:
Job and Contract costing – Process costing - treatment of normal and abnormal process losses – preparation of process cost accounts (including problems).
Unit -V: Costing Techniques:
Standard costing – Material Variance, Labour Variance (including problems)

DEPARTMENT OF COMMERCE
III B.Com (Gen), Semester V
INDIRECT TAXES

Unit –I: Central Sales Tax/G.S.T (Goods And Services Tax): Objectives of CST Act, Dealer-Business-Sales-Goods-Declared goods, Turnover - Sale Price - Sales Exempt from Central Sales Tax, Interstate and Intra state sale, sales in the course of imports and exports, registration under CST Act.
Unit- II: Customs Act: Types of Custom Duties- Valuation for Customs Duty- Tariff Value- Customs Value- Methods of Valuation for Customs - Problems on Custom Duty Assessment.
Unit –III: Central Excise: Procedures relating to Levy, Valuation and Collection of Duty, Types of Excise Duties- Cenvat Credit- Classification of Excisable Goods- Valuation of Excisable Goods- Central Excise Procedures (including problems).

Unit –IV: Service Tax: Features of Service Tax- Levy and Collection - Service Tax Administration- Exemptions from Service Tax - Taxable Services- Determination of Service Tax Liability (including problems)

Unit -V: VAT: Concept and Principles - Calculation of VAT Liability including input Tax Credits, Small Dealers and Composition Scheme, VAT Procedures.

DEPARTMENT OF COMMERCE

Commercial Geography

Unit –I: The Earth: Internal structure of the Earth – Latitude – Longitude – Realms of the Earth – Evolution of the Earth – Environmental pollution - Global Warming - Measures to be taken to protect the Earth.

Unit -II: India – Agriculture: Land Use - Soils - Major crops – Food and Non-food Crops – Importance of Agriculture – Problems in Agriculture – Agriculture Development.

Unit -III: India – Forestry: Forests – Status of Forests in Andhra Pradesh – Forest (Conservation) Act, 1980 – Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act, 2006 and its Relevance – Need for protection of Forestry.

Unit -IV: India – Minerals and Mining: Minerals – Renewable and non Renewable – Use of Minerals – Mines – Coal, Barites, etc. – Singareni Coal mines and Mangampeta Barites - District- wise Profile.

Unit-V: India – Water Resources – Rivers: Water resources - Rationality and equitable use of water – Protection measures - Rivers - Perennial and peninsular Rivers - Interlinking of Rivers - Experience of India and Andhra Pradesh.

DEPARTMENT OF COMMERCE

Cluster Elective-3: Corporate Accounting

Accounting & Auditing Standards

Unit-I: Introduction: Significance of Accounting Standards - National a n d International Accounting Standards - Accounting Standards in India.

Unit-II: Accounting Standards (AS-1 to AS-16): AS-1: Disclosure of Accounting policies – AS- 2: Valuation of inventories –AS-3: Cash flow statement – AS-4: Contingencies in balance sheet – AS-5: Net profit or loss, prior period items and changes – AS-6: Depreciation Accounting – AS-7: Construction Contracts – AS-9: Revenue Recognition – AS 10: Accounting for Fixed assets - AS-11: Effects of changes in foreign exchange rates- AS-12: Accounting for government grants – **AS-13: Accounting for investments** – AS-14: Accounting for Amalgamation – AS-15: Employee benefits – AS-16: Borrowing costs .

Unit-III: Accounting Standards (AS17 to AS-32): – AS-17: Segment reporting – AS-18: Related party disclosures – AS-19: Leases – AS-20: Earning per share - AS-21: Consolidated financial statements – AS-22: Accounting for taxes – AS-23: Accounting for investments – AS-24: Discontinuing operations – AS-25: Interim Financial Reporting – AS-26: Intangible assets – AS-27: Financial reporting of interests in joint ventures – AS-28: Impairment of assets – AS-29: Provisions, Contingent liabilities and assets; AS-30: Financial Instruments: Recognition and Measurement; AS- 31: Financial Instruments: Presentation – AS-32:Financial Instruments: Disclosures.

Unit-IV: Auditing Standards: Procedure - International Federation of Accountants - Auditing and Assurance Standards Board - Indian Auditing Standards (issued so far) Overview.
Unit-V: International Financial Reporting Standards (IFRS): Origin - Procedure - International Accounting Standards Board - Adoption in India.

DEPARTMENT OF COMMERCE
Accounting for Government Entities

Unit-I: General Principles - Government Accounting System - Consolidated Fund of India - Comparison with Commercial Accounting system.
Unit-II: Role of Comptroller and Auditor General of India - Role of Public Accounts Committee, Review of Accounts - Civil and Commercial Entities.
Unit-III: Government Accounting Standards issued by Government Accounting Standards Advisory Board (GASAB) - Adoption and Review.
Unit-IV: Financial Reporting in Public Sector Undertakings and Government Companies.
Unit-V: Case Studies: Railway Accounts - Defense Accounts - CPWD Accounts, etc.
5.7: Project work

DEPARTMENT OF COMMERCE
Cluster Elective -5: Banking and Financial Services
Central Banking

Unit-I: Introduction: Evolution and Functions of Central Bank - Development of Central Banks in Developed and Developing countries - Trends in Central Bank Functions.
Unit-II: Central banking in India: Reserve Bank of India - Constitution and Governance, Recent Developments, RBI Act. - Interface between RBI and Banks.
Unit-III: Monetary and Credit Policies: Monetary policy statements of RBI - CRR - SLR – Repo Rates - Reverse Repo Rates - Currency in circulation - Credit control measures.
Unit-IV: Inflation and price control by BRI: Intervention mechanisms - Exchange rate stability - Rupee value - Controlling measures.
Unit-V: **Supervision and Regulation**: Supervision of Banks - Basle Norms, Prudential Norms, Effect of liberalization and Globalization - Checking of money laundering and frauds.

DEPARTMENT OF COMMERCE
Rural and Farm Credit

Unit-I: Rural Credit: Objectives and Significance of Rural credit - Classification of rural credit - General Credit Card (GCC) – Financial Inclusion - Rupay Card.
Unit-II: Rural Credit Agencies: Institutional and Non-institutional Agencies for financing agriculture and Rural development - Self-Help Groups (SHG) - Financing for Rural Industries.
Unit-III: Farm Credit: Scope - Importance of farm credit - Principles of Farm Credit - Cost of Credit - Types - problems and remedial measures - Kisan Credit Card (KCC) Scheme.
Unit-IV: Sources of Farm Credit: Cooperative Credit: PACS - APCOB - NABARD - Lead Bank Scheme - Role of Commercial and Regional Rural Banks - Problems of recovery and over dues.

Unit-V: Farm Credit Analysis: Eligibility Conditions - Analysis of 3 R's (Return, Repayment Capacity and Risk-bearing Capacity) - Analysis of 3 C's of Credit (Character, Capacity and Capital)- Crop index reflecting use and farm credit - Rural Credit Survey Reports.

SEMESTER-VI
FOUNDATION COURSE
SKILL BASED COURSE
Event Management

Unit-I: Event Concept: Corporate Events and Customer's needs - Types of Events - Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets - Corporate event packages - Menu Selection - Customization.

Unit-II: Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.

Unit-III: Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.

SEMESTER VI
MARKETING

Unit-I: **Introduction:** Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 P's of Marketing – Marketing Environment.

Unit-II: **Consumer Markets and Buyer Behaviour:** Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments – Advantages of Segmentation.

Unit-III: Product Management: Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling.

Unit-IV: Pricing Decision: Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.

Unit-V: Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing- Global marketing.

DEPARTMENT OF COMMERCE
AUDITING

Unit-I: Auditing: Meaning – Objectives – Importance of Auditing – Auditing as a Vigil Mechanism – Role of Auditor in checking corporate frauds.

Unit-II: Types of Audit: Based on Ownership and time - Independent, Financial, Internal, Cost, Tax, Government, Secretarial audits.

Unit-III: Planning of Audit: Steps to be taken at the commencement of a new audit - Audit programme - Audit note book - Internal check, internal audit and internal control.

Unit-IV: Vouching and Investigation: Vouching of cash and trading transactions - Investigation, Auditing vs. Investigation

Unit-V: Company Audit and Auditors Report: Auditor's Qualifications – Appointment and Reappointment – Rights, duties, liabilities and disqualifications - Audit report: Contents – Preparation - Relevant Provisions of Companies Act, 2013.

MANAGEMENT ACCOUNTING

Unit–I: Management Accounting: Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).

Unit–II: Ratio Analysis: Classification, Importance and limitations - Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).

Unit–III: Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit–IV: Cash Flow Statement: Concept of cash flow – Preparation of cash flow statement - Uses and limitations of cash flow analysis (including problems).

Unit–V: Break-Even Analysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).

DEPARTMENT OF COMMERCE

Cluster Elective -3A: Corporate Accounting

FINANCIAL REPORTING

Unit-I: Corporate Financial Reporting: Issues and problems of financial statements - Balance sheet and profit and loss account - Recent trends in reporting.

Unit-II: Consolidated Financial Statements: Purposes of consolidated financial statements - Consolidation procedures – Minority interests, Goodwill, Treatment of pre- acquisition and post- acquisition profits.

Unit-III: Companies Act 2013 - Reporting requirements - National Finical Reporting Authority (NFRA).

Unit-IV: Companies Act, 2013 - Board of Directors - Director's Report - Business Responsibility report - Corporate Governance Reporting - Corporate Social Responsibility reporting.

Unit-V: Developments in Financial Reporting: Value Added Statements: Economic Added Value, Market Value - Shareholders' Value - Human Resource Reporting – Reporting on Price Level changes.

DEPARTMENT OF COMMERCE

EMERGING AREAS IN ACCOUNTING

Unit-I: Human Resource Accounting: Methods: Cost approach - Replacement cost approach - Present value of future earnings approach – Expense model - Model on human resource accounting (including problems).

Unit-II: Social Accounting: Rationale for Social Accounting - Qualitative and quantitative social accounting disclosures - Evaluation of social accounting reports.

Unit-III: Inflation Accounting: Historical Cost basis of Financial statements – Limitations – Evolution of Inflation accounting - Constant-rupee accounting - International standard for hyperinflationary accounting (including problems)

Unit-IV: Environmental Accounting: Qualitative and quantitative Environmental accounting disclosures - Evaluation of Environmental accounting reports - Green Accounting - Concept and implementation.

Unit-V: Special Areas in Accounting: Intrinsic Value Accounting – Resource Consumption Accounting – Forensic Accounting – Fund Accounting – Hedge Accounting.

6.7: Project work

DEPARTMENT OF COMMERCE

Cluster Elective -5A: Banking and Financial Services

FINANCIAL SERVICES

Unit-I: Financial Services: Role of Financial Services - Banking and Non Banking Companies – Activities of Non Banking Finance Companies- Fund Based Activities - Fee Based Activities.

Unit-II: Merchant Banking Services: Scope and importance of merchant banking services - Venture Capital - Securitization - Demat services - Commercial Paper.

Unit-III: Leasing and Hire-Purchase: Types of Lease, Documentation and Legal aspects – Fixation of Rentals and Evaluation - Hire Purchasing- Securitization of debts - House Finance.

Unit-IV: **Credit Rating**: Purpose – Types – Credit Rating Symbols – Agencies: CRISIL and CARE – Equity Assessment vs. Grading – Mutual funds.

Unit-V: Other Financial Services: Factoring and Forfaeiting - Procedural and financial aspects - Installment System - Credit Cards - Central Depository Systems: NSDL, CSDL.

DEPARTMENT OF COMMERCE

MARKETING OF FINANCIAL SERVICES

Unit-I: Difference between Goods and Services: Managing Service Counters – Integrated Service Management – Service Elements.

Unit-II: Constructing Service Environment – Managing People for service Advantage – Service Quality and Productivity – Customer Loyalty.

Unit-III: Pricing and Promotion Strategies: Pricing strategies – Promotion strategies – B2B Marketing – Marketing Planning and Control for services.

Unit-IV: Distributing Services: Cost and Revenue Management – Approaches for providing services - Channels for Service provision – Designing and managing Service Processes.

Unit-V: Retail Financial Services - Investment services – Insurance services - Credit Services - Institutional Financial Services - Marketing practices in select Financial Service Firms.

DEPARTMENT OF COMMERCE

SEMESTER-I

Accounting-I

Unit-I – Introduction to Accounting

Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of

Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

Unit –II: Subsidiary Books:

Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-III: Trail Balance and Rectification of Errors:

Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-IV- Bank Reconciliation Statement:

Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances- Preparation of Bank Reconciliation Statement- Problems on both favorable and unfavourable balances.

Unit -V: Final Accounts:

Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

DEPARTMENT OF COMMERCE

Business Organization and Management

Unit-I: Introduction:

Concepts of Business, Trade , Industry and Commerce – Features of Business -Trade Classification - Aids to Trade – Industry – Classification – Relationship among Trade, Industry and Commerce.

Unit-II: Forms of Business Organizations:

Forms of Business Organization: Sole Proprietorship, Joint Hindu Family Firm, Partnership firm, Joint Stock Company, Cooperative Society; Choice of Form of Organization. Government - Business Interface; Public Sector Enterprises (PSEs) - Multinational Corporations (MNCs).

Unit-III: Joint Stock Company:

Company Incorporation: Preparation of important Documents for incorporation of Company – Memorandum of Association – Articles of Association – Differences Between Memorandum of Association and Articles of Association - Prospectus and its contents - Companies Act, 2013.

Unit-IV: Management and Organization:

Process of Management: Planning; Decision-making; Organizing: Line and Staff - Staffing - Directing and Controlling; Delegation and Decentralization of Authority.

Unit-V: Functional Areas of Management:

Production - Manufacturing - Make in India - Marketing Management: Marketing Concept; Marketing Mix; Product Life Cycle; Pricing Policies and Practices. Financial Management: Objectives; Sources and Forms of Funds – Human Resource Management: Functions.

DEPARTMENT OF COMMERCE

Computer Fundamentals & Photoshop

Unit-I: Introduction to Computers:

Characteristics and limitations of Computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems: binary, hexa and octal numbering system- Windows basics: desktop, start menu, icons.

Unit-II: Input and Output Devices:

Keyboard and mouse, inputting data in other ways, Types of Software: system software, Application software, commercial, open source, domain and free ware software, Memories: primary, secondary and cache memory.

Unit –III: Introduction to Adobe Photoshop:

Getting started with Photoshop, creating and saving a document in Photoshop, page layout and back ground, Photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, pallets, tool box, screen modes, saving files, reverting files, closing files.

Unit –IV: Images:

working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- **Working with Tool box:** Practice Sessions.

Unit-V: Layers:

Working with layers- layer styles- opacity-adjustment layers. **Filters:** The filter menu, Working with filters- Editing your photo shoot, presentation –how to create ads, artistic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

SEMESTER-II
Accounting-II

Unit-I: **Depreciation**

Meaning of Depreciation - Methods of Depreciation: Straight line – Written down Value – Sum of the Years' Digits - Annuity and Depletion (Problems).

Unit-II: **Provisions and Reserves**

Meaning – Provision vs. Reserve – Preparation of Bad debts Account – Provision for Bad and doubtful debts – Provision for Discount on Debtors – Provision for discount on creditors - Repairs and Renewals Reserve A/c (Problems).

Unit-III: Bills of Exchange

Meaning of Bill –Features of bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the books of Drawer and Drawee (Problems).

Unit-IV: **Consignment Accounts**

Consignment - Features - Proforma invoice - Account sales – Del-credre Commission - Accounting treatment in the books of consigner and consignee - Valuation of closing stock - Normal and Abnormal losses (Problems).

Unit-V: **Joint Venture Accounts**

Joint venture - Features - Differences between Joint-venture and consignment – Accounting procedure - Methods of keeping records (Problems).

Reference Books:

1. R.L. Gupta & V.K. Gupta, Principles and Practice of Accounting, S.Chand & Co.
2. T. S. Reddy and A. Murthy, Financial Accounting, Margham Publications.
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers.
4. Tulsan, Accountancy-I, Tata McGraw Hill Co.
5. V.K. Goyal, Financial Accounting, Excel Books

6. T.S. Grewal, Introduction to Accountancy, Sultan Chand & Co.
7. Haneef and Mukherjee, Accountancy-I, Tata McGraw Hill
8. Arulanandam, Advanced Accountancy, Himalaya Publishers
9. S.N.Maheshwari & V.L.Maheswari, Advanced Accountancy-I, Vikas Publishers.

ENTERPRISE RESOURCE PLANNING

Unit-I: Introduction:

Overview of enterprise systems – Evolution - Risks and benefits - Fundamental technology - Issues to be consider in planning design and implementation of cross functional integrated ERP systems.

Unit- II: ERP Solutions and Functional Modules:

Overview of ERP software solutions- Small, medium and large enterprise vendor solutions, BPR and best business practices - Business process Management, Functional modules.

Unit-III: ERP Implementation:

Planning Evaluation and selection of ERP systems - Implementation life cycle - ERP implementation, Methodology and Frame work- Training – Data Migration - People Organization in implementation-Consultants, Vendors and Employees.

Unit-IV: Post Implementation:

Maintenance of ERP- Organizational and Industrial impact; Success and Failure factors of ERP Implementation.

Unit-V: Emerging Trends on ERP:

Extended ERP systems and ERP add-ons -CRM, SCM, Business analytics - Future trends in ERP systems-web enabled, Wireless technologies, cloud computing.

References:

1. Alexis Leon, ERP demystified, second Edition Tata McGraw-Hill, 2008.
2. Sinha P. Magal and Jeffery Word, Essentials of Business Process and Information System, Wiley India, 2012
3. Jagan Nathan Vaman, ERP in Practice, Tata McGraw-Hill, 2008
4. Alexis Leon, Enterprise Resource Planning, second edition, Tata McGraw-Hill, 2008.
5. Mahadeo Jaiswal and Ganesh Vanapalli, ERP Macmillan India, 2009
6. Vinod Kumar Grag and N.K. Venkitakrishnan, ERP- Concepts and Practice, PHI, 2006.
7. Summer, ERP, Pearson Education, 2008

SEMESTER-III

CORPORATE ACCOUNTING

Unit-I: Accounting for Share Capital

Issue, forfeiture and reissue of forfeited shares- concept & process of book building - Issue of rights and bonus shares - Buyback of shares (preparation of Journal and Ledger).

Unit-II: Issue and Redemption of Debentures

Employee Stock Options – Accounting Treatment for Convertible and Non-Convertible debentures (preparation of Journal and Ledger).

Unit –III: Valuation of Goodwill and Shares

Need and methods - Normal Profit Method, Super Profits Method – Capitalization Method - Valuation of shares - Need for Valuation - Methods of Valuation - Net assets method, Yield basis method, Fair value method (including problems).

UNIT – IV: Company Final Accounts

Preparation of Final Accounts – Adjustments relating to preparation of final accounts – Profit and loss account and balance sheet – Preparation of final accounts using computers (including problems).

Unit –V: Provisions of the Companies Act, 2013

relating to issues of shares and debentures - Book Building- Preparation of Balance Sheet and Profit and Loss Account – Schedule-III.

Reference Books:

1. Corporate Accounting – Haneef & Mukherji,
2. Corporate Accounting – RL Gupta & Radha swami
3. Corporate Accounting – P.C. Tulsian
4. Advanced Accountancy: Jain and Narang
5. Advanced Accountancy: R.L. Gupta and M.Radhaswamy, S Chand.
6. Advanced Accountancy : Chakraborthy
7. Modern Accounting: A. Mukherjee, M. Hanife Volume-II McGraw Hill
8. Accounting standards and Corporate Accounting Practices: T.P. Ghosh Taxman
9. Corporate Accounting: S.N. Maheswari, S.R. Maheswari, Vikas Publishing House.
10. Advanced Accountancy: Arutanandam, Raman, Himalaya Publishing House.
11. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand & Company Ltd.,
12. Management Accounting: Shashi K. Gupta, R.K. Sharma, Kalyani Publishers.

II B.COM(CA), SEMESTER III
BUSINESS STATISTICS

Unit 1: Introduction to Statistics:

Definition, importance and limitations of statistics - Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation -Diagrammatic and graphic presentation.

Unit 2: Measures of Central Tendency:

Characteristics of measures of Central Tendency-Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Properties of averages and their applications.

Unit 3: Measures of dispersion and Skewness:

Properties of dispersion-Range-Quartile Deviation –Mean Deviation-Standard Deviation- Coefficient of Variation - Skewness definition-Karl Pearson's and Bowley's Measures of skewness.

Unit 4: Measures of Relation:

Meaning and use of correlation – Types of correlation-Karlpearson's correlation coefficient – Spearman's Rank correlation-probable error- Regression analysis comparison between correlation and Regression – Regression Equations- Interpretation of Regression Co-efficient.

Unit 5: Index Numbers:

Index Numbers- Methods of Construction of Index Numbers – Price Index Numbers – Quantity Index Numbers – Tests of Adequacy of Index Numbers – Cost of Index Numbers- Limitations of Index Numbers.

References:

DEPARTMENT OF COMMERCE
OFFICE AUTOMATION TOOLS

Unit-I: MS-Excel:

Features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.

Unit-II: Formatting options:

Different formatting options, change row height, formulae and functions, **Functions:** Meaning and advantages of functions, different types of functions available in Excel.

Unit-III: Charts:

Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis **Macro:** Meaning and advantages of Macros, creation, editing and deletion of macros - Creating a macro, how to run, how to delete a macro.

Unit-IV: MS Access: Creating a Simple Database and Tables:

Features of Ms-Access, Creating a Database, Parts of Access. **Tables:** table creation using design view, table wizard, data sheet view, import table, link table. **Forms:** The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V: Finding, Sorting and Displaying Data:

Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. **Printing Reports:** Form and Database Printing. **Relational Databases:** Flat Versus Relational, Types of Relationships, Viewing Relationships, Defining and Redefining Relationships, Creating and Deleting Relationships.

Reference Books:

1. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)
2. Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)
3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

SEMESTER-IV
BANKING THEORY & PRACTICE

Unit-I: Introduction

Meaning & Definition of Bank – Functions of Commercial Banks – Kinds of Banks – Central Banking Vs. Commercial Banking.

Unit-II: Banking Systems

Unit Banking , Branch Banking, Investment Banking- Innovations in banking – E banking - Online and Offshore Banking , Internet Banking - Anywhere Banking - ATMs - RTGS.

Unit-III: Banking Development

Indigenous Banking - Cooperative Banks, Regional Rural banks, SIDBI, NABARD – EXIM Bank.

Unit-IV: Banker and Customer

Meaning and Definition of Banker and customer – Types of Customers - General Relationship and Special Relationship between Banker and Customer - KYC Norms.

Unit-V: Collecting Banker and Paying Banker

Concepts - Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course – Statutory Protection to Collecting Banker - Responsibilities of Paying Banker - Payment Gateways.

Books for Reference

1. Banking Theory: Law & Practice : K P M Sundram and V L Varsheney
2. Banking Theory, Law and Practice : B. Santhanam; Margam Publications
3. Banking and Financial Systems : Aryasri
4. Introduction to Banking : Vijaya Raghavan
5. Indian Financial System : M.Y.Khan
6. Indian Financial System : Murthy & Venugopal

BUSINESS LAWS

Unit-I: Contract:

Meaning and Definition of Contract-Essential elements of valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872.

Unit-II: Offer and Acceptance:

Definition of Valid Offer, Acceptance and Consideration -Essential elements of a Valid Offer, Acceptance and Consideration.

Unit-III: Capacity of the Parties and Contingent Contract:

Rules regarding to Minors contracts - Rules relating to contingent contracts - Different modes of discharge of contracts-Rules relating to remedies to breach of contract.

Unit-IV: Sale of Goods Act 1930:

Contract of sale – Sale and agreement to sell – Implied conditions and warranties – Rights of unpaid vendor.

Unit-V: Cyber Law and Contract Procedures - Digital Signature - Safety Mechanisms.

References:

1. J. Jayasankar, Business Laws, Margham Publication. Chennai -17
2. Kapoor ND, Mercentile Law , Sultan Chand
3. Balachandram V, Business law Tata
4. Tulsian , Business Law Tata
5. Pillai Bhagavathi, Business Law , S.Chand.
6. Business Laws, Maruthi Publishers

BUSINESS ANALYTICS

Unit-I: Introduction:

Business Analytics Life Cycle - Business Analytics Process - Data concepts - Data exploration & visualization - Business Analytics as Solution for Business Challenges -

Unit-II: Automated Data Analysis:

Tabulation and Cross Tabulation of Data: Univariate, Bivariate and Multivariate Data Analysis – ANOVA.

Unit-III: Hypothesis Testing:

Type 1 & 2 errors - T-test, ANOVA, Chi-Square and correlation - Linear Regression Analysis - Logistic Regression - Cluster Analysis - Market Basket Analysis.

Unit-IV: Business Data Management:

Master Data Management: Data Warehousing and kinds of Architecture – Data Extraction – Transformation and Up-loading of Data – Data Mining – Meta Data – Data Marts – Creating Data Marts – Data Integration – OLTP and OLAP.

Unit-V: SPSS Packages:

Applications and Case Studies.

Suggested Books:

1. Gupta S.P. "Statistical Methods", Sultan Chand, New Delhi, 2010.
2. K.V. Rao, "Research Methodology in Commerce and Management", Sterling Publishers, New Delhi, 2012.
3. T.S. Wilkinson & P.L. Bhandarkar, "Methodology and Techniques of Social Research", 2010.
4. Richard A.Johnson & Dean W.Wichern, "Applied Multivariate Statistical Analysis", Prentice Hall International Inc., 2007.
5. R.N Prasad and Seema Acharya, "Fundaments of Business Analytics", Wiley India Publication.
6. 6. Pang-Ning Tan, Michael Steinbach & Vipin Kumar, "Introduction to Data Mining", Pearson, 2009.
7. Alex Berson, Stephen Smith & Kurt Thearling, "Building Data Mining Application for CRM", Tata McGraw Hill, New Delhi, 2000.

SEMESTER-V

FOUNDATION COURSE

SKILL BASED COURSE -BUSINESS LEADERSHIP

Unit-I: Introductory:

Leadership - Traits, Skills and Styles- Leadership Development - Qualities of a Good Leader.

Unit-II: Decision-Making and Leadership:

Leadership for Sustainability - Power, Influence, Impact - Leadership Practices - Organizations and Groups**:** Organizational Culture and Leadership - Leadership in Business Organizations

Unit-III: Special Topics: Profiles of a few Inspirational Leaders in Business – Jemshedji Tata - Aditya Birla - Swaraj Paul - L N Mittal - N R Narayana Murthy - Azim Premji, etc.

References:

1. Northouse, Peter G., Leadership: Theory and Practice, Sage Publications.
2. Daloz Parks, S., Leadership can be taught: A Bold Approach for a Complex World, Boston: Harvard Business School Press.
3. Drucker Foundation (Ed.), Leading Beyond the Walls, San Francisco: Jossey Bass.
4. Al Gini and Ronald M. Green, Virtues of Outstanding Leaders: Leadership and Character, John Wiley & Sons Inc.
5. S Balasubramanian, The Art of Business Leadership – Indian Experiences, Sage Publications.

COST ACCOUNTING

Unit-I: Introduction:

Distinguish between Financial Accounting, Cost Accounting and management accounting - Cost Concepts and Classification – Cost Centre and Cost Unit – Preparation of Cost Sheet.

Unit-II: Elements of Cost:

Materials: Material control – Selective control, ABC technique – Methods of pricing issues – FIFO, LIFO, Weighted average, Base stock methods, choice of method (including problems).

Unit-III: Labour and Overheads:

Labour: Control of labor costs – time keeping and time booking – Idle time –Methods of remuneration – labour incentives schemes - Overheads: Allocation and apportionment of overheads – Machine hour rate.

Unit-IV: Methods of Costing:

Job and Contract costing – Process costing - treatment of normal and abnormal process losses – preparation of process cost accounts (including problems).

Unit -V: Costing Techniques:

Standard costing – Material Variance, Labour Variance (including problems).

References:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers, Ludhiana.
2. M.N. Aurora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand & Sons.
5. S.N .Maheswari – Principles of Management Accounting.
6. I.M .Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.
7. Sharma & Shashi Gupta – Management Accounting, Kalyani Publishers. Ludhiana.

DEPARTMENT OF COMMERCE

Taxation, III B.Com (CA), Semester V

Unit-I: Introduction:

Objectives - Principles of Taxation - Brief History - Basic Concepts; Capital and Revenue; Basis of Charge - Exempted Incomes - Residential Status – Incidence of Taxation.

Unit-II: Direct and Indirect Taxes:

Service Tax – VAT – Central Sales Tax – Latest Developments.

Unit-III: Computation of income under different heads:

Income from Salary; Income from House Property; Income from Business/Profession, Charges Deemed Profits to Tax; Deductions u/s 80C to 80U - Income from Capital Gains; Income from Other Sources (simples problems).

Unit-IV: Taxation System in India:

Objectives; Tax Holiday; Modes of Tax Recovery (Section 190 and 202); Payments and Refunds; Filing of Returns.

Unit-V: Tax Planning:

Tax Avoidance and Tax Evasion; Penalties and Prosecutions; Income Tax Authorities.

References:

1. Vinod K. Singhania Direct Taxes - Law and Practice, Taxman Publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) Ltd.
3. Bhagwati Prasad: Direct Taxes – Law and Practice, Wishwa Prakashan.
4. Dr. Mehrotra and Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication.

DEPARTMENT OF COMMERCE
Commercial Geography

Unit –I: The Earth:

Internal structure of the Earth – Latitude – Longitude – Realms of the Earth – Evolution of the Earth – Environmental pollution - Global Warming - Measures to be taken to protect the Earth.

Unit -II: India – Agriculture:

Land Use - Soils - Major crops – Food and Non-food Crops – Importance of Agriculture – Problems in Agriculture – Agriculture Development.

Unit -III: India – Forestry:

Forests – Status of Forests in Andhra Pradesh – Forest (Conservation) Act, 1980 – Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act, 2006 and its Relevance – Need for protection of Forestry.

Unit -IV: India – Minerals and Mining:

Minerals – Renewable and non Renewable – Use of Minerals – Mines – Coal, Barites, etc. – Singareni Coal mines and Mangampeta Barites - District- wise Profile.

Unit-V: India – Water Resources – Rivers:

Water resources - Rationality and equitable use of water – Protection measures - Rivers - Perennial and peninsular Rivers - Interlinking of Rivers - Experience of India and Andhra Pradesh.

References:

1. Shabiar Ahmad; Quazi ,Natural Resource Consumption and Environment Management, APH Publishing Corporation.
2. Tarachand, Economic and Commercial Geography of India, Vikas Publishing House.
3. Dr. S. Sankaran, Commercial Geography, Margam Publications, Chennai.
4. C. B. Memoria, Commercial Geography, Lal Agarwal & Co.
5. C. B. Memoria, Economic and Commercial Geography, Lal Agarwal & Co.
6. Vinod N. Patel, Commercial Geography, Oxford Book Company

DEPARTMENT OF COMMERCE
Programming IN C

Unit- I: Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts. **Introduction to C:** Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

Unit-II: Decision Control and Looping Statements: Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement

Unit- III: Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function

Unit- IV: Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays.

Unit-V: Strings:- Introduction string and character functions.

Reference Books:

1. Reema Thareja, Introduction to C programming, Oxford University Press.
2. E Balagurusamy, Computing Fundamentals & C Programming – Tata McGraw-Hill, 2008.
3. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson Publisher, 2002.
4. Henry Mulish & Hubert L.Coo Reema Thareja: The Spirit of C: An Introduction to Modern Programming, Jaico Publishing House,1996.

DEPARTMENT OF COMMERCE

Database Management System

Unit-I: Overview of Database Management System: Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management Systems, Classification of Database Management System.

Unit-II: File-Based System, Drawbacks of File-Based System , DBMS Approach, Advantages of DBMS, Data Models , Components of Database System, Database Architecture, DBMS Vendors and their Products.

Unit-III: Entity–Relationship Model: Introduction, The Building Blocks of an Entity–Relationship, Classification of Entity Sets , Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, aggregation and composition, CODD'S Rules, Relational Data Model , Concept of ,Relational Integrity.

Unit-IV: Structured Query Language: Introduction, History of SQL Standard, Commands in SQL, Data types in SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

Unit -V: PL/SQL: Introduction, Structure of PL/SQL, PL/SQL Language Elements ,Data Types, Control Structure,, Steps to Create a PL/SQL Program, Iterative Control ,Cursors , Steps to Create a Cursor , Procedure, Function ,Packages ,Exceptions Handling, Database Triggers, Types of Triggers.

Reference Books:

1. Paneerselvam: Database Management Systems, PHI.
2. David Kruglinski, Osborne, Data Management System McGraw Hill Publication.
3. Shgirley Neal and Kenneth LC Trunik Database Management Systems in Business – PHI.
4. Godeon C. EVEREST, Database Management – McGraw Hill Book Company.
5. MARTIN, Database Management – Prentice Hall of India, New Delhi.
6. Bipin C. Desai, "An Introduction to Database Systems", Galgotia Publications.
7. Korth, Database Management systems.
8. Navathe, Database Management systems.
9. S. Sumathi, S. Esakkirajan, Fundamentals of Relational Database Management Systems

DEPARTMENT OF COMMERCE
WEB TECHNOLOGY

Unit-I: Introduction: HTML, XML, and WWW, Topologies, Bus, Star, Ring, Hybrid, Tree, Lan,Wan,Man. **HTML**: Basic HTML, Document body, Text, Hyper links, Adding more formatting, Lists, Tables using colors and images. **More HTML**: Multimedia objects, Frames, Forms towards interactive, HTML document heading.

Unit-II: Cascading Style Sheets: Introduction, using Styles, simple examples, your own styles, properties and values in styles, style sheet, formatting blocks of information, layers.

Unit-III: Introduction to JavaScript: What is DHTML, JavaScript, basics, variables, string manipulations, mathematical functions, statements, operators, arrays, functions.

Unit-IV: Objects in JavaScript: Data and objects in JavaScript, regular expressions, exception handling, built-in objects, events.

Unit-V: DHTML with JavaScript: Data validation, opening a new window, messages and confirmations, the status bar, different frames, rollover buttons, moving images, multiple pages in single download, text only menu system.

References:

1. Uttam Kumar Roy, Web Technologies, Oxford University Press.
2. Black Book HTML 5.0
3. Complete reference HTML 5.0
4. Web Technology, PHI Publication

FOUNDATION COURSE
SKILL BASED COURSE
EVENT MANAGEMENT

Unit-I: Event Concept: Corporate Events and Customer's needs - Types of Events - Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets - Corporate event packages - Menu Selection - Customization.

Unit-II: Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.

Unit-III: Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.

References:

1. Event Management: A Blooming Industry and an Eventful Career by Devesh Kishore, Ganga Sagar Singh - Har-and Publications Pvt. Ltd.
2. Event Management by Swarup K. Goyal - Adhyayan Publisher.
3. Event Management & Public Relations by Savita Mohan - Enkay Publishing House
4. Event Entertainment and Production - Mark Sonder, CSEP, Wiley & Sons, Inc.
5. Special Event Production - Doug Matthews.
6. 6. Fenich, G. Meetings, Expositions, Events, and Conventions: An introduction to the industry. New Jersey: Pearson Prentice Hall.

DEPARTMENT OF COMMERCE
MARKETING

Unit-I: **Introduction:** Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 P's of Marketing – Marketing Environment.

Unit-II: **Consumer Markets and Buyer Behaviour:** Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments – Advantages of Segmentation.

Unit-III: Product Management: Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling.

Unit-IV: Pricing Decision: Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.

Unit-V: Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing- Global marketing.

References:

1. Philip Kotler, Marketing Management, Prentice Hall of India.
2. Philip Kotler & Gary Armstrong, Principles of Marketing, Pearson Prentice Hall
3. Stanton J. William & Charles Futrel, Fundamentals of Marketing, McGraw Hill Company
4. V.S. Ramaswamy S. Nama Kumari, Marketing Management – Planning, McMillan

DEPARTMENT OF COMMERCE
AUDITING

Unit-I: Auditing: Meaning – Objectives – Importance of Auditing – Auditing as a Vigil Mechanism – Role of Auditor in checking corporate frauds.

Unit-II: Types of Audit: Based on Ownership and time - Independent, Financial, Internal, Cost, Tax, Government, Secretarial audits.

Unit-III: Planning of Audit: Steps to be taken at the commencement of a new audit - Audit programme - Audit note book - Internal check, internal audit and internal control.

Unit-IV: Vouching and Investigation: Vouching of cash and trading transactions - Investigation, Auditing vs. Investigation

Unit-V: Company Audit and Auditors Report: Auditor's Qualifications – Appointment and Reappointment – Rights, duties, liabilities and disqualifications - Audit report: Contents – Preparation - Relevant Provisions of Companies Act, 2013.

References:

1. S.Vengadamani, “Practical Auditing”, Margham Publications, Chennai.
2. Ghatalia, “Principles of Auditing”, Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, Baldev Sachdeva & Jagwant Singh, “Auditing Theory and Practice, Kalyani Publications, Ludhiana.
4. N.D. Kapoor, “Auditing”, S. Chand, New Delhi.
5. R.G. Saxena, “Principles and Practice of Auditing”, Himalaya Publishing House, New Delhi.
6. Jagadesh Prakesh, “Principles and Practices of Auditing” Kalyani Publications, Ludhiana.
7. Kamal Gupta and Ashok Gupta, “Fundamentals of Auditing”, Tata McGraw Hill
8. B.N. Tondan, “Practical Auditing”, S.Chand, New Delhi.

DEPARTMENT OF COMMERCE
MANAGEMENT ACCOUNTING

Unit–I: Management Accounting: Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).

Unit–II: Ratio Analysis: Classification, Importance and limitations - Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).

Unit–III: Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit–IV: Cash Flow Statement: Concept of cash flow – Preparation of cash flow statement - Uses and limitations of cash flow analysis (including problems).

Unit–V: Break-Even Analysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).

References:

1. S.N. Maheswari, A Textbook of Accounting for Management, S. Chand Publishing, New Delhi.
2. I.M Pandey, "Management Accounting", Vikas Publishing House, New Delhi,
3. Shashi K. Gupta & R.K. Sharma, "Management Accounting: Principles and Practice", Kalyani Publishers, Ludhiana.
4. Jawahar Lal, Accounting for Management, Himalaya Publishing House, New Delhi.
5. Charles T. Horngren, et.al, "Introduction to Management Accounting" Person Education India, New Delhi, 2002.
6. Murthy & Guruswamy – Management Accounting, Tata McGraw Hill, New Delhi.
7. Dr. Kulsreshtha & Gupta – Practical problems in Management Accounting.
8. Bhattacharya, D., "Management Accounting", Pearson Education India, New Delhi.
9. S.P. Gupta – Management Accounting, S. Chand Publishing, New Delhi.

DEPARTMENT OF COMMERCE
TALLY

Unit-I: Introduction to Tally: Introduction, Software versions of Tally, Terminology related to Accounts credit & Debit, Journal, Ledger, Voucher, Group etc. Difference between Manual Accounting and Accounting Packages. Features and advantages of Tally.

Unit-II: Introduction of Tally Software, Creation of a company, Gateway of Tally, Accounts Information, Groups, pre defined Groups, Creation of New Groups, Creation of sub Group.

Unit-III: Ledgers, Ledger Creation – Single and multiple Ledgers, Displaying & altering Ledgers, configure Ledger, Stock Ledger, Ledgers and their Group Allocation.

Unit-IV: Vouchers –types of vouchers – recording of vouchers – entry of payment voucher, Receipt voucher, sales voucher, purchase voucher, Journal Voucher, Contra Voucher, Debit & Credit Note. Creating New Voucher types, customizing the Existing voucher types, Alternation of Voucher, Deletion of Voucher.

Unit-V: Final Accounts: Customizing the final accounts – Profit and Loss Account, Balance Sheet. Key board shortcuts in Tally. Generating the Reports from Tally, Trial Balance, Account Books, Sales, Purchase, Journal Registers, Statement of Accounts, Day Book, List of Accounts.

Reference Books:

1. K. Kiran Kumar, Tally ERP9.
2. Tally 9 In Simple Steps, Kogent solutions Inc., John Wiley & Sons, 2008.
3. Narmata Agarwal, Financial Accounting on Computers Using Tally, Dreamtech Press, 2000.
4. Tally 9.0, Google eBook, Computer World.
5. Vikas Gupta, Comdex Computer and Financial Accounting with Tally 9.0, 2007.
6. Tally ERP 9 Made Simple Basic Financial Accounting, BPB Publisher.
7. Avichi Krishnan, Tally ERP 9 for Real Time Accounting, Book Ganga.

DEPARTMENT OF COMMERCE
e-Commerce

Unit-I: Introduction to E-Commerce: Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage - Sustainable Competitive Advantage, Competitive Advantage using E-Commerce - Business Strategy.

Unit-II: Business-to-Business Electronic Commerce: Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts, EDI and Business.

Unit-III: Internet and Extranet : Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, Intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges.

Unit-IV: Public Policy: From Legal Issues to Privacy : Legal Incidents, Ethical and Other Public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.

Unit-V: Infrastructure For EC : Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – Problems in Operation – Future of EC.

Reference Books

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Parag Kulakarni and Sunitha Jahirabadkar from Oxford University Press.
3. E Business by Jonathan Reynolds from Oxford University Press.
4. Eframi Turban, Jae Lee, David King, K. Michael Chung, "Electronic Commerce", Pearson Education, 2000.
5. R. Kalakota and A. B. Whinston, Frontiers of Electronic Commerce, Addison Wesley.
6. David Kosiur, Understanding Electronic Commerce, Microsoft Press.
7. Soka, From EDI to Electronic Commerce, McGraw Hill.

DEPARTMENT OF COMMERCE

PHP and My SQL

Unit-I: Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. **Flow Control Functions in PHP:** Switching Flow, Loops, Code Blocks and Browser Output. **Working with Functions:** Defining Functions, Calling functions, returning the values from User- Defined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments.

Unit-II: Working with Arrays: Arrays, Creating Arrays, Some Array-Related Functions.**Working with Objects:** Creating Objects, Object Instance. **Working with Strings, Dates and Time:** Formatting Strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit-III: Working with Forms: Creating Forms, Accessing Form - Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state,

Redirecting the user, Sending Mail on Form Submission, Working with File Uploads**. Working with Cookies and User Sessions:** Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users.

Unit-IV: Working with Files and Directories: Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen (), Running Commands with exec(), Running Commands with system ( ) or passthru ( ). **Working with Images:** Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

Unit-V: Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. **Creating an Online Address Book:** Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach Yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The Web Warrior Guide to Web Programming, Thomson (2006).

DEPARTMENT OF COMMERCE

CERTIFICATE COURSE - II

Logistics and Supply Chain Management

Logistics Management – Surface w.e.f. 2017-2018

30 Hrs.

Unit-1: Logistics:

Logistics and Physical Distribution - Functions of Logistics Management - Structure of logistics - Logistics Costs - Customer Service –Logistics in 21st Century.

Unit-II: Logistics and Customer Relationship Management:

Customer Service as a Link between Logistics and Marketing - Customer Service and Customer Retention – Integrating Logistics and Customer Relationship Management.

Unit-Ill: Managing the Lead Time:

Role of Time in Competitive Advantage - P:D Ratios and Lead Time Gap - Time-based Mapping - Managing Timeliness in the Logistics Pipeline -Methods for implementing Time based practices.

Unit-IV: Transport Operations:

Means of Surface Transport: Rail – Road – Network connections – Problems of Surface transport.

Unit-V: Logistics International Scenario:

Drivers and Logistics implications of Internationalization - Trend towards Internationalization - Organizing for International Logistics - Challenges of International Logistics - General Tendencies.

References:

1. Shailesh Kasande, Materials and logistics Management, Nirali Prakashan
2. L. C. Jhamb, Materials and logistics Management, Everest Publishing House.
3. Purchasing and Supply Management - Dobler and Burt, McGraw Hill Company
4. Purchasing and Inventory Management - K S Menon, Shroff Publishers.
4. Introduction to Materials Management – J R Tony Arnold, Prentice Hall
7. Logistics & Supply Chain Management – Martin Christopher, Prentice Hall.

CERTIFICATE COURSE - I
DEPARTMENT OF COMMERCE
RETAILING
AGRICULTURAL AND RURAL MARKETING

Unit-I Concept of Rural Market: Rural market Characteristics - Rural markets and Environmental factors - Agricultural Market Yards.

Unit-II Rural Consumer Behaviour: Rural vs. Urban Consumer – Relevance of Marketing mix for Rural market/Consumers - Problems in rural market - Life Style Marketing – Rural market Segmentation.

Unit-III: Agricultural Marketing: Problems and Challenges in Agriculture Marketing - Market Yards - Support prices - Rural Warehousing.

Unit-IV: Agriculture Support Mechanism: Role of CCI, Tobacco Board, Spices Board, Coffee Board, Tea Board - Agriculture Price Commission.

Unit-V: **Export potential for Agro-products:** Role of Government and Non-Govt. Agencies in the development of rural and agricultural Marketing - Strategies for supply of Seed, Fertilizers, Pesticides, Farm Equipment.

References:

1. C.S.G.Krishnamacharyulu & Lalitha Ramakrishnan, “Rural Marketing: Text and Cases”,Pearson Education, New Delhi.
2. Awadhesh Kumar Singh & Satyaprakash Pandey, Rural Marketing: Indian Perspective, NewAge International Publishers, New Delhi.
3. Mamoria, C.B. & Badri Vishal: Agriculture Problems in India
4. Arora, R.C., “Integrated Rural Development”, S. Chand Limited, New Delhi.
5. Gopalaswamy, T.P., “Rural Marketing: Environment, Problems and Strategies, Vikas Publishing House Pvt. Ltd., New Delhi.
6. Bedi & Bedi, “Rural Marketing”, Himalaya Publishing House, New Delhi.

JMJ COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

BBA COURSE – FIRST SEMESTER

MANAGEMENT PROCESS

No. of hours per week: 6 **Max. Marks : 100**

Credits: 6 **Semester end examination : 60**

Internal assessment : 40

UNIT – I

Introduction: Meaning and importance of Management; Role and responsibilities of top, middle and lower managers. Functions of management. Challenges of Management in the context of new era.

UNIT – II

Planning: Concept – Significance – Process – Techniques – Problems – Planning Principles.

UNIT – III

Organizing : Concept – significance – process – techniques – problems. Principles of organizing. Formal and informal organizations. Organizational design. Departmentation types: advantages and disadvantages. Span of Control. Delegation of authority. Delegation Vs. decentralization. Line and Staff Positions – Committees.

UNIT – IV

Staffing: Meaning and importance of staffing. Recruitment – Selection – interviewing – induction.

Leading: Meaning – importance of leading. Leadership Styles. Developing leadership skills.

Motivating: Meaning – importance of motivation. Theories of motivation.

Communicating: Meaning – importance – process – problems of communication. Barriers of Communication – Measures towards effective communication.

UNIT – V

Controlling – Importance – process - problems of controlling. Control as a feed back system.

Requirements of effective control. Preventive and overall controls.

Recommended Books:

1. Prof. D. A. R. Subrahmanyam, & Smt. D. Swapna, A Text Book on Principles of Management, Maruthi Book Depot, Guntur
2. Koontz, H. and Wihrich H, Management, Mc Graw Hill.
3. Stoner, J etc., Management, Pearson Education.
4. Sharma, Principles of Management, Kalyani Publishers, Hyderabad.

BBA – FIRST SEMESTER

MANAGERIAL ECONOMICS

No. of hours per week: 6 **Max. Marks : 100**

No. of Credits: 6 **Semester end examination : 60**
Internal assessment : 40

UNIT – I: Introduction

Economic and non-economic activities; Business – Meaning and its importance in the economy; Economics: Definitions – Distinction between micro and macro economics; Concept of Utility; Cardinal and ordinal utility; Law of Diminishing Managerial Utility; Law of substitution.

UNIT – II: Demand, Supply and Market Equilibrium

Demand: Meaning, Importance, Types of Demand; Law of Demand; Elasticity of Demand: Different types of elasticity of demand – Price elasticity, income elasticity, cross elasticity and promotional elasticity – Determinants of elasticity of demand; Supply: Meaning and importance; Law of Supply; Market equilibrium; Consumer's surplus.

UNIT – III: Production and Costs

Concept of Production; Production function; Distinction between short run and long run; Law of variable proportions; Law of Returns to Scale; Concept of cost of production; Cost function: Costs in short run and costs in long run.

UNIT – IV: Market structures and Pricing

Market Structures: Characteristics – Perfect Competition – Monopoly – Monopolistic Competition – Oligopoly; Pricing in various market structures during short run and long run; Different types of pricing and pricing strategies.

UNIT – V: National Income, Trade Cycles and International Trade

National Income: Definition – Measurement – Difficulties and problems in measurement of national income – different concepts of national income; Trade Cycles: Definitions – Causes – Control of Trade Cycles; Monetary Policy and Fiscal Policy; International Trade: Meaning, Theories of international trade; Concept of Balance of Payments.

RECOMMENDED BOOKS:

1. Prof. D. A. R. Subrahmanyam, & Dr. V. Hari Leela, A Text Book on Managerial Economics, Maruthi Book Depot, Guntur.
2. Gupta G.S., Managerial Economics, Tata McGraw Hill.
3. Mithani D.M., Fundamentals of Business Economics, Himalaya Publishing House.
4. A. V. R. Chary, Business Economics Entrepreneurship & Development, Kalyani Publishers, Hyderabad.

BBA – FIRST SEMESTER
IT FOR MANAGERS

No. of hours per week: 6 **Max. Marks : 100**
No. of Credits: 6 **Semester end examination : 60**
Internal assessment : 40

UNIT – I

IT in the Modern Organization: Basic concepts of Information Systems – Organizational structure and IT support. IT support at different organizational levels Managing Information Technology in organizations.

Introduction to Computer Systems: Introduction to Computers – Five generations of Modern Computers – Classification of Digital Computer Systems.

UNIT – II:

Computer Hardware: Computer Hardware: Central Processing Unit (CPU). Control Unit, Arithmetic Logic Unit (ALU).

Memory: Memory Organization – Random Access Memory (RAM), Dynamic RAM (DRAM, Static RAM (SRAM). Read Only Memory (ROM), Registers.

Factors affecting Processor Speed – Instruction set, Mechanic Cycle

Secondary Storage Devices: Magnetic Tape, magnetic Disks, Hard Disks, Flexible Disks, Optical Disk.

Input Devices: Key Board, Mouse, Trackball, Game Controllers, Scanners, Voice Recognition, Web Cams, Digital Cameras, OCR, OMR, MICR.

Output Devices: Monitor: CRT Monitors, Flat-Panel Monitors. – Printers: Daisy-wheel, DoT-Matrix, Ink-jet Printer – Plotter, Multimedia Projector.

UNIT – III

Computer Software: System Software and Application Software. Operating Systems: Windows Operating Systems, Mobile Device Operating Systems, and Notebook Operating Systems.

Application Software: Types of Personal Application Software. Spreadsheets – Data Management – Word Processing – Desktop Publishing, Graphics, CAD, CAM, CIM, Multi Media. Speech-recognition Software, Groupware, Software suits.

Programming Languages: Assembly language, Procedural languages, Non-procedural languages, Natural Programming Languages, Visual Programming Languages, Hyper Text Markup Language, Modeling Language, Object-Oriented Programming Languages.

UNIT – IV

Telecommunications and Networks: Introduction, Analog and Digital Signals. Modulation – Need for Modulations, Types of Modulations. Modems

The Tele Communication System: Communication Processors: Modem, Multiplexers, Front-end Processor.

Communication Media & Channels: Cable Media, Broadcast Media Channels. Twisted Pan, Coaxial Cable, Fiber-Optic Cable, Micro-wave, Satellite, Radio, Cellular Radio, Infrared Global Positioning Systems

Networks: Local Area Networks, LAN Topologies, Wide Area Networks (WAN) – Value Added Networks (VAN) – Virtual Private Networks (VPN)

The Internet, Intranets and Extranets: The Evolution of the Internet, Services provided by the Internet, World Wide Web: Intranets & Extranets.

UNIT – V

New Technologies in Information Technology: Introduction to Hyper Media, Artificial Intelligence and Business Intelligence, Knowledge Discovery in Database: (KDD). Data Warehouses and Data Marts. Data Mining and On-line Analytical Processing (OLAP) – Enterprise Resource Planning (ERP) – Supply Chain Management (SCM) – Customer Relationship Management (CRM) – Geographic Information Systems.

RECOMMENDED BOOKS:

1) Ms. J. J. L. R. Bharathi Devi, M.Com., MBA., MCA., M.Phil (Computers), M.Phil. (Management) A Text Book on Information Technology, Maruthi Book Depot, Guntur.
2) N. V. N. Chary & Lalitha S., Fundamentals of Information Technology, Kalyani Publishers, Hyderabad.
3) Turban, Rainer, Potter "Introduction to Information Technology", Wiley India [2nd Edition]
4) Alexi's Leon and Mathews Leon, Fundamentals of Information Technology, Leon Press [2nd Edition]

BBA – SECOND SEMESTER

QUANTITATIVE METHODS FOR MANAGERS

(C.B.C.S)

No. of hours per week: 6 **Max. Marks : 100**

No. of Credits: 6 **Semester end examination : 60**

Internal assessment : 40

UNIT – I: Introduction to Business:

Meaning definition, functions, importance and limitations of Statistics – Collection of data – Primary and Secondary data – Schedule and questionnaire – Frequency distribution – Tabulation, Diagram and graphic presentation of data – Statistical system in India.

UNIT – II: Measures of Central Tendency and Dispersion:

Definition, objectives and characteristics of Measures of Central Tendency – Types of Averages – Arithmetic Mean, Geometric Mean – Harmonic Mean, Median, Mode, Quartiles, Deciles, percentiles, Properties of averages and their application.

Meaning, definitions, objectives of Dispersion, Range Quartile Deviation, Mean deviation, Standard Deviation – Co-efficient of variation – Definition and objectives of Skewness – Karl Pearson's and Bowle's measures of skewnes.

UNIT – III: Measures of Correlation:

Meaning, Definition and use of correlation – types of correlation Karl Pearson's correlation co-efficient – Spearman's Rank correlation probable error – Meaning utility of regression analysis comparison between Correlation and Regression – Regression Equations – Interpretation of Regression Co-efficients.

UNIT – IV: Set Theory:

Set, Subset, Types of Sets – Operations on sets – Venn Diagram Demogran Laws – Applications of Set theory – Laws of indices – Arithmetic Progressions – Geometric Progressions – Harmonic Progressions.

UNIT – V: Matrix:

Meaning and operations – Matrix Algebra – Types of matrices – Matrix addition – Matrix Multiplication – Matrix Determinants, Minors and Co-factors – Matrix inversion.

RECOMMENDED BOOKS:

1. Sivayya K. V. and Satya Rao, **Business Mathematics,** Saradhi Publications, Guntur.
2. Sancheti and Kapoor V K., **Business Mathematics,** Sulthan Chand & Sons, New Delhi.
3. D. N. Elhance: Fundamental of Statistics, Kitab Mahal, Allahabad.
4. Gupta S.C. : Fundamentals of Business Statistics, Sultan Chand, New Delhi.
5. Aggarwal, Business Statistics, Kalyani Publishers, Hyderabad.
6. Reddy C R, Business Statistics, Deep & Deep Publications, New Delhi.

BBA – SECOND SEMESTER

ACCOUNTING FOR MANAGERS

No. of hours per week: 6 **Max. Marks : 100**

No. of Credits: 6 **Semester end examination : 60**

Internal assessment : 40

UNIT1: Introduction to Accounting

Need for Accounting – definition, features, objectives, functions, systems and bases and scope of accounting - Book keeping and Accounting - Branches of Accounting - Advantages and limitations-basic terminology used- – Accounting concepts and conventions.

Accounting Process-Accounting cycle-Accounting equation classification of accounts-rules of double entry book keeping – identification of financial transactions- Journalizing –Posting to Ledgers, Balancing of Ledger Accounts –- Computerized Accounting: Meaning and Features-Advantages and disadvantages of computerized Accounting Creating of an Organization - Grouping of accounts – Creation of Accounts – creation of inventory-creation of stock groups-stock categories, units of measurement stock items-entering of financial transactions-types of vouchers-voucher entry editing and deleting of vouchers-voucher numbering-customization of vouchers

UNIT 2: Subsidiary Books and Bank Reconciliation Statement

Sub Division of Journal-Preparation of Subsidiary Books including different types of cashbooks-simple cashbook, cashbook with cash and discount columns, cashbook with cash, discount and bank columns, cashbook with cash and bank columns and petty cash book. Preparation of sales register, purchase register, journal proper, debit note register, credit note register, and different cash books including interest and discount transactions using computers.

Bank Reconciliation Statement- Need - Reasons for difference between cash book and pass book balances - problems on favorable and over draft balances - Ascertainment of correct cash book balance. Preparation of bank reconciliation statement using computers

UNIT 3: Trial Balance, Final Accounts; Errors and Rectification.

Trial Balance: meaning, objectives, methods of preparation – Final Accounts: Meaning, features, uses and preparation of Manufacturing, Trading Account, Profit & Loss Account and Balance Sheet-Adjusting and Closing entries. Preparation of trial balance, trading, profit and loss account, processing of year ending and closing the books, adjusting and closing entries and balance sheet using computers

Errors and their Rectification - Types of Errors – Rectification before and after preparations of final Accounts - Suspense Account- Effect of Errors on Profit. Rectification of errors using computers.

UNIT 4: Consignment and Joint Ventures:

Consignment - Features, Terms used Proforma invoice – Account sale Delcredere commission - Accounting treatment in the books of the consignor and the consignee - Valuation of consignment stock - Normal and abnormal Loss - Invoice of goods at a price higher than the cost price.

Joint ventures -features-difference between joint venture and consignment, Accounting Procedure – Methods of keeping records for Joint venture accounts-method of recording in co ventures books-separate set of books method.

UNIT 5: Depreciation - Provisions and Reserves:

Meaning of Depreciation - Causes- objects of providing for depreciation - Factors affecting depreciation - Accounting Treatment- Methods of providing depreciation - Straight line method - Diminishing Balance Method.

Provisions and Reserves - Reserve Fund – Different Types of Provisions and Reserves.

RECOMMENDED BOOKS:

1. Dr. K. Arun Jyothi, A Text Book on Fundamentals of Accounting, Maruthi Publications, Guntur.

2. Principles and Practice of Accounting - R.L. Gupta & V.K. Gupta Sulthan Chand &sons Textbook &CD

3. Accountancy - I - S.P. Jain & K.L Narang Kalyani Publishers

4. Financial Accounting - Dr.V.K.Goyal Excel Books

5. Introduction to Accountancy - T.S.Grewal S.Chand and CO

6. Advanced Accountancy-I - S.N.Maheshwari & V.L.Maheswari Vikash Publishing Co.

BBA – SECOND SEMESTER
BUSINESS ENVIRONMENT

No. of hours per week: 6 **Max. Marks : 100**
No. of Credits: 6 **Semester end examination : 60**
Internal assessment : 40

UNIT – I: Framework of Business Environment

Concept, Significance and Nature of Business Environment; Elements of Environment: Internal and External.

UNIT – II: Economic Environment of Business

Elements of economic environment; Economic systems; Economic planning in India; Industrial Policy; Fiscal Policy; Economic Reforms; Economic liberalization

UNIT – III: Political and Legal Environment of Business

Elements of Political Environment; Government and Business; Legal Environment and Business: Competition Act, FEMA, Licensing Policy; Consumerism and Consumer Protection Act

UNIT – IV: Socio-Cultural and Technological Environment of Business

Elements of Socio-cultural environment; Elements of Technological environment; social audit; Research and Development; Patent Laws; Technology Transfer

UNIT – V: International Environment of Business

Elements of International Environment; Multinational Corporations (MNCs); Non-Resident Indians (NRIs) and Indian Corporate Sector; International Economic Institutions: WTO, World Bank and IMF; Foreign Trade Policy.

RECOMMENDED BOOKS:

1. K. V. Sivaiah & V.B.M. Das, **Indian Industrial Economy**, S. Chand & Company, New Delhi.
2. Francis Cherunilam, **Business Environment**, Himalaya Publications.
3. Suresh Bedi, **Business Environment**, Excel Books, New Delhi.
4. Raj Agarwal and Parag Diwan **Business Environment,** Excel Books, New Delhi.
5. Sengupta, N. M., **Government and Business in India** , Vikas Publication, New Delhi.
6. Joshi, Business Environment, Kalyani Publishers, Hyderabad.

NATIONAL CADET CORPS
ELECTIVE SUBJECT
Semester – I
Subject Code: KENCC15

Total Credits: 2 Total Marks: 60

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Unit 01: ***INTRODUCTION TO NCC***

Introduction, NCC Motto, NCC Flag, Aims of NCC, Cardinal points of NCC, Organization of defense forces in general, Organizational structure of Indian Army, Organizational structure of NCC, NCC Song, Incentives of NCC, Ranks in Army, Navy and Air Force – Certificate Examination in NCC– Honors and Awards

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Unit 02: ***FOOT DRILL BASICS***

Aims of Drill, Word of Commands, Attention, Stand at Ease, Turning Left, Right and Inclining at the Halt. Sizing, Forming up in three Ranks and Numbering, Open and Close March Order, Dressing the Squad, Saluting at the Halt, Getting on Parade, Falling Out and Dismissing, Marching, Guard of Honour

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Unit 03: ***HEALTH AND HYGIENE***

Structure and Function of Human Body, Hygiene and Sanitation, Preventable Diseases, First Aid, Yoga: Introduction and Exercises, Physical and Mental Health, Fractures: Types and Treatment.

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Unit 04: ***LEADERSHIP***

Meaning, Leadership Traits, Types of Leadership, Discipline & Duty of an Indian Citizen, Motivation, Code of Ethics, Perception, Communication, Customs of Services, Importance of Team Work.

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Evaluation: Objective Type Questions

References:*1. Cadet's Hand Book- Common Subject, All Wings, by DG NCC, New Delhi*
2. Cadet's Hand Book -Specialized Subject, Army, by DG NCC, New Delhi

NATIONAL CADET CORPS
ELECTIVE SUBJECT
Semester – II
Subject Code: KENCC15
(Effective From 2017-2018)

Total Credits: 2 Total Marks: 60

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Unit 01: ***BASICS OF WEAPON TRAINING***

Introduction, Characteristic of Rifles, Stripping, Assembling, Care and Cleaning, and Sight Setting, Loading, Unloading of Rifle, Light Machine Gun and Stern Machine Carbine, Safety Procedures, Positions in Shooting and its Advantages, Trigger Control and Firing a Shot, Theory of Group and Snap Shooting.

Unit 02: ***NATIONAL INTEGRATION***

Meaning and Importance, Unity in Diversity, Indian History and Culture, Religion and Customs of India, India and its Neighbors, Contribution of Youth in Nation Building.

Unit 03: ***ENVIRONMENT AND ECOLOGY***

Environment: Meaning, Global Warming, Acid Rain, Depletion of Ozone Layer, Conservation of Environment.

Ecology: Introduction, Component of Ecological System, Forest Ecology, Wild Life, Pollution Control.

Unit 04: ***SOCIAL SERVICE ACTIVITIES***

Basics of Social Service, Weaker Sections in the Society and its Identification, Contribution of Youth towards Social Welfare, NGOs and their Role and Contribution , Social Evils, Drug Abuse, Family Planning, Corruption, Counter Terrorism, Eradication of Illiteracy – Aids Awareness programme – Cancer Awareness Programme .

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Evaluation: Objective Type Questions

References:*1. Cadet's Hand Book- Common Subject, All Wings, by DG NCC, New Delhi*
2. Cadet's Hand Book -Specialized Subject, Army, by DG NCC, New Delhi

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

JMJ COLLEGE FOR WOMEN (AUTONOMOUS), TENALI
M.Com programme
M.Com Course Structure & Syllabus

I Semester:
CM 1.1 : Business Management
CM 1.2 : Business Environment & Legislation
CM 1.3 : Business Economics
CM 1.4 : Quantitative Techniques for Business Decisions
CM 1.5 : Information Technology for Business (Revised)
CM 1.6 : Entrepreneurship Development

II Semester:
CM 2.1 : E - Commerce
CM 2.2 : Financial Accounting and Packages
CM 2.3 : Research Methodology & Business Analytics
CM 2.4 : Financial Management
CM 2.5 : Marketing Management
CM 2.6 : Human Resources Management

III Semester:
Group A: **(Accounting, Auditing & Taxation)**
CM 3.1(A) : Advanced Cost Accounting
CM 3.2 (A): Advanced Management Accounting
CM 3.3 (A): Auditing and Assurance
CM 3.4(A) : Advanced Auditing
CM 3.5 (A): Direct Taxes
CM 3.6(A): Indirect Taxes – I (Revised)

IV Semester:

Group A: **(Accounting, Auditing & Taxation)**

CM 4.1 (A): Financial Reporting
CM 4.2 (A): Strategic Financial Management
CM 4.3 (A): Information System Control and Audit
CM 4.4 (A): Advanced Auditing and Professional Ethics
CM 4.5 (A): Indirect Taxes – II
CM 4.6 (A): Corporate Tax Law and Planning

I Semester

CM 1.1: BUSINESS MANAGEMENT

Unit – I: **INTRODUCTION:** Management, Concept, Significance, Levels, Skills, Functions & Principles. Management as an Art, Science and Profession – Social responsibilities of business.

Unit – II: **PLANNING:** Nature, Purpose, Process of Planning, Types of Plans – Premising & Forecasting, Decision Making: Concept, Process, Rationality in Decision; Management By Objectives: Concepts, Process, and Preconditions.

Unit – III:**ORGANIZING:** Nature, Purpose, Process; Formal and Informal Organizations; Departmentation: Importance-Methods of Departmentation; Span of Control; V.A. Graicuna's Theory; Factors Determining Span of Control; Delegation: Concept, Process, Advantages and Principles of Effective Delegation; Decentralization: Concept, When to Decentralize and How to Decentralize; Line and Staff: Concept-Reasons for Conflicts between Line and Staff and Measures to Overcome; Committees, Reasons for using Committees, Conditions for Successful Operations of Committees.

Unit – IV: **STAFFING:** Nature and Importance of Staffing, Factors in Selecting Lower, Middle and Upper Level Managers. **DIRECTING:** Meaning, Assumptions of Human Behaviour by Douglas Mc Gregor, Edgar Shien and Elton Mayo.

Unit – V: **MOTIVATION:** Significance, Process - Theories of Maslow, Herzberg, McClelland, Porter and Lawler; Leadership: Trait Approach to Leadership, Leadership Styles, Managerial Grid; Communication: Importance, Process, Media, Channels, Barriers, Principles of Effective Communication. CONTROLLING**:** Basis Control Process, Pre-Requisites, Requirements of adequate Control.

Suggested Books:

1. Koontz, H and Wihrich.H, ***Management,*** 10^{th} ed., McGraw, New York 1995.
2. Stoner, J.etc., ***Management,*** 6^{th} ed., Pearson Education, 1995.
3. Thomas S. Bateman, Scott A. Snell, ***Management***, Tata McGraw Hill.
4. Maital Seshadri, ***Innovation Management***, Sage Publications.
5. Stonner, Freeman, Gilbert, ***Management***, Prentice Hall of India.
6. Stephen P. Robbins, ***Management,*** Pearson Publications.
7. Tripathi, Reddy, Principles of Management, SAGE
8. JS Chandran, Management: concepts and strategies, Vikas Publishing House Pvt. Ltd.

CM 1.2: Business Environment & Legislation

Unit -I: Theoretical Framework of Business Environment: Concepts, Significance and Nature of Business Environment; Elements of Environment – Internal and External; Changing Dimensions of Business Environment; Techniques of Environmental Scanning

and Monitoring.

Unit -II: Economic Environment of Business: Significance for Business – Economic Planning – Objectives and Achievements; Government policies – Industrial policy of 1991; Fiscal policy; Foreign Trade Policy; Economic Reforms and LPG – Human Development in India.

Unit- III: Political and Legal Environment of Business: Political Institutions – Legislature, Executive and Judiciary – Changing Dimensions of Legal Environment in India; Patents Act-1970, SICA-1985, Consumer Protection Act-1986, FEMA-1999, IT Act-2000, Competition Act-2002, SEZ Act-2005.

Unit -IV: **Cultural and Technological Environment**: Elements of Socio – Cultural Environment; Impact on Business – Social Audit - Technological Environment in India; Technology Transfer – Technology Policy.

Unit -V: International and Recent Issues in Environment: Multinational Corporations; Foreign Collaborations and Indian Business; International Economic Institutions: WTO, World Bank, IMF and their importance to India; Foreign Trade Policies.

Suggested Books:

1. Francis Cherunilam, ***Business Environment***, Himalaya Publishing House, Mumbai.
2. Fernando, A.C., ***Business Environment***, Pearson.
3. Suresh Bedi, ***Business Environment,*** Excel Books, New Delhi,
4. Adhikary.M. ***Economic Environment of Business***, Sultan Chand & Sons, New Delhi.
5. Alag, Yoginder.K., ***Indian Development Planning and Policy,*** Vikas Publishers, New Delhi.
6. G.Prasad, ***Business and Corporate Laws***, Jai Bharathi Publishers.
7. Gulshan S.S. and G K Kapoor, ***Business Law Including Company Law***, NEW AGE.
8. Aswathappa.K., ***Essentials of Business Environment***, Himalaya Publishing House, Delhi.
9. Chakravarthi., S., ***Development Planning***, Oxford University Press, Delhi.
10. Govt. of India, ***Economic Survey,*** Various Issues.
11. Justin Paul, ***Business Environment***, Text and Cases, Tata McGraw Hill.
12. Saleem Shaik, ***Business Environment***, Pearson Education, Delhi.
13. Ruddar Dutt & KPM Sundaram, ***Indian Economy***, S. Chand & Co., Delhi.
14. Krishna Rao,P, ***WTO-Text & Cases***, PSG Excel Series.
15. R.S.N. Pillai, Bagavathi, "***Legal Aspects of Business***", S.Chand, New Delhi.
16. H.L.Ahuja, "***Economic Environment of Business"*** S.Chand, New Delhi.

CM 1.3: BUSINESS ECONOMICS

Unit I: Introduction – Definition, Nature and Scope of Managerial Economics; Economic Goals of a Business Firm: Profit Maximization Vs Wealth Maximization, Sales Revenue Maximization

Unit II: Consumer Equilibrium under Cardinal and Ordinal Utility Theories – Indifference Curve Analysis – Income Substitution and Price Effects – Demand Analysis – Law of Demand – Demand Function and determinants of Market Demand – Concept of Price, Cross, Income and Promotional Elasticity; their measurement and relevance in Managerial Decision – Making Methods of Demand Forecasting.

Unit III: Firm's Equilibrium – Isoquant and Isocost analysis; concept of Least – Cost

Combination of inputs – The law of Diminishing Marginal Returns in Production – concept of Production Function – Total Product, Marginal and Average Product Curves, their derivation and inter – relationships – Cobb –Douglas Production Functions and its relevance in allocation decisions. Concepts of Scale and proportion, Cost Functions – Derivation of total, marginal and average cost functions – Long run cost curves – Managerial uses of Cost concept: Fixed, Variables, Historical, Replacement, Opportunity Costs, Out of Pocket Costs, Sunk and Incremental Costs.

Unit IV: Market Structures and their characteristics – Pricing and output decisions of firm under different market structures – Perfect Competitions, Pure Monopoly, Oligopoly, Monopolistic / Imperfect Competition under short and long runs. Discriminative Monopoly and its extensions in managerial decision – making; Regulation of Monopoly through Prices and Taxes; King Demand Curve and Prices rigidity under Oligopoly – Non-Price Competition under Monopolistic Competition: Selling Costs and Products Differentiation – Evaluation of Market Structures from Social Perspective.

Unit V: Pricing Practices of Firms – Objectives of Pricing Policy – Approaches to Pricing New Products; Skimming Price, Penetration Pricing, Costs Plus Pricing, Managerial Cost Pricing, Psychological Pricing, Odd Number Pricing, Regulated Pricing, Predatory Pricing. Price – Quality Strategies for New Products; Premium Strategy, Good Value Strategy, over charging Strategy and Economy Strategy.

Suggested Books:

1. William Baumol, "Economic theory and Operations Analysis", PHI.
2. Paul G. Keat, Philip K.Y. Young and S. Benerjee, "Managerial Economics - Tools for Today's Decision Makers", Pearson.
3. Mark Hirschey, Managerial Economics: An Integrated Approach, Cengage Learning.
4. James R. McGvigan, R.Charles Moyer and Harris, "Managerial Economics: Application, Strategy and Tactics", Cengage Learning.
5. Suma Damodaran, "Managerial Economics", Oxford University Press.
6. G.S. Gupta, "Managerial Economics", Tata McGraw-Hill
7. Atmanand, "Managerial Economics", Excel Books.
8. H. Craig Peterson, Lewis and Jain, "Managerial Economics, Pearson.
9. Chirstopher R. Thomas, S. Charles Maurice, "Managerial Economics: Concepts and Applications", Tata McGraw-Hill.
10. E.F. Brigham and J.L. Pappas, "Managerial Economics", The Dryden Press.
11. D.D. Chaturvedi, S.L. Gupta, Sumitra Paul, "Business Economics: Text and Cases", Galgotia Publishing Company.
12. Donald S. Watson, "Price Theory and Its Uses", Scientific Book Agency.
13. Ahuja, H.L., Managerial Economics, S.Chand.

CM 1.4: QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

UNIT-I: PROBABILITY: Concept of Probability: Definitions of Probability, Addition Theorem of Probability, Conditional Probability and Multiplication theorems of Probability, Baye's Theorem of Probability and its Applications.

UNIT- II: THEORETICAL DISTRIBUTIONS: Binomial Distribution, Poisson Distribution and Normal Distribution – their Properties and Applications.

UNIT -III: TESTING OF HYPOTHESIS: Concept of Testing of Hypothesis, Types of Errors, Standard deviations and Proportions, Z- test for Means, T-test, F-test for two variances and Chi-Square test for goodness of fit and independent of Attributes and their

Applications - Confidence intervals.

UNIT -IV: CORRELATION AND REGRESSION: Multiple Linear Regression, Multiple Correlation Coefficient, Partial Correlation Coefficient, Goodness of Fit of the model.

UNIT- V: INTRODUCTION TO OPERATIONS RESEARCH: Need of Operations Research Techniques in Business Decisions - Linear Programming: Basic concepts of LPP – Graphical solutions – Simplex Method.

Suggested Books:

1. Sharma, J.K., Fundamentals of Business Statistics, Pearson.
2. Sancheti, Dc & VK Kapoor, Business Mathematics, Sultan Chand.
3. Arora, P. N., S. Arora Comprehensive Statistical Methods, S. Chand.
4. Sharma, J.K., Quantitative Methods- Theory & Applications, MacMillan.
5. Sharma JK., Operations Research: Theory & Applications, Mc Milan India Ltd.
6. Miller, Introduction to Operations Research, TMH.
7. Finite Mathematics, Scham Series.

CM: 1.5 Information Technologies for Business

Unit I- Introduction:
Evolution of Computers- Generations; types of Computers- Hardware and software – Types of software –Storage Devices data representation for Computers

Unit II- Computer Networks:
Types of Networks- LAN, WAN, MAN- Network Topologies- introduction to Internet- E- Commerce; ERP Evaluation and Growth

Unit III- MS **Word & Excel**

MS-Word: Creation of Document – Format Document – Text Editing and Saving – Organizing information with tables and outlines – Mail merge – Index- Printing

MS Excel: Creating and Editing Worksheets – Cell Formatting – Creating and using formulas and functions – Use of Macros – Sorting and Querying data – Working with Graphs and Charts. **(Theory & Practicals)**

Unit IV -Power Point:
Features of power Point- Creation of slides – Use of templates and slide designs – Slide master- Animation Timings Action buttons **(Theory & Practicals)**

Unit V- : MS Access: Create Databases, Tables, Relationships – Create forms to enter data – filter data – use of queries in data manipulation – Generating Reports. **(Theory & Practicals)**

References:

1. Introduction to Computers and Communications, Peter Norton-Sixth Edition-Tata McGraw Hill, 2009.
2. V.Rajaraman – Introduction to Information Technology, Prentice Hall India, 2008.
3. Carver: Doing Data Analysis with SPSS 16.0, 3/e, Cengage, 2009.
4. George: SPSS for Windows Step by Step, 6/e, Pearson Education, 2009.
5. Cox et all – 2007 Microsoft Office System Step – by – Step, First Edition, PHI, 2007.
6. Winston-Microsoft Office Excel 2007 Data Analysis and Business Modeling, First Edition, Prentice Hall India, 2007.
7. Anita Goel, “Computer Fundamentals”, Pearson.
8. Sanjay Saxena & P Chopra, Computer Applications in Management, Vikas.

CM 1.6 ENTREPRENEURSHIP DEVELOPMENT

Unit- I: Introduction: Entrepreneurship – Meaning, importance- Entrepreneur characteristics- Women entrepreneurs; Classification of entrepreneurs - Myths about Entrepreneurship- Entrepreneur Vs Intrapreneur- Management Vs Entrepreneurship.

Unit -II: Idea Generation and Opportunity Assessment: Importance of Ideas in entrepreneurship- Sources of New Ideas – Techniques for generating ideas- Steps in assessing business potential of an idea- Opportunity Recognition- sources and process- Steps in tapping opportunity

Unit- III: Project Formulation and Appraisal: Meaning and significance of Project Report - Content; Guidelines for Report preparation- Project Appraisal- Methods-Economic Analysis; Financial Analysis; Market Analysis; Technical Feasibility- Sources of Finance- Term loans and Short term Finance.

Unit- IV: Institutions Supporting Small Business Enterprises: Introduction- Central level Institutions- KVIC; SIDO; NSIC Ltd; National Productivity Council (NPC); EDII - State level Institutions- DIC- SFC-SSIDC- Industry Associations- CII ; FICCI; ASSOCHAM.

Unit- V: Government Policy and Taxation Benefits: Government Policy for SSIs- Need for tax benefits- Tax Holiday; Rehabilitation allowance ; Investment Allowance; Tax concessions for SSIs in Rural and Backward areas.

Recommended Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi, 2012.
2. Poornima M. Ch., Entrepreneurship Development- Small Business Enterprises, Pearson, Delhi, 2009
3. Michael H. Morris, et. al., Entrepreneurship and Innovation, Cengage Learning, New Delhi, 2011
4. Kanishka Bedi, Management and Entrepreneurship, Oxford University Press, Delhi, 2009
5. Anil Kumar, S., et. al., Entrepreneurship Development, New Age International Publishers, New Delhi , 2011
6. Khanka, SS, Entrepreneurial Development, S. Chand, New Delhi. 2011

II SEMESTER

CM 2.1 E-COMMERCE

Unit-1: History of E-Commerce-Early Business Information Interchange Efforts-Emergence of Internet & World Wide Web-Infrastructure for EC-Advantages & Disadvantages of E-Commerce. Business Models for E-Commerce –E-Business models based on relationship of Transaction parties-B2C, B2B, C2C & C2B. E-Business modes based on the relationship of transaction- Brokerage, Aggregation models

Unit-2: Technologies of the World Wide Web- Internet client-server application-Telnet, PTP, IRC, Chat, ICQ & MIME, Networks. Software Agents, & ISP Broad Band Technologies, Hyper Text, Java Script & XML - e-commerce web site-Website goals & Objectives Strategies for website Development

Unit -3: E-marketing- Traditional Marketing, online marketing- Advantages of online Marketing - Advertisements in E-commerce- various means of advertising- advertisement strategies Push Technology & Intelligent Agents

Unit-4: E-CRM-Customer Relationship Management Technology support-E-CRM tool kit-customer life cycle- CRM capabilities and the customer life cycle-Privacy issues and CRM-Data mining in CRM - e-Supply Chain- Old ways of managing supply and information flow-new way of managing supply chain- Objectives of supply chain management-seven ways to reduce inventory- Real time benefits of E_SCM- E- Supply Chain Components & Architecture.

Unit -5: E-Commerce payment systems-Electronic payments and protocols-Security schemes in Electronic payment systems-Electronic credit card system on the Internet-Electronic Fund Transfer and debit cards on the Internet-E-Cash-Properties of E-Cash-E-Cash in Action- Using Digital Currency-Operational Risk & E-Cash-Legal issues and E-Cash- E-Cheque- Risk and E-Payments Systems- Data Protection Risks from Mistake and Disputes-Privacy – Managing E-Credit Risk

Reference Books:

1. E-Comerce, An Indian Perspective, PT Joseph SJ PHI (third)
2. E-Commerce, A Management Perspective—Effraim Turban, Joe Lee, David Kind-H Michael Chung, Pearson Education Asia- (Third)
3. Pandey US & Shukla Er.S., E-Comerce & M- Commerce Technology, S.Chand & Company New Delhi edition-2010
4. Gary P. Schneider, e-commerce strategy Technology & Implementation, Cengage Learning, New Delhi-2009
5. Trepper e-commerce strategies PHI -2006
6. Jonathan Reynolds, E-Business A Management Perspective, Oxford

CM 2.2 FINANCIAL ACCOUNTING AND PACKAGES

Unit-I: Introduction to Accounting: Concept – Importance and scope – Generally Accepted Accounting Principles – Objectives, Nature and Scope of Financial Accounting. – Cost Accounting – Management accounting.

Unit-II: Preparation of Financial statements: Income statement and Balance sheet – Bank Reconciliation Statement – Inventory valuation and Depreciation.

Unit-III: Analysis of Financial Statements: Objectives; Financial Ratios – Funds Flow & Cash Flow Analysis.

Unit- IV: Management Accounting: Marginal Costing – CVP analysis – Standard costing and Variance analysis.

Unit- V: Accounting Package- Tally (Theory and practical)

Suggested Books:

1. G. Prasad & V. Chandra Sekhara Rao, ***Accounting for Managers***, Jai Bharat Publications,
2. Meigs &Meigs, ***Accounting the Basis for Business Decisions,*** Tata McGraw Hill, New Delhi.

3. Pankaj Gupta, ***Management Accounting,*** Excel Books, New Delhi, 2006.
4. Bhattacharya S.K. & Dearoon.J., ***Accounting for Management – Text and Cases,*** New Delhi, Vikas,
5. Narayana Swamy, ***Financial Accounting: A Managerial Perspective,*** Prentice Hall of India.
6. Ashish k., Bhattacharya,Cost Accouinting for Business managers, Elsevier
7. Bhattacharya, ***Financial Accounting for Business Managers – Perspective,*** Prentice Hall of India.
8. MC Shukla, TS Grewal, Cost Accounting, S. Chand
9. I.M. Pandey: ***Management Accounting***, Vikas Publishing House.
10. Chakraborty & Hrishikesh – ***Management Accountancy***, Oxford University Press.
11. Khan and Jain, ***Management Accounting***, Tata McGraw Hill, Delhi.
12. Rajsekharan, Financial Accounting, Pearson
13. J.C. Varshney: ***Financial and Management Accounting***, Wisdom Publication.
14. Tulsian, P.C., ***"Cost Accounting"***, S.Chand
15. Paresh Shah, ***Management Accounting***, Oxford University Press
16. Sahaf, M.A., ***Management Accounting***, Vikas Publishing House.
17. Rajesh Khothari & A. Godha, Management Accounting, MACMILLAN, 2007.
18. B. Parvathiswara Rao, Accounting for Management, Duvvuri's Publications

CM – 2.3: RESEARCH METHODOLOGY & BUSINESS ANALYTICS

UNIT – I : MEANING OF RESEARCH

Nature and Scope of Research Methodology – Problem Formulation, Research Objectives – Hypotheses, Characteristics of good hypotheses, Research Design – Types of Research Design

UNIT – II: SOURCES AND COLLECTON OF DATA

Primary and Secondary Sources – Methods of Data Collection – Questionnaire Design – Attitude Measurement Techniques – Motivation Research Techniques – Administration of Surveys – Sample Design and Sampling Techniques.

UNIT – III: AUTOMATED DATA ANALYSIS:

SPSS Applications – Tabulation and Cross Tabulation of Data: Univariate, Bivariate Data Analysis and Tests of Hypothesis.

UNIT – IV: MULTIVARIATE ANALYSIS

Advanced Techniques for Data Analysis: ANOVA, Discriminate Analysis, Factor Analysis, Conjoint Analysis, Multidimensional Scaling and Clustering Techniques, Report Writing.

UNIT – V: BUSINESS ANALYTICS

Evolution - Business Analytics as Solution for Business Challenges - Master Data Management: Data Warehousing and kinds of Architecture – Data Extraction – Transformation and Up-loading of Data – Data Mining – Meta Data – Data Marts – Concept of Creating Data Marts – Data Integration – Concept of OLTP and OLAP.

Suggested Books:

1. Bhattacharya D. K., “Research Methodology”, Excel Books, New Delhi.
2. Cooper, “Business Research Methods”, Tata McGraw Hill, New Delhi, 2010.
3. C.R.Kothari, “Research Methodology: Methods and Techniques”, New Age International Publishers, New Delhi, 2006.
4. Gupta S.P. “Statistical Methods”, Sultan Chand, New Delhi, 2010.
5. K.V. Rao, “Research Methodology in Commerce and Management”, Sterling Publishers, New Delhi, 2012.
6. T.S. Wilkinson & P.L. Bhandarkar, “Methodology and Techniques of Social Research”, 2010.
7. Richard A.Johnson & Dean W.Wichern, “Applied Multivariate Statistical Analysis”, Prentice Hall International Inc., 2007.
8. R.N Prasad and Seema Acharya, “Fundaments of Business Analytics”, Wiley India Publication.
9. Pang-Ning Tan, Michael Steinbach & Vipin Kumar, “Introduction to Data Mining”, Pearson, 2009.
10. Alex Berson, Stephen Smith & Kurt Thearling, “Building Data Mining Application for CRM”, Tata McGraw Hill, New Delhi, 2000.

CM 2.4: FINANCIAL MANAGEMENT

Unit- I: FINANCIAL MANAGEMENT: - Financial Management and the goals of the firm – Organization of finance function –Time Value of Money-Agency conflict

Unit-II: INVESTMENT DECISIONS: Capital budgeting – Types of Capital budgeting process – Cash flows estimation and measurement – Investment criterion – Methods of appraisal: Traditional Techniques and Discounted Cash Flow Methods – NPV vs IRR - Capital rationing – Risk analysis in capital budgeting.

Unit-III: FINANCE DECISIONS: Leverage – Concept of leverage – Operating Leverage – Break-even analysis – Financial leverage – EBIT – EPS analysis – Combined leverage. **CAPITAL STRUCTURE:** Capital Structure Theories – Net Income approach – Net operating income approach – Traditional view – MM Hypothesis. **COST OF CAPITAL:** Cost of debt – cost of preference capital – Cost of equity capital – cost of external equity – Cost of retained earnings - Weighted average cost of capital.

Unit-IV: DIVIDEND DECISIONS:– Dividend Theories – Traditional position – Walter's Model – Gordon's Model – M-M Hypothesis.

Unit-V: WORKING CAPITAL MANAGEMENT: Concepts of working capital – Determinants of working capital – Optimum level of current assets – Liquidity Vs. Profitability – Risk – Return tangle – Estimating working capital needs – Financing and control of working capital – Inventory Management – Cash Management.

SUGGESTED READINGS:

1. Sheeba Kapil. Financial Management, Pearson, 2011.
2. Jonthan Berk Financial Management, Pearson, 2010.
3. Van Home. James C. "Financial Management", Prentice Hall of India (P) Ltd, Delhi.
4. Hampton, John J. "Financial Decision Making", Prentice Hall of India (P) Ltd, New Delhi.
5. Salmon,Ezra and Pringle, John.J. "An Introduction to Financial Management ", Prentice Hall of India (P) Ltd, New Delhi.
6. Khan, M.Y. & Jain P.K "Financial Management", Tata McGraw Hill Pub. Co. Ltd New Delhi.
7. Panday, I.M. "Financial Management", Vikas Publishing House (P) Ltd.
8. Chandra, Prasanna "Financial Management", Tata McGraw Hill, New Delhi.
9. Kulkarni, P.V. "Financial Management", Himalaya Publishing House.
10. Maheswari S.N. "Principles of Financial Management", S Chand & Sons.
11. Srivatsava R.M. "Essentials of Business Financial", Himalaya Publishing House,
12. Tulsan, P.C. "Financial Management", S. Chand & Co. New Delhi.
13. Alice C Lee, J C Lee, C F Lee "Financial Analysis, Planning and Forecasting", Cambridge University Press.

CM 2.5 MARKETING MANAGEMENT

Unit-I: Importance of Marketing – Concepts – Approaches to the Study of Marketing – Marketing Environment.

Unit-II: Consumer Behaviour – Market Segmentation – Market Targeting and Positioning – Marketing Information System and Research.

Unit-III: Marketing Mix: Product Planning – New Product Development – Product Life Cycle – Branding Packaging – Product Mix Management.

Unit-IV: Pricing: Objectives – Methods and Strategies – Distribution – Channel Selection and Management Retail Management.

Unit-V: Promotion: Integrated Marketing Communications: Personal Selling – Advertising – Sales Promotion, Publicity and Public Relations – Direct Marketing: Evaluation of Communication Effort.

Suggested Books:

1. Philip Kotler and Kevin Lane Keller: Marketing Management, Prentice Hall of India / Pearson Education, New Delhi.
2. William J Stanton & Futrell: Fundamentals of Marketing.
3. V. J. Ramaswami and S. Namakumari: Marketing Management, Macmillan Business Books, Delhi.
4. S. Jayachandran: Marketing Management, Text and Cases, Excel Publications.
5. Tapan K. Panda, marketing management, Excel.
6. Zinkota & Kotabe: Marketing Management, Prentice Hall of India.
7. Joel R. Evans & Barry Berman: Marketing, Wiley India, New Delhi.
8. Mukesh Dhunna: Marketing Management, Wisdom Publication.
9. Rajiv Lal, John A. Quelch & V. Kasturi Rangan, Marketing Management, Tata McGraw Hill.

CM 2.6: HUMAN RESOURCE MANAGEMENT

Unit- I: Human Resource Management: Nature and significance, functions of HRM, Qualities and Role of HR Manager, HRM Model, HRM in a changing Environment. Job Analysis – Objectives and methods of job analysis.

Unit-II: Human Resource Planning: Objectives, process, factors affecting HR Planning, Requisites for successful HR Planning. Recruitment – purpose, factors influencing, sources of recruitment. Selection – significance, process, placement, induction and socialization.

Unit-III: Employee Training: Significance, Methods: Management Development Programmes, Performance appraisal – Objectives, methods, developing and administering an Appraisal programme, limitations to its effectiveness.

Unit-IV: Job Evaluation – Significance, Methods and Problems: Career Planning and Development: Concept, need, process. Counseling – Significance and key elements- Disciplinary procedure and Grievance procedure.

Unit - V: Quality of Work Life (QWL): Meaning, conditions, specific issues in QWL, strategies for improvement of QWL.

Suggested Books:

1. Aswathappa.K., ***Human Resource and Personnel Management***, 2nd Edition, Tata McGraw Hill, New Delhi, 2001.
2. De Cenzo. & Stephen P.Robbins, ***Personnel/ Human Resource Management***, Pearson Publications,
3. Edwin B.Flippo, ***Personnel Management***, McGraw-Hill
4. Dessler, ***Human Resource Management***, 10th Edition, Pearson Education.
5. P.Subba Rao, ***Human Resource Management and Industrial Relations,*** Himalaya Publishing House, New Delhi.
6. V.S.P.Rao, ***Human Resources Management,*** Excel Books, New Delhi.
7. David Lepak, ***Human Resource Management***, Pearson Publicaions.
8. Kenneth M. York, ***Applied Human Resource Management***, Sage Publications.
9. H. John Bernardin, ***Human Resource Management***, Tata McGraw Hill.
10. T.V. Rao, "***Performance Management & Appraisal Systems***", SAGE Publications.
11. Peter J Dowling, "***International HRM***", CENAGE Learning.
12. Kaushal H, ***Case Study Solutions Human Resource Development***, MACMILLAN.
13. Michael Muller- Camen, Human resourse Management. Jaico Publishing House
14. Lain Henderson, Human Resource Management, University Press

III SEMESTER (Accounting, Auditing & Taxation)

CM 3.1(A) ADVANCED COST ACCOUNTING

UNIT – I : Overview of basic concepts in Accounting:

Elements of Cost: Material, Labour and Overheads, Material Purchase procedure, Storage and Inventory control - Methods of pricing of issues, Methods of inventory control, Labour - Classification of Labour, Principles and Methods of Remuneration, Accounting for Labour Cost. Overheads - Meaning, classification, allocation, apportionment and absorption.

UNIT – II : Methods of Costing

Job Costing, Batch Costing, Unit Costing and Process Costing

UNIT – III : Operating Costing

Operating Costing i.e., Costing and Service Industry – Hospital, Hotel, Transportation, Electricity, Power House and Telecommunication

UNIT – IV : Treatment of certain items

General Principles of Treatment of Depreciation, Amortization, interest on capital, Cost of Finance, Research and Development Cost, Material Losses, Waste, Scrap, Spoilage, Defectives.

UNIT – V : Cost Book Keeping and Reconciliation between Cost and Financial Accounts

Cost Book-Keeping, Cost Ledgers, Interlocking and Integral Accounts, Reconciliation of Cost and Financial Accounts, Reasons, Need, Methods

Suggested Books:

1) M.N. Arora, Accounting for Management, Himalaya Publishing House New Delhi 2010

2) Periaswamy, Financial Cost & Management Accounting , Himalaya Publishing House New Delhi 2011
3) Jain S.P. Advanced Cost Accounting Kalyan Publishers, Ludhiana 1992
4) Mitra J.K. Advanced Cost Accounting New Age International Pvt. Ltd. 2009 New Delhi.

CM 3.2(A) ADVANCED MANAGEMENT ACCOUNTING

UNIT – I : Management Accounting.

Management Accounting, Nature – Scope- Functions – Differences between Management Accounting and Financial and Cost Accounting – Emerging Trends in Management Accounting

UNIT – II : Cost Management

(a) Techniques for profit improvement, cost reduction and value analysis
(b) Activity based costing.
(c) Target costing; cost ascertainment and pricing of products and services

UNIT -III : Cost Volume Profit Analysis

(a) Relevant cost
(b) Product sales pricing and mix
(c) Limiting factors

UNIT – IV : Pricing Decisions

(a) Theory of price
(b) product pricing
(c) New product pricing
(d) Pricing strategies
(e) Pricing of services

UNIT – V : Budgets and Budgetary Control

Budget manual, Preparation and monitoring procedures, Budget variances, Flexible budgets, preparation of functional budget -operating and non-operating functions, cash budgets, Capital expenditure budget, Master budget, Principal budget factors.

Suggested Books:

1) Shasi K. Gupta & R.K. Sharma, Accounting for Managerial Decisions, Kalyani Publishers, New delhi
2) RSN Pillai, Bagarathi & S. Uma, Fundamentals for Advanced Accounting, Vol I & II S, Chand, New Delhi, 2006.
3) Bhattacharya S.K. Accounting for Management, Vikas Publication, New Delhi.
4) Ramachandran T. Accounting for Management, SciTech Publications, Hyderabad 2009.
5) Madigovda, Accounting for Managers, Himalaya Publishing House New Delhi 2010

C.M. 3.3. (A) AUDITING AND ASSURANCE

UNIT-I: INTRODUCTION: Basic Principles of Auditing: Evolution of Auditing - Development of Auditing since Independence; Accounting and Auditing; Objectives of an Audit; Ethical Principles of Auditing, Detection and Prevention of Errors and Fraud. Qualities of an Auditor.

UNIT-II: AUDITING AND ASSURANCE STANDARDS: An Overview, Standards- setting process, Guidance Notes, Auditing and Assurance Standards in India; Differences between Auditing & Assurance Standards and International Standards of Auditing; Role of Auditing and Assurance Standards Board of India.

UNIT-III: ORGANISATION OF AUDIT: Audit Planning, Letter of Engagement; Preparation for Audit, Audit Program, Audit Note Book, Audit Working Papers, Audit Files, Audit Manual and Audit Evidence, Delegation and Supervision of Audit work.

UNIT-IV: INVESTIGATION OF ACCOUNTS: Differences between Auditing and Investigation - Investigation Features and Reasons, Guiding Principles and Stages of Investigation - Representation by Management as Audit Evidence, Documentation of Representation by Management.

UNIT-V: AUDITOR'S REPORT AND LIABILITIES: Object and Importance, Audit Report and Audit Certificate, Types of Audit Reports, Contents of Audit Report, Special matters to be considered in Auditing Report; Requisites of a good Audit Report; Liability of Joint Auditors, Liability of Honorary Auditor, Liability of an Auditor appointed by Private and Public Limited Company, Specimen of Qualified Audit Report, Legal views as regard Audit Report.

Recommended Books:

1. Kamal Gupta & Ashok Gupta, "Fundamentals of Auditing", McGraw Hill Education, New Delhi, 2004.
2. R.G. Saxena, "Principles and Practice of Auditing", Himalaya Publishing House, New Delhi, 2011.
3. Spicer and Pegler. "Practical Auditing", Allied Publications, 5th Edition, New Delhi.
4. Ghatalia, Principles of Auditing, PHI, New Delhi.

C.M. 3.4. (A): ADVANCED AUDITING

UNIT – I: INTRODUCTION: Auditing – Origin, Meaning, Nature & Scope, Definition; Advantages of an Audit, Qualities and Qualifications of an Auditor, Independence of an Auditor; Critical appraisal of Auditing.

UNIT – II : VERIFICATION AND VALUATION OF ASSETS: Meaning and Objectives of Verification; Process of Verification – Auditor's position as regards valuation of Assets.

UNIT – III : INTERNAL CONTROL, INTERNAL CHECK AND INTERNAL AUDIT: Objectives of Internal Control – Distinction between Internal Control, Internal

Check and Internal Audit - Evaluation of Internal Control Procedures, Techniques, Co-ordination between Internal Audit and External Audit.

UNIT – IV: AUDIT OF LIMITED COMPANIES: Preliminaries to the Audit of a Limited Company, Audit of Pre-incorporation profit, Share Capital, Debentures, Audit of Divisible Profits and Dividends, Special requirements of company audit.

UNIT –V: AUDIT OF SPECIAL ENTITIES: Special Audits like, Audit of Banks, Insurance Companies, Educational Institutions, Stock and Commodity Exchanges, Financial Institutions, Mutual Funds and Co-operative Societies.

Suggested Books:

1. R.G. Saxena, "Auditing", Himalaya Publishing House, New Delhi, 2011.
2. Basu, S. K., "Auditing Principles and Techniques", Pearson Education, New Delhi.
3. Basu, S. K., "Fundamentals of Auditing, Pearson Education, New Delhi, 2008.
4. T. N. Tandon, "Practical Auditing", Kalyani Publishers, New Delhi.
5. Jagadish Prakash. "Principles and Practice of Auditing", Kalyani Publishers, New Delhi.

CM 3.5(A) DIRECT TAXES

UNIT -I **:** Concept of Taxation; Residential Status and incidence of tax, Incomes exempted from tax u/s 10, Income Tax Act of 1961.

UNIT-II **:** Heads of Income of Individuals; Salaries- income from house property and gain from business or profession, capital gains, income from other sources, clubbing up of income set off and carry forward of losses, deductions from gross total income, computation of total income and tax liability.

UNIT-III **:** Assessment of Individuals, Hindu Undivided Families, Firms, Association of Persons, Cooperative Societies.

UNIT- IV **:** Tax Administration; Income Tax Authorities, Assessment procedure, collection and recovery of tax, refunds, penalties and procedures, appeals and revisions.

UNIT – V **:** Wealth Tax, Chargeability, incidence of tax, valuation of assets, Return of wealth and assessment.

Suggested Books:

1. Singhania, C.K., *Direct Taxes,* Taxmann Publications, New Delhi.
2. Lal B.B., *Direct Taxes,* Pearson Education, New Delhi.
3. Girish Ahuja and Ravi Gupta, *Direct Taxes,* Bharat Publications.
4. Gaur and Narang, *Direct Taxes,* Kalyani Publications.
5. Manoharan T.N., *Direct Taxes,* Snow White Publications.

CM 3.6(A) INDIRECT TAXES - I

UNIT – I : **An overview of Indirect Taxes:** Rationale of Indirect Taxes - Differences Between Direct Taxes and Indirect Taxes - Constitutional validity - Khelkar Committee on Tax Reforms.

UNIT-II : **Central Excise:** Basic chargeability -- Duties of Central Excise - Goods, Manufacture, Classification rules

UNIT-III

UNIT-IV UNIT-V

: **Valuation of Excisable Goods:** Valuation of Excisable goods - Specific issues and case studies- Assessment procedure, Exemption, Payment, Recovery and Refunds of Duties.

: **CENVAT** - Credit Rules- Case Studies.

: **Service Tax**: Introduction - Law relating to Service Tax as contained in the Finance Act, 1994, Procedures of Service Tax- Applicability and implication of the Service tax.

Suggested Books:

1) Datey V.S. Indirect Taxes Law and Practice, Taxman Publication New Delhi 2005

2) Nagarjuna Viswanath Indirect Taxes, Asia Law House Hyderabad. 2011.

3) Kumar Sanjeeva "Systematic Approach top Indirect Tax, Bharat Law House

FOURTH SEMESTER
GROUP – A : ACCOUNTING, AUDITING & TAXATION

CM 4.1(A) - FINANCIAL REPORTING

UNIT – I **:** Corporate Financial Reporting – Issues and problems with special reference to published financial statements

UNIT – II **:** Accounting for Corporate Restructuring (including inter – company holdings)

UNIT – III **:** Consolidated Financial Statements of Group Companies - Concepts of a Group, purposes of consolidated financial statements, minority interest, Goodwill, Consolidation procedures – minority interests, Goodwill, Treatment of pre-acquisition and post-acquisition profit.

UNIT – IV **:** Consolidation with two or more subsidiaries, consolidation with foreign subsidiaries, Consolidated profit and loss account, balance sheet and cash flow statement.

UNIT – V **:** Accounting and Reporting of Financial Instruments – Meaning, recognition, derecognition and offset, compound financial instruments – Measurement of Financial instruments

Suggested Books

1) RSN Pillai, Bagarathi & s. uma, Fundementals of Advanced Accounting, Vol. 1, S.Chand, New Delhi.
2) Nehru J. Financial Reporting by diversified companies vision Books, New Delhi.
3) Hawkins David Financial Statements corporations Dow Jones- Irwin Homewood 1973.

CM 4.2(A) - STRATEGIC FINANCIAL MANAGEMENT

UNIT – I : Financial Goals and Strategy – Shareholder Value Creation (SCV) : Market Value Added (MVA) – Market-to-Book Value (M/BV) – Economic Value Added (EVA) – Managerial implications of shareholders, Value creation.

UNIT – II : Financial Strategy for Capital Structure: Leverage effect and Shareholders' Risk – Capital Structure Planning and policy – Financial Options and Value of the Firm – Dividend Policy and Value of the Firm.

UNIT – III : Investment Strategy – Techniques of Investment Appraisal Under Risk and Uncertainty – Risk Adjusted Net Present Value – Risk Adjusted Internal Rate of Return – Capital Rationing – decision Tree Approach for Investment Decisions.

UNIT – IV : Merger Strategy – Theories of Mergers – Horizonal and Conglomerate Mergers – Merger Procedure – Valuation of Firm – Financial Impact of Merger – Merge and Dilution effect on Earnings per Share – Merger and Dilution Effect on Business Control.

UNIT – V : Takeover Strategy – Types of takeovers – Negotiated Hostile Bids – Take over Procedure – Takeover Defenses Takeover Regulations of SEBI – Distress Restructuring Strategy – Sell offs – Spin Offs – Leveraged Buyouts.

Suggested Books

1. Coopers & Lybrand, *Strategic Financial*: *Risk Management*, Universities Press (India) Ltd.
2. Robicheck,A, and Myers, S., *Optimal Financing Decisions*, Prentice Hall Inc.
3. James T.Gleason, Risk: *The New Management Imperative in Finance*, A jaico Book.
4. Van Horn JC. *Financial Management and Policy*, Prentice Hall.
5. Prasanna Chandra, *Financial Management Theory and Practice*, Tata McGraw Hill.
6. Weston JF, Chung KS & Hoag SE., *Mergers, Restructuring & Corporative Conrol*, Prentice Hall
7. Pandey IM, Financial Mangement, Vikas.
8. Shiva Ramu, S., *Corporate Growth through Mergers & Acquisitions*, Response Books (A Division of Sage Publications)
9. Khandawalla PN, *Innovative Corporate Turnarounds*, Sage Publications.

CM 4.3(A) INFORMATION SYSTEM CONTROL AND AUDIT

UNIT – I : **Information Systems Concepts**

Nature and types of Information systems, Attributes of information. Management Information System – Role of information within business information systems – various types of information systems.

UNIT – II : **Systems Development Life Cycle Methodology**

Introduction to SDLC/Basics of SDLC Requirements analysis and systems design techniques Strategic considerations: Acquisition decisions and approaches Software evaluation and selection/ development - Alternate development methodologies – RAD, Prototype etc. Hardware evaluation and selection.

UNIT – III : **Control objectives**

(a) Information Systems Controls – Need for control – Effect of computers on internal Audit – Responsibility for control – Management IT personnel, auditors – Cost effectiveness of control procedure – Control Objectives for Information and related

Technology (CPBIT)

UNIT – IV : Information Systems Control Techniques

Control Design: Preventive and detective controls, Computer – dependent control, Audit trails, User Controls (Control balancing, Man follow up), Non – Computer – dependent (user) controls: Error identification controls, Error investigation controls, Error correction controls, Processing recovery controls

UNIT – V : Controls over System Selection, Acquisition / Development

Standards and controls applicable to IS development projects – Developed / acquired systems – Vendor evaluation – Structured analysis and design.

CM.4.4 (A) - ADVANCED AUDITING AND PROFESSIONAL ETHICS

UNIT-1: VOUCHING: Definition– Objectives - Procedure- Extent- Importance- Principles of Vouching - Types of Vouching- Routine Checking Vs. Vouching- Points to Be Noted in Vouching – Cash Transactions- Trading Transactions- Vouching Impersonal Ledger – Distinction between verification and valuation of different types of assets – Problems in valuation.

UNIT-II: OBJECTIVE BASED AUDITING: Management Auditing – Techniques - Management Audit Report- Tax Auditing- Compulsory Tax Auditing- Persons Covered by Section 44AB- Approach to Conduct a Tax Audit- Selective Tax Audit (Section 142(2A) (2D))- Tax Audit Report -Cost Auditing- Statutory Provisions as Regards Cost Audit- Cost Audit Programme- Points Receiving Special Attention While Conducting Cost Auditing- Distinction between Cost Auditing and Management Auditing.

UNIT – III: SPECIAL AUDIT TECHNIQUES:

A) Selective Verifications- Statistical Sampling-Special Audit Procedure- Physical Verifications of Asset- Direct Conformation of Debtors and Creditors
B) Analytical Review and Creditors
C) Risk Based Auditing

UNIT – IV: AUDITING IN EDP ENVIROMENT: Division of Auditing in EDP Environment- Online Computer Systems- Documentation under CAAT- Using CAAT in Small Business Computer Environments- Limitations of EDP Audit

UNIT – V: PROFESSIONAL ETHICS: Meaning of Professional Ethics - Code of Ethics with special reference to The Chartered Accountants of India Act, 1949 and the Regulations there under - Enquiry into Charges of Misconduct of Chartered Accountants.

CM 4.5(A) - INDIRECT TAXES – II

UNIT-1

Customs Laws – nature of customs duty, Types of customs duty, Classification for Customs and rate of duty. Valuation for customs duty, Provisions regarding baggage, Courier, Postal articles and stores - Exemptions - Remissions - Offences - Penalties.

UNIT-II

Central Sales Tax – Inter-state sales – Intra-state sales – Goods – Dealers – Registration – Forms for declaration – Quantum of CST – Offenses and Penalties – Commercial Tax Authorities & Powers.

UNIT-III

Value Added Tax: Backdrop of State – Level of VAT in India - Taxonomy of VAT- Input Tax Credit, Tax invoice - Small dealers and Composition scheme.

UNIT-IV **VAT Procedures:** VAT in relation to incentive schemes, works contract, lease transactions and hire purchase transactions - VAT and Central Sales Tax.

UNIT – V **: Indirect Taxes Administration**: Administrative Procedures - CBEC - Authorities - Powers - Export Incentives - Incentives to SMEs.

CM 4.6(A) - CORPORATE TAX LAW AND PLANNING

UNIT- I **: Introduction:** Nature and Scope of Corporate Tax Management – Need for and significance – Problems in Tax Management - Types of Companies - Widely Held Company, Closely held company, Residential Status of a Company and incidence of tax.

UNIT- II **Procedure for Assessment** – Deduction of tax at Source, Advance payment of Tax, Tax returns, refunds appeals and revision.

UNIT-III **Tax Administration** – Concept, Tax administration with reference to setting up of new business, Financial management decisions & Employees remuneration.

UNIT- IV **: Computation of Taxable Income of Companies** – Computation of taxable income under different heads of income – House property, Profit and gain from business, Capital gain and income other sources, carry forward and set off of losses in case of companies. Deduction from Gross Total income. Minimum Alternative Tax.

UNIT – V **: Tax Planning** – Tax avoidance and tax evasion. Tax planning with corporate dividend, Dividend policy – Bonus shares. Tax planning with reference to specific managerial decisions – Make or Buy, Own or Lease, Purchase by installment or by Hire, Repair, Replace, Renewal or Renovation, shut down or continue.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

JMJ COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

SYLLABUS FOR M.SC., ORGANIC CHEMISTRY (PREVIOUS)
SEMESTER – I (CH 101-09)

PAPER – I, GENERAL CHEMISTRY 60Hrs. (4Hrs. /Week)

UNIT I

Treatment of analytical data : Classification of errors - Determinate and indeterminate errors - Minimisation of errors - Accuracy and precision - Distribution of random errors - Gaussian distribution - Measures of central tendency - Measures of precision - Standard deviation - Standard error of mean - student's t test - Confidence interval of mean - Testing for significance - Comparison of two means - F- test - Criteria of rejection of an observation - propagation of errors - Significant figures and computation rules - Control charts - Regression analysis - Linear least squares analysis.

UNIT-II

Titrimetric Analysis:

Classification of reactions in titrimetric analysis- Primary and secondary standards-Neutralisation titrations-Theory of neutralisation indicators-Mixed indicators- Neutralisation curves-Displcement titrations-Precipitation titrations-Indicators for precipitation titrations-Volhard method-Mohr method-Theory of adsorption indicators-Oxidation redution titrations-Change of electrode potentials during titration of Fe(II) with Ce (IV)-Detection of end point in redox titrations-Complexometric titrations-Metal ion indicators-Applications of EDTA titrations-Titration of cyanide with silver ion.

UNIT I-III

Visible spectro photometry and potentiometry - Beer-Lambert's law - Deviations from Beers law - Instrumentation - Applications - Photometric titrations - Spectrophotometric determination of pK value of an indicator - Simultaneous spectrophotometric determinations -Advantages of potentiometric methods - Reference electrode - Standard hydrogen electrode . Calomel electrode -Indicator electrodes: Metal-metal ion electrodes - Inert electrodes -Membrane electrodes - theory of glass membrane potential - Direct potentiometry , potentiometric titrations - Applications.

UNIT IV

Programming in FORTRAN 77 - Flow charts-Constants and variables - Arithmetic expressions - Arithmetic statement - Replacement statement - Input and output statements - Format specifications - Termination statement - Branching statement - IF statement - Arithmetic and logical IF statement - GOTO statement - - Subscripted variable and DIMENSION Statement - DATA Statement.

Control statements - DO statement - Rules for DO statements - Functions and subroutines - common statement Flow charts and computer programs for

i) Summing of power series $1+x+x^2+x^3+\ldots.x^n$

ii)Rate constant of First order reaction or Beer's law by linear least square method.

iii) Hydrogen ion concentration of a strong acid/Quadratic euqation.

iv) Solution for Vander Waals equation or Hydrogen ion concentration of a monoprotic Weak acid.

v)Standard deviation and variance of univariant data.

SEMESTER – I (CH 102-09)

PAPER – II, INORGANIC CHEMISTRY 60Hrs.(4Hrs./Week)

UNIT I

Introduction to Exact Quantum Mechanical Results : Schrodinger equation **,**

Importance of wave function ,Operators , derivation of wave equation using operator concept . Discussion of solutions of Shrodingers equation to some model systems viz. particle in one dimensional box

(applications) , three dimensional box ,Rigid rotator system and the Hydrogen atom .

Approximate Methods - Variation theorem , linear variation principle perturbation theory , (first order and non degenerate) . Application of variation method to the Hydrogen atom .

Angular momentum - Eigen functions and eigen values of angular momentum ,Addition of angular momenta .

UNIT II

Chemistry of non- transition elements - Inter halogen compounds, Halogen oxides and oxyfluorides . Noble gas compounds with special reference to clathrates. Spectral and Magnetic properties of Lanthanides and Actinides .Analytical applications of Lanthanides and Actinides.

Structure and bonding - pπ - dπ bonding - Evidences (in non-transition metal compounds). Concept of Hybridization , Bent's rule , energetics of Hybridisation , concept of Resonance , Non-valence cohesive forces , Hydrogen bonding -Symmetric and unsymmetric , VSEPR theory , Walsh diagrams for linear(Be H_2) and bent (H_2O) molecules . Molecular Orbital theory , Symmetry of Molecular orbitals , Molecular orbitals in triatomic (Be H_2) molecules and ions (NO_2^-) and energy level diagrams . Some simple reactions of covalently bonded molecules.

UNIT III

Metal –ligand bonding - Crystal Field Theory of bonding in transition metal complexes – Splitting of d-orbitals in Trigonal bipyramidal and Square pyramidal fields .Tetragonal distortions - Jahn Teller effect . Applications and limitations of

CFT . Experimental evidences for covalence in complexes .Moleccular Orbital Theory of bonding for Octahedral , tetrahedral and square planar complexes .π- bonding and MOT - Effect of π - donor and π - acceptor ligands on Δ_o . Experimental evidence for
π - bonding in complexes .

UNIT IV

Metal – ligand Equilibria in solutions - Step wise and over all formation constants .Trends in stepwise constants (statistical effect and statistical ratio) . Determination of formation constants by Spectrophotometric method (Job's) and pH metric method
(Bjerrum's) . Stability correlations - Irwing – William's series . Hard and soft acids and bases – Acid-base strength and HSAB , Electronegetivity and HSAB . Macrocyclic complexes - Crown ethers and Cryptates. Preparation and structures of Isopoly and Heteropoly acids and their salts .

SEMESTER – I (103-09)
PAPER – III, ORGANIC CHEMISTRY; 60Hrs.(4Hrs./Week)

UNIT-I

a) **Nature of Bonding in Organic Molecules:** Localised and Delocalized covalent bonds, Delocalised chemical bonding conjugation, cross conjugation, hyper conjugation, tautomerism.

b) **Aromaticity**: Concept of aromaticity, Aromaticity of five membered, six membered rings and fused systems.

- Non benzonoid aromatic compounds:-cyclopropenyl cation, Cyclobutadienyldication, cyclopentadienyl anion-tropyllium cation and cyclo octatetraenyl dianion.
- Metallocenes, Ferrocene, Azulenes, Fulvenes, Annulenes, Fullerenes.
- Homo aromaticity, Anti aromaticity and pseudo ( ) aromaticity,.

II. UNIT – II

REACTIVE INTERMEDIATES AND HETEROCYCLIC COMPOUNDS:

a) **Reactive Intermediates**:- Generation, Structure, Stability and reactivity of Carbocations, Carbanions, free radicals, Carbenes, nitrenes and Benzyne.

b) **Heterocyclic Chemistry**:- Synthesis and Ractions of furan, thiophene, pyrrole, pyridine, quinoline, isoquinoline and indole; Skraup synthesis, Fisher indole synthesis.

c) Heterocyclic compounds more than one hetero atom:- Pyrazole, Imidazole, Oxazole Iso-Oxazole, Thiazole, isothiazole, synthesis and properties.

UNIT - III

STEREOCHEMISTRY:

a) Concept of Chirality: Recognition of symmetry elements and chiral structures (one and more than one chiral centers); D-L and R – S nomenciature, diastereoisomerism; Interconversion of Fischer, Newman and Sawhorse projections. Threo and Erythro isomers, methods of resolution, stereo specific and stereoselective synthesis. Asymmetric synthesis.

- Optical activity in the absence of chiral carbon (biphenyls, allenes and spiranes).

b) Geometrical isomerism – E, Z- nomenclature – physical and chemical methods of determining the

configuration of geometrical isomers.

c) Stereochemistry of compounds containing nitrogen, sulphur and phosphorous.

III. UNIT – IV

CONFORMATIONAL ANALYSIS:

a) Conformation of acyclic molecules – alkanes and substituted alkanes –compounds having intramolecular hydrogen bonding, conformations around C-C and carbon hetero atom bonds having C – O & C – N.

b) Conformations of monocyclic compounds – cyclohexane- chair, boat and twist boat cyclohexanes, energy profile diagram – Mono and di- substituted cyclohexanes – conformations and physical properties. Effect of conformation on reactivity in mono and di- substituted cyclohexane derivatives.

c) Elementary treatment of fused and bridged ring systems – Decalines and Bornanes. Conformation of sugars, steric strain due to unavoidable crowding.

SEMESTER – I (104-09)
PAPER – IV, PHYSICAL CHEMISTRY 60Hrs. (4Hrs./Week)

UNIT-I

Thermodynamics - I

Classical thermodynamics - Brief review of first and second laws of thermodynamics - Entropy change in reversible and irreversible processes - Entropy of mixing of ideal gases - Entropy and disorder - Free energy functions - Gibbs-Helmoboltz euqation - Maxwell partial relations - Conditions of equilibrium and spontaneity - Free energy changes in chemical reactions: Van't Hoff reaction isotherm - Van't Hoff equation - Classiuss Clapeyron equation - partial molar quantities - Chemical potential - Gibbs- Duhem equation - partial molar volume - determination of partial molar quantities - Fugacity - Determination of fugacity - Thermodynamic derivation of Raoult's law.

UNIT – II

Surface phenomena and phase equilibria - Surface tension - capillary action - pressure difference - across curved surface (young - Laplace equation) - Vapour pressure of small droplets (Kelvin equation) - Gibbs-Adsorption equation - BET equation - Estimation of surface area - catalytic activity of surfaces – ESCA , X- ray flouresence and Augar electron spectroscopy.

Surface active agents - classification of surface active agents - Micellisation - critical Micelle concentration (CMC) - factors affecting the CMC of surfactants, microemulsions - reverse micelles - Hydrophobic interaction.

UNIT - III

Electrochemistry – I - Electrochemical cells - Measureement of EMF - Nernst equation - Equilibrium constant from EMF Data - pH and EMF data - concentation cells with and without transference - Liquid junction potential and its determination - Activity and activity coefficients - Determination by EMF Method - Determination of solubility product from EMF measurements. Debye Huckel limiting law and its verification.

Effect of dilution on equivalent conductance of electrolytes - Anamolous behaviour of strong electrolytes. Debye Huckel-Onsagar equation - verification and limitations - Bjerrum treatment of electrolytes - conductometric titrations..

IV. UNIT - IV

Chemical kinetics- Methods of deriving rate laws - complex reactions - Rate expressions for opposing, parallel and consecutive reactions involving unimolecular steps. Theories of reaction rates - collision theory - Steric factor - Activated complex theory - Thermodynamic aspects -

Unimolecular reactions - Lindemann's theory - Lindemann-Hinshelwood theory. Reactions in solutions - Influence of solvent - Primary and secondary salt effects - Elementary account of linear free energy relationships - Hammet - Taft equation - Chain reactions - Rate laws of H_2-Br_2, photochemical reaction of H_2 - Cl_2 Decomposition of acetaldehyde and ethane - Rice-Hertzfeld mechanism.

SEMESTER – II (CH 201-09)
PAPER – I, GENERAL CHEMISTRY 60Hrs.(4Hrs./Week)

UNIT-1

Symmetry and Group theory in Chemistry - Symmetry elements, symmetry operation, definition of group, suib group, relation between order of a finite group and its sub group. Point symmetry group. Schonfiles symbols, representation of groups by Matrices (representation for the C_n, C_{nv}, C_{nh}, D_n etc. groups to be worked out, explicitely). Character of a representation. The great orthogonality theorem (without proof) and its importance. Character tables and their use. Application of group theory in IR and Raman spectroscopy.

UNIT – II

Motion of molecules-Degrees of freedom –Energy associates with the degrees of freedom Type of spectra

Microwave spectroscopy.

Classification molecules, rigid rotator model, effect of isotopic substitution on the transition frequencies, Intensities non-rigid rotator-Microwave spectra of polyatomic molecules.

Infared spectroscopy

Harmonic oscillator, vibrational energies of diatomic molecules, zero point energy, force constant and bond strengths, anhoremonicity Morse potential energy diagram. Vibration – rotation spectroscopy. PQR braches, Born – oppenheimer approximation, Break down Born – openheimer approximation, selection rules, normal modes of vibration group frequencies, overtones, hot bands, application of IR spectra to polyatomic molecules.

UNIT – III

Raman spectroscopy.

Classical and quantum theories of Raman effects, pure rotational, vibrational and Vibrational – rotational Raman spectra, selection rules, mutual exclusion principle, Resonance Raman spectroscopy, coherent antistrakes Raman Spectroscopy (CARS) – Application.

Visible and ultraviolet spectroscopy: - Electronic Spectra of diatomic molecules, vibrational structure of an electronic transition, classification of bands, rotational fine structure of electronic vibrational transition. Electronic Spectra of Polyatomic Molecules – Instrumentation – Applications.

UNIT – IV

Nuclear Magnetic Resonance Spectroscopy: -

Nuclear spin, nuclear resonance, saturation, shielding of magnetic nuclei, chemical shift and its measurements, factors influencing chemical shift, desheilding, spin – spin interactions, factors influencing, coupling constant J. Classification (ABX, AMX, ABC, A_2, B_2 etc.) Basic ideas about instrument NMR studies of nuclei other than proton – ^{13}C, ^{19}F, ^{31}P. Use of NMR in medical diagnostics.

Electron spin resonance spectroscopy. : -

Basic principles, zero field splitting and kranners's degeneracy, factors affecting the 'g' value. Istropic and anisotropic hyperfine coupling constants, spin hamiltenia, Spin densities measurement techniques - applications.

SEMESTER - II (CH 102–09) FROM THE YEAR 2009 – 2010)
PAPER-II INORGANIC CHEMISTRY 60 Hrs (4 Hrs/WEEK)

UNIT I

Non metal cages and metal clusters:

Nonmetal cages, structure and bonding in phosphorous- oxygen and phosphorous -sulphur cages; structure and bonding in higher boranes with (special reference to B_{12} icosahedra). Carboranes ,

metalloboranes, metallo carboranes.

Metal clusters: Classification- LNCs and HNCs **,**Isoelectronic and Iso lobal relation ships , electron counting rules: Wade's and Lauher's rules. M-M multiple bonding; preparation, structrure and bonding in dinuclear $[Re_2Cl_8]^{2-}$ ion, trinuclear $[Re_3Cl_9]$, tetra nuclear $W_4OR_{16,}$ hexa nuclear $[Mo_6Cl_8]^{4+}$ and $[Nb_6Cl_{12}]^{2+}$, poly atomic Zintle ions and Chevrel phases. Applications of clusters

Metal π- complexes: preparation, structrure and bonding in Nitrosyl ,Dinitrogen and Dioxygen complexes.

UNIT II

Organometallic complexes of transition metals: Classification and electron counting rules. Metallocenes with four, five, six, seven and eight (^{4} - ^{8}) membered rings, synthesis, structure and bonding of Ferrocene. Cyclopenta dienyl, Arene, Cyclohepta triene and Tropylium complexes of transition metals. Reactions of organometallic compounds oxidative addition reductive elimination, insertion and elimination. Applications of organometallic compounds- Catalytic hydrogenation, Hydro formylation Zeigler- Nutta catalyst for polymerization of olefins.

Bio chemical aspects of iron and cobalt: Binding, storage and transport of dioxygen by Hemoglobin and Myoglobin. Vitamin B_{12} and its importance.

UNIT III

Reaction mechanism of transition metal complexes:

Kinetics of octahedral substitution, acid hydrolysis, base hydrolysis -conjugate base(CB) mechanism. Direct and indirect evidences in favour of CB mechanism. Anation reactions. Reactions without metal-ligand bond cleavage. Factors affecting the substitution reactions in octahedral complexes. Trans effect on substitution reactions in square planar complexes. Mechanism of redox reactions, outer sphere mechanism, cross reactions and Marcus –Hush equation, inner sphere mechanism, complementary and non – complementary reactions.

Photo reactions: Introduction, Adamsons rules, photo redox reactions, photo isomerisation, photo anation and photo aquation reactions. Photo chemical decomposition of water, photo reactions of Fe(II) and Fe(III).

UNIT IV

Electronic spectra of transition metal complexes Electronic configurations and Spectroscopic terms . Selection rules , Slator – Condon parameters , Racah parameters , Term separation energies for d^n configurations Correlation diagrams and Orgel diagrams . Tanabe- Sugano diagrams for d^1 to d^9 configurations . Calculations of Dq ,B and β parameters . Charge transfer spectra.

Magnetic properties of transition complexes Types of magnetism , factors affecting paramagnetism , anomalous magnetic moments - Orbital and spin contribution , spin - orbit coupling and magnetic moments.Chiroptical properties ,Cotton effect and Faraday effect .

SEMESTER – II (203-09)

PAPER – III, ORGANIC CHEMISTRY; 60Hrs. (4Hrs./Week**) UNIT – I**

SYNTHETIC METHODS AND NAMED REACTIONS

a) General Methods for synthesis:

Additions: Addition to carbon – carbon multiple bonds, HX, X_2, HOX, stereo chemistry of addition, formation and reaction of epoxides, syn and anti hydroxylation, hydrogenation (catalytic and Non catalytic), sythetic reactions of CO and CN and Cram's rule.

b) Familiar Name Reactions and Mechanisms:

Benzoin, cannizaro, Perkin, Dieckmann and Stobbe condensations; Hofmann, Schmidt, Lossen, Curtius, Clasien, Backmann and Fries rearrangements; Reformatsky, Favoursky, Mannich reaction, Baeyer Villiger reaction and Chichibabin reaction, Michael addition, Oppenaur oxidation, Clemmensen, Wolff-Kishner, Meerwein–Ponndorf–Veriey and Birch reductions.

UNIT-II

a) Aliphatic Nucleophilic substitutions:
The SN^2 , SN^1, mixed SN^1 and SN^2 and SN^i reactions : Mechanism, effect of structure, nucleophile, leaving group..

The neighbouring group mechanism, neighbouring group participation by and bonds, anchimeric assistance.

b) Aromatic Nucleophilic substitution:
The SN^{Ar} , SN^1 mechanisms and benzyne mechanism. Reactivity- effect of substrate structure, leaving group and attacking nucleophile. The Von-Ritcher, Sommelet – Hauser and Smiles rearrangements.

UNIT –III
Eliminations and protecting agents :

a) Types of elimination (E1,E1CB,E2) reactions, mechanisms, stereochemistry and orientation, Hofmann and Saytzeff's rules, Syn elimination versus anti elimination. Competitions between elimination and substitution.

b) Dehydration, dehydrogenation, decarboxylative elimination, pyrolytic elimination, molecular rearrangement during elimination.
c) Theory and importance of functional group protection in organic synthesis:- Protecting agents for the protection of functional groups Hydroxyl group, Amino group, Carbonyl group and Carboxylic acid group

UNIT – IV
CHEMISTRY OF NATURAL PRODUCTS:

a) **Alkaloids:** General methods of identification of alkaloids, Structure and synthesis of Atropine, Berberine and Yohimbine.

b) **Lower Terpinoids:** General methods of identification of terpnoids, Isoprene rule, biogenetic isoprene rule and classification of terpenes. Structural elucidation and synthesis of - terpeniol,
- pinene and camphor.

c) **Quinones:** Identification of quinones , Lapachol. Chrysophenol and Physcion.

SEMESTER –II (CH 204-09)
PAPER – IV, PHYSICAL CHEMISTRY 60Hrs.(4Hrs./Week)

UNIT – I :Thermodynamics II : Third law and Statistical thermodynamics-Nernst Heat theorem
Third law of thermodynamics - Its limitations - Determination of absolute entropy - concept of districution Thermodynamic probability and most probable distribution - Ensemble-ensemble averaging - Maxwell-Boltzmann distribution law - Partition function - Fermi-Dirac statistics - Bose Einstein statistics Entropy and probability - Boltzmann-Plank equation - calculation of thermodynamic properties in terms of partition function - Application of partition function - Chemical equilibrium and partition function - Translational, rotational and electronic partition function - Entropy of Monoatomic gases (Sackur - Tetrode equation).

UNIT – II Polymer chemistry:
Classification of polymers - Free radical , ionic and Zeigler -Natta Polymerisation - kinetics of free

radical polymerisation - Techniques of polymerisation - Glass transition temperature - Factors influencing the glass transition temperature - Number average and Weight average, Molecular weights -molecular weights determination - End group analysis - Osmometry - Light scattering and ultra centrifugation methods.

UNIT – III :Electro Chemistry-II : Electrode potentials - Double layer at the interface - rate of charge transfer - Decomposition potential - Over potential - - Tafel plots - Derivation of Butler-Volmer equation for one electron transfer - electro chemical potential.
Electro catalysis - - Fuel cells-Theory of polarography - Diffusion current - Ilkovic equation - Equation for half- wave potential –Applications of polarography - Amperometric titrations -Corrosion - Forms of corrosion - prevention methods.

UNIT – IV :Chemical kinetics and photo chemistry - Branching Chain Reactions - Hydrogen-oxygen reaction - lower and upper explosion limits - Fast reactions - Study of kinetics by flow methods - Relaxation methods - Flash photolysis - Mechanism of homogeneous catalysis - Acid base catalysis - protolytic and prototropic mechanism - Enzyme catalysis - Michelis-Menten kinetics.
Photochemical reactions - Quantum yield and its determination - Actinometry - Reactions with low and high quantum yields - Photo sensitisation - Exciplexes and Excimers - Photochemical equilibrium - Chemieluminescence-Kinetics of collisional quenching-Stern - Volmer equation - Photo Galvanic cells

M.Sc. FINAL YEAR CHEMISTRY (ORGANIC CHEMISTRY SPECIALIZATION)
SEMESITER III
PAPER – I : ORGANIC SPECTROSCOPY –I. (C3.1(O)-10)

UNIT –I

(a) Ultraviolet spectroscopy : Mechanics of measurement – Energy transitions – Simple chromophores – UV absorption of Alkenes – polyenes unsaturated cyclic systems – Carbonyl compounds

α,β- unsaturated carbonyl systems - Woodward – Fieser rules – aromatic systems – solvent effects – geometrical isomerism – acid and base effects – typical examples – calculation of λ_{max} values using WF-rules.

(b) Optical rotatory dispersion : Theory of optical rotatory dispersion – Cotton effect – The octant rule – application in structural studies.

UNIT –II

(c) Infrared spectroscopy : Mechanics of measurement – Fundamental modes of vibrations – Stretching and bending vibrations – hydrogen bonding – finger print region and its importance – Typical group frequencies for – CH, -OH, -NH, -CC, -CO and aromatic systems - Application in structural determination – Examples – simple problems

UNIT –III

(a) NMR spectroscopy : Magnetic properties of Nuclei theory of Nuclear resonance Fourier transformation and its importance in NMR spectrometry. The chemical shift its importance and measurement calculation of chemical shift integration and J values from the spectral data problems related to calculation of chemical shift integration and J values Factors effecting chemical shift such as electro negativity and anisotropy – Shielding and deshielding mechanisms in acetylene carbonyl and Benzene anisotropy – spin-spin Interactions related to first order and higher order spectra – AB – A2 – AB2. ABX – ABC – AMX interactions – temperature dependence spectra – double irradiation and its importance in the interpretation of Proton Spectra – Hydrogen bonding – Geometrical and optical isomerism interpretation of NMR spectrum of a given compound leading to identification –typical examples of PMR spectroscopy.

UNIT-IV

(a) Problems involving individual spectral methods – UV, IR and PMR
(b) Problems involving combined any two of UV, IR and PMR
(c) Problems involving all the three of UV, IR and PMR.

M.Sc. FINAL YEAR CHEMISTRY (ORGANIC CHEMISTRY SPECIALIZATION)
SEMESITER III
PAPER-II: ORGANIC SYNTHESIS, MECHANISMS AND NANO CHEMISTRY (C3.2(O)-10)

UNIT-I:

i) Methods for determining Reaction mechanisms by kinetic and non-kinetic studies.

Kinetics of reaction, Energy profile diagram, Intermediate versus transition state, Reaction rate and rate limiting step. Identification of products, testing possible intermediates, trapping of intermediates, Cross over experiments, Isotopic labeling.

ii) Free radicals and their reactions

Introduction, formation, detection and stability of radicals. Some radical reactions, Addition of halogens, Hydrogen halides. Substitution reactions-Halogenation,Aromatic substitution, Sandmayer reaction, Autooxidation, Decomposition of dialkyl and diacyl peroxides.

UNIT-II: Oxidations

Introduction: Different Oxidative processes.
Hydrocarbon: alkenes, aromatic rings saturated C-H groups (activated and unactivated), Alcohols, diols, aldehydes, Ketones, Carboxylic acids, Amines, hydrazines, sulphides. Oxidations with ruthenium tetroxide iodobenzene diaccetate and Tl(III) nitrate, Lead tetra acetate, SeO_2, MnO_2 Ag_2CO_3, oppenauer oxidation, peracids.
Oxidation of C=C perhydroxylation using $KMnO_4$, OsO_4, peracids.

UNIT –III: Reductions

Introduction: Reductive process Hydrocarbons: Alkanes, alkenes, alkynes, and aromatic rings Carbonyl compounds – aldehydes, ketones, acids and their derivatives. Nitro, nitroso, azo and oxime group Hydrogenolysis. Catalytic hydrogenations, Reduction by dissolving metals, Reduction with metal and acid. Reduction with metal in liquid ammonia (Birch reduction).
Reduction by hydride transfer reagents Aluminium alkoxide, LiAlH4, NaBH4, Diisobutyl aluminium hydrides –
Sodium cyano borohydride ,tryalkyl borohydirdes – Reduction with diimide.

UNIT-IV: Nanochemistry

Nanochemistry: Introduction, carbon nanotubes: structure of single and multi wall carbon nanotubes, synthesis-solid and gaseous carbon source-based production techniques, synthesis with controlled orientation. Growth mechanism of carbon nanotubes-catalyst free growth, catalyst activated growth, properties-general, adsorption, electronic & optical, Mechanical and reactivity. Applications.

SUGGESTED BOOKS:

1.Mechanism and structure in Organic Chemistry " E.S.Could Henry – Holt and Co, Newyork
2.Advances in Organic Reaction mechanism and structure J. March (McGrew Hill)
3. Aguide Book to Mechanism in Organic Chemistry" by P.Sykes
4. Synthetic approaches in organic chemistry by R.K.Bansal(Narosa Publications) 5.Some modern methods of synthesis by Carruthers (Cambridge).
6. G.A.Ozin, A.C. Arsenault ***Nano chemistry***, RSC.
7. Diwan, Bharadwaj, ***Nanocomposites***, Pentagon.
8. V.S.Muralidharan A.Subramania, ***Nanoscience and Technology,*** Ane Books.

M.Sc. FINAL YEAR CHEMISTRY (ORGANIC CHEMISTRY SPECIALIZATION)
SEMESITER III
PAPER – III : ALKALOIDS AND PHENOTHIAZINES (C3.3(O)-10)UNIT-I

ALKALOIDS:

UNIT-II

(1) Definition, nomenclature and physiological action – occurrence – isolation – general methods of structural elucidation – degradation – classification based on nitrogen heterocyclic ring –role of alkaloids in plants.
(2) Cinchona alkaloids : Cinchonine ,quinine, stereochemistry of cinchonine and quinine
(3) Isoquinoline alkaloids: Aporphines: Glaucine and dicentrine phthalide isoquinolines: Hydrastine and narcotine Protoberberines: Berberine and canadine Benzylisoquinoline: Coclawrine.

ISOQUINOLINE & MORPHINE GROUP ALKALOIDS:

(1) Ipecac alkaloids: Emetine, Stereochemistry of emetine.
(2) Morphine alkaloids: Morphine Thebaine Codeine – Stereochemistry of morphine alkaloids – some rearrangements of morphine alkaloids
(3) Biogenesis of alkaloids

UNIT-III

(1) Indole alkaloids : Reserpine, strychnine, brucine, physostigmine, lysergic acid, isolysergic acid, erogotamine and Ibogamine
(2) Structure, stereochemistry, synthesis and biosynthesis of Ephedrine, Conine and nicotine.

UNIT-IV

Phenothiazines:

(1) Classification , general methods of synthesis of phenothiazines – pharmacological properties of phenothaizines
(2) Dimethylamine series:Promazine and promethazine
(3) Piperazine series:Prochlorperazine and trifluoperazine
(4) Piperdine sereies: Thioriazine and mesoridiane

M.Sc. FINAL YEAR CHEMISTRY (ORGANIC CHEMISTRY SPECIALIZATION)
SEMESITER III
PAPER-IV: CHEMISTRY OF NATURAL PRODUCTS (C3.4(O)-10)

UNIT-I

Terpenoids: Classificaiton , sources , isolation, synthesis and stereochemistry with special reference to zingiberene, santonin, eudesmol, abietic acid., Biosynthesis of terpenoids
Flavnoids:Classificaiton,sources, isolation,chemistry and synthesis with special reference to quercetin and kampferol

UNIT-II

Steroid Hormones: Chemistry & synthesis of equilenine,oestrone,progestrone,androsterone, testosterone,cartisone. Non steroid hormones: Chemistry & synthesis of thyroxin, epinephrine and oxytocin

UNIT-III

Fat Soluble Vitamins:Chemistry,Synthesis & biosynthesis of vitamin A_1,vitamin E(α,β,γ,δ-tocopherols) and vitamin K Water soluble Vitamins:Chemistry,Synthesis and biosynthesis of B_1 and C

Chemistry of biomolecules

a) Enzymes : classification , kinetics and mechanism of enzyme action
b) Coenzymes and cofactors: NAD FAD folic acid citric acid cycle.
c) Prostaglandins with special reference to PGE and PGF

UNIT-IV

Naturally occuring insecticides: Introduction, general properties, sources, isolation,synthesis and stereochemistry of Pyrethrin I and II; Jasmolin I & II; Jasmolone and Cinerelone. Strucutre activity relation ship(SAR) studies and bio synthesis of pyrethrins Rotenoids – Chemistry and synthesis of rotenone

Isobutylamines: Chemistry and sysnthesis anacyclin,spilanthol Minor insecticides of plant origin: pachyrrhizin and custard-apple.

M.Sc. FINAL YEAR CHEMISTRY (ORGANIC CHEMISTRY SPECIALIZATION)

SEMESITER IV

PAPER – I: ORGANIC SPECTROSCOPY –II (C4.1(O)-10)

UNIT-I

(a) CMR spectroscopy – noise decoupled and offresonance spectra of simple Compounds – typical examples: of CMR spectroscopy – simple problems

UNIT-II

(a) Mass spectrometry : Introduction – determination of Molecular weight and formulae – Behavior of organic compounds in Mass spectrometer – fragmentation of typical organic compounds – stability of fragments – rearrangements – metastable peaks – Mass spectra of representative compounds and related problems.

UNIT-III

(a) 2D NMR spectroscopy – Definitions and importance of COSY DEPT HOMCOR HETCOR INADEQUATE INDOR INEPT NOESY HOM2DJ HET2DJ DQFCOSY – COSY of menthol DEPT of ethanol – study of simple organic compounds.

UNIT-IV

(a) Spectral characters and Structural elucidation of the following natural and synthetic compounds involving all the spectral data

1) 4',8-disubsituted Flavone 2) 4,4'-disubsituted chalcone 3) apigenin 4)Kaempferol 5)lawsone

6) nicotine 7) Di-subsituted phenanthrene 8) Di-substituted nalphthalene 9) camphor 10) Zingiberene

11) Equilenine 12) Progesterone

TEXT BOOKS:

1.Spectrometric identification of organic compounds by R.N.Silverstein & G.C.Bassier (John Willey) 2.Spectroscopic methods in Organic Chemistry by Williams and Fleming (McGraw Hill).

3. Organic photochemistry by R.O.Kan (Mc Graw Hill)
4. Advanced organic Chemistry Reaction Mechanisms and Structure by J March (Mc Graw Hill & Kogshusha) 5.Carbon-13 NMR Spectroscopy by J.B. Stothers.

M.Sc. FINAL YEAR CHEMISTRY (ORGANIC CHEMISTRY SPECIALIZATION)
SEMESITER IV
PAPER – II: ORGANIC SYNTHESIS, MECHANISMS AND GREEN CHEMISTRY (C4.2(O)-10)

UNIT-I: Formation of C-C single & double bonds and Diels–Aider & related reactions

Formation of C-C single bonds – enamines and related reactions – Formation of C-C double bonds – witting reaction of Phosphorus ylides – stereoselective synthesis of tri and tetra substituted alkenes.

Diels–Aider and related reactions –diene-dienophile, intra molecular Diels –Alder reactions, Stereochemistry and mechanism Retro Diels – Alder reaction –1,3-dipolar reactions.

UNIT-II:Synthetic applications of organoboranes and Organic synthesis by Disconnection approach.

Synthetic applications of organoboranes –protonolysis, oxidation, carbonylation Reaction of alkenylborane –

enantioselective synthesis of secondary alcohols from alkenes –organolithium compounds.

An introduction of synthons and synthetic equivalents, disconnection approach, functional group interconversions. One group, two group disconnections in simple molecules. Alcohols, Olefins, aryl ketones, α,β-Unsaturated compounds – 1,3 dicarbonyl compounds.

UNIT-III: Green Chemistry and Photochemistry

Green Chemistry: Introduction, Principles, examples of green reactions-synthesis of Ibuprofen, Clean Fischer-Indole synthesis comparison of the above with conventional methods. Introduction to Microwave organic synthesis, Applications: solvents (water and organic solvents), solvent free reactions (solid state reactions), multistep V/s single pot synthesis.

Photochemistry: Photochemistry of olefins–conjugated olefins–Aromatic compounds–isomerisation–additions. Photochemistry of carbonyl compounds – Norrish type I and II reactions –Paterno – Buchi Reaction. Photo reduction, Photochemical rearrangements – Photo Fries rearrangement, Di-π-methane rearrangement.

UNIT-IV: Pericyclic reactions

Pericyclic reactions: Definition, classification, MO theory, Electronic configuration in ground and first excited states of aliphatic conjugated polyene system(upto 4 double bonds).

Electrocyclic Reactions: Mechanism, stereochemistry, PMO, FMO, correlation diagram, Woodward Hoffman rules. **Cycloaddition Reactions**: FMO and correlation diagram methods-(2+2) and (4+2) cycloaddition reactions, stereochemistry. Woodward Hoffman rules.

Sigmatropic Rearrangement: classification, Mechanism by FMO method, Woodward Hoffman rules. Cope, claisen and Aza-cope rearrangements. Fluxional molecules.

SEMESITER IV

PAPER – III: ANITIBIOTICS AND DRUGS (C4.3(O)-10)

UNIT-I

Antibiotics:

(I) Cell wall biosynthesis, inhibitors, β-lactam rings, antibiotics inhibiting protein syntheis, synthesis of penicillin-G, penicillin-V, ampicillin, amoxicillin, chloramphenicol and cephalosporin

(II) Streptomycin, tetracyclins, terramycin, aureomycin, gramidin.

UNIT-II

Drugs and Medicinal chemistry:

(I) Chemotherapy : Methodology for structure – activity relationship determination.

(II) Drugs: Structure synthesis & Activity of the following : Anticancer Agents: Taxol, Vinblastine, Vincristine, Campothecin

UNIT-III

Chemotherapy of Brain: Introduction – neurotransmitters
CNS stimulants : Strychnine (CNS activity only) Picrotoxin nikethemide caffeine Nicotine
CNS depressants General anesthetics, mode of action of Sedatives & Hypnotics.

UNIT-IV

(I) Antimalarials: Paludrin – quinacrin – chloroquin – camoquin – pamaquin – sontoquine.

(II) Antiamoebic agents : Chiniofon – Resotren – Iodochlorohydroxyquin.

(III) Sulpha drugs: Sulphanilamide – Dihydrocurprine – Prontosil

(IV) Antiseptics: Diphenyl – Chlorophene-2,4,4-trichloro-2'-hydroxydiphenyl ether – aminocerine hydrochloride.

(V) Antifungal agents: 1,8 dihyrosxyanthranol – griseofulvin.

SEMESITER IV

PAPER- IV: TECHNIQUES FOR MODERN INDUSTRIAL APPLICATIONS. (C4.4(O)-10)

UNIT-I : Classical Methods of purification

1. **Recrystallization**: Basic principles, choice of solvent, seeding, filtration and centrifugation and drying. Industrial applications. Concepts of fractional crystallization.
2. **Distillation: Basic principles**. Distillation types- continuous distillation, batch distillation, fractional distillation, vacuum distillation and steam distillation. Industrial applications.
3. **Solvent extraction:** Basic priciples. Different types of extraction. Selection of solvents. Avoiding emulsion formation. Basic concepts on Soxhlet extraction. Industrial applications.

UNIT-II : Adsorption and Partition Chromatography

1. **Introduction to chromatography.** Different types of Chromatography. Adsorption chromatography- adsorbents, solvents, solutes, apparatus. Column Chromatography-stationary phase, Mobile phase, packing of column, advantages and disadvantages.
2. **Thin Layer chromatography:** Basic Principles. Common stationary phases, Methods of preparing TLC plates, Selection of mobile phase, Development of TLC plates, Visualization

methods, R_f value. Application of TLC in monitoring organic reactions. identification and quantitative analysis.

3. **Paper chromatography:** Basic Principles. Ascending and descending types. Selection of mobile phase, Development of chromatograms, Visualization methods. Application of paper chromatography in the identification of sugars and amino acids. One and two dimensional paper chromatography.

UNIT-III: Gas Chromatography and High Performance Liquid Chromatography

Gas chromatography: Basic Principles. Different types of GC techniques. Selection of columns and carrier gases. Instrumentation. detectors; RT values. Applications in the separation, identification and quantitative analysis of organic compounds.

High Performance liquid chromatography(HPLC): Basic Principles. Normal and reversed Phases. Selection of column and mobile phase. Instrumentation. detectors; RT values. Applications in the separation, identification and quantitative estimation of organic compounds. Concepts on HPLC method development.

UNIT-IV : Ion Excange Chromatography and Electrophoresis

1. **Ion exchange chromatography**: Basic Principles. Preparation of cross linked polystyrene resins. Different types of cation and anoin exchange resins. Application in the purification of carboxylic acids and amines.
2. **Electrophoresis:** Basic Principles. Capillary electrophoresis. Instrumentation, applications, zone- electrophoresis, gel-electrophoresis.

Principal
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TENALI - 522 202

JMJ COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

M.A. ENGLISH - SYLLABUS

I – SEMESTER

PAPER-I - STRUCTURE OF MODERN ENGLISH – I

UNIT- I

Phonetic transcription of One out of Two passages (a prose passage and one dialogue).

UNIT-II - PHONETICS & PHONOLOGY

(i) The Organs of Speech

(ii) Classification of Speech Sounds English – Vowels & Consonants

(iii) Consonant Clusters

UNIT – III - PHONETICS AND PHONOLOGY

(i) The Syllable

(ii) Word- Accent

(iii) Accent & Rhythm in Connected Speech

(iv) Intonation

UNIT – IV – INTRODUCTION TO LINGUISTICS

(i) Human Language and animal communication

(ii) Definition & Scope of Linguistics
(iii) Branches of Linguistics & Applied Linguistics
(iv) Traditional Approaches to language study

UNIT – V – INTRODUCTION TO LINGUISTICS

(i) Modern linguistics
(ii) Language Varieties: Dialect, Idiolect, Register and Style.
(iii) Notions of Correctness & Acceptability.

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PAPER – II - POETRY- I

UNIT – I

Middle English Period, Renaissance Humanism and Empiricism, Puritanism, Metaphysical conceits, Neoclassicism, Romantic Revival, Influence of French Revolution and Platonic Idealism,

Poetic forms: Epic, Mock-epic, Augustan Satire, Elegy, Lyric & Ode, Dramatic Monologue , Elegy

UNIT II

John Milton : Paradise Lost, Book I
Chaucer : Prologue to the Canterbury Tales

UNIT III

John Keats : Five Odes

UNIT IV

John Donne : "The Sun Rising", "The Ecstasy". "The Apparition", "The Anniversary".
Alexander Pope : "The Rape of the Lock"

UNIT V

William Wordsworth : Prelude Book 1,"Immortality Ode", "Tintern Abbey".
Robert Browning : "The Last Ride Together", "My Last Duchess", "Abt Vogler, "Rabbi Ben Ezra".

PAPER – III, DRAMA – I

UNIT – I

Comedy of Humours, The Revenge Play, Comedy of Manners, Political Satire,
Restoration drama, Sentimental drama, the Problem Play, Theatre of the Absurd, Drama of Ideas.

UNIT – II

Christopher Marlowe : Doctor Faustus

UNIT – III

Ben Jonson : Every Man in His Humour
William Congreve : The Way of the World

UNIT – IV

T. S. Eliot : Murder in the Cathedral

UNIT - V

George Bernard Shaw : Pygmalion

Harold Pinter : The Birthday Party

PAPER – IV - PROSE AND FICTION – I

UNIT – I

Elizabethan World View, Political Satire, Neo-classicism, Rise of the English Novel, Parody, Picaresque Novel, Socio-Economic conditions of women and their rights, Novel of Manners, The Historical novel, Romanticism, the Essay

UNIT II

Frances Bacon : Of Truth, Of Revenge, Of Adversity, Of Parents and Children, Of Marriage and Single life, Of Friendship, Of Youth and Age, Of Studies

Charles Lamb : From Essays of Elia , Dream Children , A Reverie, A Dissertation upon a Roast Pig , The Praise of Chimney Sweepers, On the Artificial Comedy of the Last Century

UNIT III

Jonathan Swift : The Battle of the Books

UNIT – IV

Jane Austen : Pride and Prejudice

Charles Dickens : David Copperfield

UNIT – V

Emile Bronte : Wuthering Heights

PAPER-V (a), (OPTIONAL) VICTORIAN AGE

UNIT – I

Socio-economic and cultural conditions of the period, Victorian compromise, Elegy, Dramatic Monologue, Novel of Social Realism, the Gothic novel, Victorian notions of Women and morality

UNIT –II

Alfred Lord Tennyson : In Memoriam (1 to 25 sections)

Robert Browning : “Andrea del Sarto”, “A Grammarian’s Funeral”

UNIT- III

Matthew Arnold : “The Scholar Gypsy”

John Ruskin : Unto This Last (Two Chapters)

UNIT -IV

Charlotte Bronte : A Tale of Two Cities

William Thackery : Vanity Fair

UNIT- V

George Eliot : Middlemarch

Charlotte Bronte : Jane Eyre

M.A. ENGLISH - SYLLABUS
II – SEMESTER
PAPER –I - STRUCTURE OF MODERN ENGLISH - II

UNIT – I

Grammar – Correction of Sentences (8 out of 12) from the chapters prescribed.

UNIT-II: GRAMMAR

1. Varieties of English
2. Elements of Grammar
3. Verbs and the Verb Phrase

UNIT – III : GRAMMAR

4. Nouns, pronouns and the basic noun phrase
5. Adjectives and Adverbs
6. Prepositions and prepositional phrases
7. The Simple Sentence

UNIT-IV: INTRODUCTION TO ENGLISH LANGUAGE TEACHING

(i) Fundamentals of Language Teaching: objectives, materials, methods, evaluation.
(ii) First language and second language.
(iii) Grammar Translation Method & Bilingual Method
(iv) Direct Method.

UNIT – V INTRODUCTION TO ENGLISH LANGUAGE TEACHING

(v) Structural Approach
(vi) Audio-lingual Method
(vii) Situational Language Teaching
(viii) Communicative Approach

PAPER – II, POETRY– II

UNIT - I

Modernism, Symbolism, Imagism, Irish Nationalism, Poetry of Disillusionment,
Poetry of the Thirties, Movement Poetry, Developments in Poetic Technique,
Influence of modern Psychology,

UNIT - II

W. B. Yeats : “Sailing to Byzantium”, “A Prayer for My Daughter”, “The Second Coming”, “Among School Children”.

UNIT - III

T. S. Eliot : The Waste Land

UNIT - IV

Dylan Thomas : The Force That Through the Green Fuse Drives the Flower”, “And Death Shall Have No Domain”, “Fern Hill”, “Do not Go Gentle into That

Good Night".

Thom Gunn : "In Santa Maria De Popoto", "Rites of Passge", "The Garden of the Gods", "Autobiography".

UNIT - V

Ted Hughes : "The Jaguar", "Thrushes", "Out", "Wodwo".

Seamus Heaney : "Death of a Naturalist", "Digging", "Peninsula", "Punishment".

PAPER – III, DRAMA – II - (SHAKESPEARE)

UNIT - I

Elizabethan World View, Elizabethan Theatre, Revenge play, Greek Tragedy, Shakespearean Tragedy, Comedy, Chronicle Plays, Romance

UNIT - II

Twelfth Night

UNIT – III

Julius Ceasar

UNIT – IV

Hamlet

UNIT - V

The Tempest

PAPER – IV - PROSE AND FICTION – II

Unit – I

Psychological novel, Stream of consciousness technique, Bloomsbury Group, Naturalism, Regional novel, Literature and Gender, Literature, Psychology & Psychoanalysis, Literature of Social Purpose, Spread of Education, Narrative technique, Novel of Ideas.

Unit - II

Mrs. Virginia Woolf : A Room of One's Own

Unit – III

Somerset Maugham : Six stories from Cosmopolitan

or

Thomas Hardy : The Mayor of Casterbridge

Unit – IV

Joseph Conrad : Heart of Darkness

D.H. Lawrence : Sons and Lovers

Unit - V

James Joyce : A Portrait of the Artist as a Young Man

PAPER –V (a), (OPTIONAL), NATIVE LITERATURES

UNIT – I

The social & cultural history of Native Americans and Australian aborigines, Myths of Native American Religion, Literary devices in Native American & Native Canadian literatures, the Existential problems of Natives/ Aborigines, the history of colonizing of Native Americans & First Nations in Canada & Aboriginal Australia, the contemporary cultural problems of Native Americans, first Nations of Canada & Aboriginal Australia.

UNIT – II

N. Scott Momaday : House Made Of Dawn
Louis Erdrich : Tracks

UNIT – III

Leslie Marmon Silko : Ceremony
Maria Campbell : Half Breed

UNIT – IV

Beatrice Culleton : In Search of April Raintree
Thomas King : Green Grass Running Water or Medicine River

UNIT – V

Mudrooroo : Wild Cat Screaming
Sally Morgan : My Place
(Or)
Oodgeroo (Kathwalker) : My People

M.A., (FINAL) III – SEMESTER
PAPER - I
LITERARY CRITICISM – I

UNIT I

Sydney : Apology for Poetry
Dryden : An Essay on Dramatic Poesy

UNIT II

Dr. Johnson : Preface to Shakespeare
Wordsworth : Preface to Lyrical Ballads

UNIT III

Coleridge : Biographia Literari (Chapters XIV, XV and Part of XVIII)
Matthew Arnold : The Function of Criticism & Touch Stone Method

UNIT IV

T.S. Eliot : Tradition and Individual Talent
I.A. Richards : i. “PseudoStatements”
ii. “Four Kinds of Meaning”

UNIT V

Cleanth Brooks : "Irony as a Principle of Structure"
William Empson : "The Seventh Type of Ambiguity"
Wayne C. Booth : The Rhetoric of Fiction

PAPER – II, COMMUNICATIVE ENGLISH – I

UNIT – I

Language and Communication:
Nature & Definition of Communication
Process of Communication - Participants, Message, Purpose/Channel, topic, context
Types of Communication: Personal or Intrapersonal, Interpersonal, Organizational, Mass Communication, Social Communication, Group Communication, Barriers in Communication.

UNIT – II

Verbal & Non-verbal Communication:
Language and Communication: sign language.
Language Functions: Greeting, apologizing, requesting, offering help, inviting, agreeing/disagreeing etc. Body-language.

UNIT – III

Language Skills:
Listening : Types of listening, Purpose of listening
Speaking : Distinguishing between problem speech sounds, stress & intonation, The art of Public speaking
Reading : Skimming, Scanning …etc.
Writing : Letters, Reports, Business Letters, Circulars, Announcements, Invitations, minutes writing for print media… etc.

UNIT – IV

Vocabulary in use : Word formation, Idioms & Phrases, Denotative & Connotative meaning, synonyms & Antonyms, One-word Substitutes, Spelling, Using words as different Parts of Speech, Contextual meaning.

UNIT – V

Functional Grammar: Basic sentence structures, Articles, Tenses, Prepositions, Concord, Number, Transformation of sentences, Active/Passive, Direct/Reported … etc.

PAPER - III, INDIAN WRITING IN ENGLISH-I

UNIT – I

Early Indo-Anglian poetry, Romantic poetry, Mysticism, Metaphysics, The rise of the Indian Novel in English, Impact of Freedom Movement, the Gandhian ethos, post – Independence poetry, Indian drama in English, Novel of propaganda, Social realism, Myth and folklore, the Philosophical novel, the Psychological novel.

UNIT – II

Sarojini Naidu : The Temple

Nissim Ezekiel : (i) "Poet, Lover, Bird Watcher", (ii) "Enterprise".

A.K. Ramanujan : (i) "Smallscale Reflections on a Great House", (ii) "A River".

R. Parthasarathy : "Home coming – Sections 1, 3 & 4.

UNIT – III

Ravindranath Tagore : Chitra

Girish Karnad : Hayavadana

UNIT – IV

Mulk Raj Anand : Coolie

R.K. Narayan : The Man-Eater of Malgudi.

UNIT – V

Anita Desai : Fire on the Mountain

Dr. B. R. Ambedkar : "Mahad Satyagraha not for water but to Establish Human Rights" and "Role of Dr. B. R. Ambedkar in Bringing Untouchable on them Political Horizon of India and Laying a Foundation of Indian Democracy"

PAPER – IV - AMERICAN LITERATURE – I

UNIT – I

Transcendentalism, Influence of Vedic Thought, Puritanism, Beginnings of the American Novel, The Frontier Experience, Mysticism, the Picaresque novel, Romanticism, Nationalism.

UNIT II

Walt Whitman : "Song of Myself" Selections from 1 to 5, and 17,20,43,51 and 52.

Emily Dickinson : 258, 303, 328, 341, 511, 640, 712.

UNIT III

R.W. Emerson : "The American Scholar", "Self Reliance"

UNIT IV

Henry David Thoreau : Walden

UNIT V

Mark Twain : Huckleberry Finn

OPTIONAL PAPER – V (a): COLONIAL/POST-COLONIAL LITERATURE – I

UNIT – I

Colonial rule and the destruction of native cultures, Reclamation of the African Past, African theatre, Theme of Exile in Caribbean Literature, Use of Myth and Landscape, Oral Idiom and Narrative Techniques.

UNIT – II

Raja Rao : Kanthapura.

UNIT – III

Chinua Achebe : Things Fall Apart

Wole Soyinka : A Dance of Forests

UNIT – IV

Ngugi : A Grain of Wheat

UNIT – V

V. S. Naipaul : A House for Mr. Biswas

Coetzee : Waiting for the Barbarians.

M.A., (Final) IV – SEMESTER
PAPER-I
LITERARY CRITICISM - II

UNIT- I

Peter Faulkner : Modernism

Tim Woods : Beginning Post Modernism (Chapter – 3)

Terry Eagleton : Towards A Science of the Text

Northrop Frve : Archetypes of Literature

UNIT-II

Frantz Fanon : The Wretched of the Earth (Chapter-3)

Edward Said : Orientalism (Introduction)

Genard Gennetie : Structuralism and Literary Criticism".

Jacques Derrida : Structure, Sign and Play in the Discourse of the Human Sciences.

Unit - III

Elaine Showalter : Towards a Feminist Poetics.

M.M. Bakhtin : Introduction to Dialogic Imagination

Lee Paterson : Historical Criticism and the Claims of Humanism.

Unit - IV

M. Hiriyanna : The Main Aspects of Indian Aesthetics

Arjun Dangle : Dalit Literature:Past, Present & Future

UNIT-V

Catherine Belsey : Towards Cultural History in Theory and Practice

Andrew Dix : Beginning Film Studies, Viva books,2010.

PAPER – II, COMMUNICATIVE ENGLISH – II

UNIT – I

a) Varieties of English – Register & Style – law, science, religion, advertising, journalism, sports.

b) Soft Skills.

UNIT – II

Reading Comprehension:

a) Coherence, Cohesion, Clause Analysis

b) Identifying writer's intention from the text.

c) Context, purpose & occasion, paragraph structure & development or elaboration.

UNIT – III

Oral Communication – Group discussions, debates, interviews,
Extempore speeches. The art of Public Speaking Seminars and Conferences, Audio-visual Aids, Technical Proposals, Telephone Communication Skills.

UNIT – IV

Written Communication & composition.
Types of writing: expository, descriptive, argumentative, imaginative, reporting, narrative. Autobiographical … etc.

UNIT – V

Literary English & Rhetoric.
Identifying the theme, register, tone, point of views, imagery, Prosody, allusions, style, direction, figures of speech … etc.

PAPER – III, INDIAN LITERATURE IN TRANSLATION

UNIT – I

Nationalist sentiment, Emergence of regional literatures, Social reform, Social Realism, Indian drama, Protest literature, Pragativada movement, Indian society and literature, Novel as Satire, Dramatic Technique, Reinterpretation of Myths, Drama for social purpose, Modernism

UNIT – II (POETRY)

Gurram Jashuva : "Graveyard", Sahitya Academy, New Delhi.
Bala Gangadhar Tilak : "Ambrosia Dripped" , " My Poesy"
Subrahmanya Bharati : "Phoenix" "Truth" "Deception"

UNIT – III

Badal Sarkar : Evam Indrajit

UNIT – IV

U.R. Ananta Murthy : Samskara, Translated by A.K. Ramanujan

UNIT – V

Premchand : Godan, Translated by Jai Ratan and P. Lal.
G.V. Krishna Rao : Puppets, Translated by Kesava Rao

PAPER- IV - AMERICAN LITERATURE – II

Unit – I

Nature Poetry, Imagism, Confessional Poetry, Feminist concerns, Modernism and Postmodernism, Theme of Alienation, Searching for Roots, Black Literature, Existentialism in drama, Absurd Drama, Realism and Naturalism, Expressionistic drama, Dramatic techniques,

Unit II

Wallace Stevens : i. "The Comedian as the Letter O' (First Part)

ii. “The Men that Are Falling”.
iii. “Sunday morning”
iv. “Of Modern Poetry”
v. “Peter Quince at the Clavier”

Robert Frost : “After Apple Picking” , “Road Not Taken” , “Birches”, “Stopping By Woods” , “Mending Wall”.

Unit III

Eugene O’ Neill : The Hairy Ape
Sylvia Plath : “Poppies in July”.

Unit IV

Edward Albee : Who’s Afraid of Virginia Woolf?
Arthur Miller : Death of a Salesman

Unit V

Ernest Hemingway : The Old Man and the Sea
William Faulkner : Light in August
Ralph Ellison : The Invisible Man

OPTIONAL PAPER – V (a): COLONIAL/POST-COLONIAL LITERATURE – II

UNIT – I

Racial oppression, Theme of Exile and Alienation, Black Women’s Writing, New Definitions of culture, Realism in Canadian Novel, Search for Identity, Cross Cultural Conflict, the Expatriate experience

UNIT – II

A.D.Hope : “Australia”
Judith Wright : “Fire at the Murdering Hut”; “Woman to Man”
Patrick White : Voss

UNIT – III

Margaret Laurence : The Stone Angel.
Jean Rhys : Wide Sargasso Sea.

UNIT – IV

Nadine Gordimer : July’s People.

UNIT – V

Douglas Stewart : Ned Kelly
Athol Fugard : The Blood Knot.

JMJ COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

M.Sc MATHEMATICS
I Year, I Semester
M 101: ALGEBRA

Unit-I:

Group theory: Definition of a Group - Some Examples of Groups - Some Preliminary Lemmas - Subgroups - A Counting Principle - Normal Subgroups and Quotient Groups - Homomorphisms - Automorphisms - Cayley's theorem - Permutation groups.
(2.1 to 2.10 of the prescribed book [1])

Unit-II

Group Theory Continued: Another counting principle - Sylow's theorem – direct products - finite abelian groups (2.11 to 2.14 of the prescribed book [1])

Unit-III

Ring Theory: Definitions and Examples of Rings - some special classes of rings - Homomorphisms - Ideals and quotient Rings - More Ideals and quotient Rings - The field of quotients of an Integral domain - Euclidean rings - A particular Euclidean ring.
(3.1 to 3.8 of the prescribed book [l])

Unit-IV

Ring Theory Continued: Polynomial Rings - Polynomials over the rational field - Polynomial Rings over Commutative Rings (3.9 to 3.11 of the Prescribed book [l]). Vector Spaces: Elementary Basic Concepts - Linear Independence and Bases - Dual spaces (4.1 to 4.3 of the prescribed book [1]).

M 102-ANALYSIS-I

UNIT-I

Continuity: Limits of functions, continuous functions, Continuity and Compactness, continuity and connectedness. Discontinuities, Monotone functions, Infinite limitsand limits at infinity(4.1 to 4.34 of chapter 4)

UNIT-II

Differentiation: Derivative of a real function ,Mean value theorems, The continuity of derivatives, L' Hospital' s rule. Derivatives of higher Order, Taylor' s theorem, differentiation of vector valued functions. (5.1to 5.19 of chapter5)

UNIT-III

Riemann Stieltjes Integral: Definition and Existence of the Integral , Properties of the Integral , Integration and diffentiation, Integration of vector valued functions. Rectifiable curves. (6.1 to 6.27 of chapter 6)

UNIT-IV

Sequences and series of functions: Discussion of main problem, Uniform convergence, Uniform convergence and Continuity, Uniform convergence and Integration, Uniform Convergence and Differentiation. (7.1 to 7.18 of chapter7)

M 103 (NR) :: DIFFERENTIAL EQUATIONS

UNIT-I

Linear equations of the first order: Linear equations of the first order – The equation $y^1+ay = 0$ – The equation $y^1 + ay = b(x)$ - The general linear equation of the first order.
(Chapter 1 of Coddington).

Linear Equations with constant co-efficients: Introduction - The second order. homogeneous equation – Initial value problems for the second order equations – Linear dependence and independence – A formula for the Wronskian – The non-homogeneous equation of order two – The homogeneous equation of order n – Initial value problems for n-th order equations. (Sections 1 to 8 in Chapter 2 of Coddington).

UNIT – II

Linear Equations with Variable Co-efficients: Introduction – Initial value problems for the homogeneous equation – Solutions of the homogeneous equation – The Wronskian and linear independence – Reduction of the order of a homogeneous equation – The non-homogeneous equation – Homogeneous equations with analytic coefficients. (Sections 1 to 7 in Chapter 3 of Coddington).

UNIT – III

Linear Equations with Regular Singular Points: Introduction – The Euler equation – Second ordre equations with regular singular points –Second order equations with regular singular points – A convergence proof - The exceptional cases – The Bessel equation. (Sections 1 to 7 in Chapter 4 of Coddington).

UNIT- IV

Existence and Uniqueness of Solutions to First Order Equations: Introduction – Equation with variables separated – Exact equations – The method of successive approximations – The Lipschitz condition – Convergence of the successive approximations – Non-local existence of soltutions.(Sections 1 to 7 in Chapter 5 of Coddington).

M 104 – TOPOLOGY

UNIT-I

Metric Spaces: Definition and some examples, Open sets, Closed sets, Covergence, completencess and Baire's theorem, Continuous mappings. (Sections 9 to 13 of chapter 2)

UNIT-II

Topological spaces : The Definition and some examples , Elementary Concepts, Open bases and open subbases, Weak topologies. (Sections 16 to 19 of chapter 3)

UNIT-III

Compactness: Compact spaces, Products of spaces, Tychonoff's theorem and locally compact spaces, Compactness for metric spaces, Ascolli's theorem. (Sections 21 to 25 of chapter 4)

UNIT-IV

Separation: T_1 –spaces and Hausdorff spaces , Completely regular spaces, and normal spaces,Urysohn'sLemma and the Tietze extension theorem,The Urysohn imbedding theorem, Connected spaces, The components of a space (Sections 26 to 29 of chapter 5 and sections 31 and 32 of chapter6)

M 105 – ADVANCED DISCRETE MATHEMATICS.

UNIT –I

Logic : Computer Representation of Sets, Mathematical inductor Matrices, Logic, Tautology , Normal Forms, Logical Inferences , Predicate Logic, Universal Quantifiers, Rules of Inference (reference Chapter 1 of the reference book[3])

UNIT –II

Finite machines : Introduction , state tables and diagrams, simple properties ,Dynamics and behavior (refer Chapter 5 of the reference book[1])

UNIT – III

Properties and Examples of lattices, Distributive lattices , Boolean polynomials. (Sections 1 to 4 of Chapter 1 of [2]).

UNIT –IV

Ideals , filters and equations, Minimal forms of Boolean polynomials ,application of lattices applications of switching circuits.(Sections 5,6 of Chapter -1 and Sections 7 and 8 of Chapter -2 of [2]).

Note: For units –III and IV, the material of pages 1 to 66 of [2] is to be covered)

SEMESTER – II
M201-GALOIS THEORY

UNIT-I

Algebraic extensions of fields; Irreducible polynomials and Eisenstein's criterion Adjunction of roots. Algebraic extensions.Algebraically closed fields. (Chapter15 of the orescribed text book)

UNIT-II

Normal and separable extensions; Splitting fields, Normal extensions, multiple roots, Finite fields, Separable extensions
(Chapter16of the prescribed text book)

UNIT-III

Galois Theory : Automorphism groups and fixed fields. Fundamental theorem of Galois theory , Fundamental theorem of Algebra (Chapter 17 of the prescribed
text book)

UNIT-IV

Applications of Galois theory to classical problems: Roots of unity and cyclotomic polynomials, Cyclic extensions, Polynomials solvable by radicals,
Symmetric (Chapter 18 of the prescribed text book)

M 202 –ANALYSIS-II

UNIT-I

Equicontinuous family of functions, Weierstrass theorem and stone's generalization, power series (7.19 to 7.33 of Chapter 7& 8.1 to 8.5 of Chapter8)

UNIT-II

Exponential & logarithmic functions, Trigonometric functions , Linear Transformations , Differentiation ,Contraction principle .(8.6, 8.7 of Chapter8
And 9.1 to 9.23 of Chapter 9)

UNIT-III

Inverse function theorem, Implicit function theorem, determinants, derivatives of higher order and differentiation of integrals.
(9.24 to 9.29 and 9.33 to 9.43 of Chapter 9)

UNIT-IV

Integration of differential forms: Integration, Primitive mappings, partitions of unity change of variables, differential forms (10.1 to 10.25 of Chapter10).

M 203- MEASURE AND INTEGRATION

UNIT-I

Lebesgue Measure: Introduction, outer measure , Measurable sets and Lebesgue measure, A nonmeasurable sets, Measurable functions , Littlewoods's three principles (Chapter 3)

UNIT-II

The Lebesgue integral: The Riemann Integral, The Lebesgue integral of a Bounded function over a set of finite measure, the integral of a non- negative function. The general Lebesgue Integral, Differentiation of monotone functions, functions of bounded variation, differentiation of an integral, absolute continuity.
(4.1 to 4.4 of Chapter 4 & 5.1 to 5.4 of Chapter 5).

UNIT-III

Measure and Integration: Measure spaces, Measurable functions, Integration, General Convergence theorems, Signed Measures, The Radon- Nikodym theorem. (11.1 to 11.6 of Chapter 11)

UNIT-IV

Measure and outer measure: Outer Measure and Measurability, The Extension theorem, product measures (12.1, 12.2 & 12.4 of Chapter12).

PAPER - M.204: COMPUTER ORIENTED NUMERICAL METHODS

UNIT-I

C Programming
C Charcter set, Identifiers and key words, declaration statement date types, variables and constants, structure of C program.
(1.4, 1.5, 1.6, 1.7, 1.11 &1.12 of Ajay Mittal).
Expressions, simple expressions and compound expressions, classification of operations.
(2.2, 2.3 &2.4 of Ajay Mittal).
Statements, classification of statements.
(3.2& 3.3 of Ajay Mittal)
Single dimensional arrays, Multidimensional arrays
(4.3 & 4.6.1 of Ajay Mittal)
Functions, classification of functions
(5.2 &5.3 of Ajay Mittal)

UNIT-II

Interpolation and Approximation: Introduction, Lagrange and Newton Interpolations,

Finite difference Operators, Interpolating polynomials using finite differences, Hermite interpolations.
(Section 4.1 to 4.5 of [2]).

UNIT-III

Numerical Differentiation and Integration: Introduction, Numerical Integration, Methods based on interpolation, Methods based On Undetermined Coefficients, Composite Integration Methods
(Sections 5.1, 5.6, 5.7, 5.8 &5.9 of [2])

UNIT – IV

Ordinary Differential Equations: Introduction Numerical methods, Single step Methods, Multi step methods
(Sections 6.1 to 6.4 of [2]).

M 205- GRAPH THEORY

UNIT-I

Paths and circuits: Isomorphism, Subgraphs , a puzzle with multi colored cubes. walks , Paths and Circuits, connected graphs , Disconnected graphs, Components, Euler graphs , Operations on graphs, More on Euler graphs ,Hamiltonian paths and circuits, Travelling – Salesman Problem (Chapter 2 of the reference book).

UNIT-II

Trees and Fundamental Circuits: Trees , some properties of trees , pendant Vertices in a tree, distances and centers in a tree, rooted and binary trees, on Counting trees, spanning trees, fundamental circuits, finding all spanning trees of a graph , spanning trees in a weighted Graphs. (Chapter 3 of the reference book.)

UNIT-III

Cut sets and Cut –vertices: Cut sets, All cut sets in a graph , Fundamental circuits and cut sets, connectivity and separability, network flows, one-isomorphism, two- isomorphism's. (Chapter 4 of the reference book.)

UNIT-IV

Planar and dual graphs: Combinatorial Vs Geometric graphs , Planer graphs, Kuratowski's two graphs , Different representations of a planar graph , Detection of planarity, Geometric dual .[Sections 1 to 6 of Chapter 5)

Vector spaces of a graph: Sets with one operation , Sets with two operations, Modular arithmetic and Galois field, Vectors and Vector spaces, Vector space associated with a graph , Basis vectors of graph . (Sections 1 to 6 of Chapter 6)

SEMESTER-III

M 301 –RINGS AND MODULES

UNIT-I

Rings and related algebraic systems, subrings, homomorphisms, ideals. (Sections1.1,1.2 of chapter -1)

UNIT-II

Modules, direct products and directsums, classical isomorphism theorems. (Sections 1.3,1.4 of chapter-1)

UNIT-III

Prime ideals in commutative rings , prime ideals in special commutative rings. (Sections 2.1,2.2 of Chapter 2)

UNIT-IV

The complete ring of quotients of a commutative ring, Ring of quotients of Commutative semi prime rings , prime ideal spaces. (Sections 2.3,2.4,2.5 of Chapter2)

M.Sc. MATHEMATICS, III Semester, Paper – II, (Paper Code: M. 302 (NR)
(With effect from the batch of students admitted during 2014-2015)
M-302- COMPLEX ANALYSIS - (NR)

UNIT-I

Sums and products, basic algebraic properties, further properties, vectors and moduli, complex conjugates, exponential form, products and powers in exponential form, arguments of products and quotients - Roots of complex numbers- examples - Regions in the complex plane.

(Sections 1 to 11 of Text Book) (Questions not to be given in Sections 1 to 11)

Functions of complex variable, mappings, mappings by the exponential function, limits, Theorems on limits – limits involving the point at infinity continuity, derivatives, Differentiation formulas - Cauchy-Riemann equations, sufficient conditions for differentiability, polar co-ordinates. Analytic functions, Harmonic functions,Uniquely determined Analytical functions,Reflection principle.

(Sections 12 to 28 of Text Book)

UNIT-II

The exponential function, the logarithmic functions, branches and derivatives of logarithms, contours, contour integrals, Some examples – Examples with branch cuts - upper bounds for moduli of contour integrals, anti-derivatives, Proof of the theorem (45), Cauchy-Goursat theorem,proof of the theorem(47), simply connected domains, multiply connected domains. Cauchy integral formula, An extension of the Cauchy integral formula – Some consequences of the extension.

(Sections 29 to 31 & 39 to 52 of Text Book)

UNIT-III

Liouvelli's theorem and the fundamental theorem of Algebra, maximum modulus principle.Convergence of sequences, convergence of series, Taylor series, Laurent series, absolute and uniform convergence of power series, continuity of sums of power series, integration and differentiation of power series, uniqueness of series representations,

(**Sections 53—66 of text book)**

UNIT-IV

Isolated singular points , Residues, Cauchy residue theorem, Residue at infinity -The three types of isolated singular points, Residues at poles , Examples,zeros of analytic functions, zeros and poles, behavior of a function near isolated singular points.Evaluation of improper integrals, Example – Improper integrals from Fourier analysis , Jordan's Lemma , definite integrals involving Sines and Cosines, Argument Principle, Rouche's Theorem.

(Sections 68 to 81 and 85 to 87 of text book)

Text Book:

Complex Variables and Applications , James Ward Brown, Ruel V. Churchill, Mc Graw Hill, Eighth Edition, 2009.

Reference Books:

Complex Variables, H. Silvermen
Complex Variables by H.S.Kasana,Prentice Hall of India
Complex Variables by Murrey Rspiegel, Scheam's Outline series.

M 303 – FUNCTIONAL ANALYSIS

UNIT-I

Review of properties of Metric spaces (Chapter-1) Normed spaces Examples, Basic properties-Finite dimensional normed spaces- compactness and finite Dimensions. (2.1 to 2.5 of Chapter 2)

UNIT-II

Linear operators –Bounded Linear functional Finite dimensional case – Duality Banach's fixed point theorem – Applications to linear equations and differential Equations (2.6 to 2.10 of Chapter 2 and 5.1 to 5.3 of Chapter5)

UNIT-III

Hann Banach theorem – Applications to bounded linear functonals of C [a, b] Adjoint reflexivity –(4.1 to 4.6 of Chapter 4)

UNIT- IV

Uniform boundedness principles – Convergence of sequences of operators and functionals – open mapping theorem – closed graph theorem (Sections 4.7,4.8,4.9,4.12 and 4.13 of Chapter 4).

M 304 (A) - FUZZYSETS AND THEIR APPLICATIONS

UNIT-1

From Classical (Crisp) sets to fuzzy sets:- Introduction - Crispsets: An overview - Fuzzyset: Basic types - Fuzzy sets. Basic Concepts - Characteristics and significance of the paradign shift (CH-1 of (l)). Fuzzysets versus Crisp sets - Additional Properties of a-cuts- Representations of Fuzzysets - Extension principle for Fuzzysets (CH-2 of (l)).

UNIT – II

Operations on Fuzzysets - Types of Operations - Fuzzy Compliments - Fuzzy Inter sections: t-norms - Fuzzy unions: t-Conorms - Combinations of operations -Agreegation Operations (CH-3 of (l)).

UNIT- III

Fuzzy Arithmetic - Fuzzy Numbers - Linguistic Variables - Arithmetic Operations on Intervals - Arithmetic Operations on Fuzzy numbers - Lattice of fuzzy numbers -Fuzzy equations (CH-4 of (l)).

UNIT-IV

Fuzzy Relations - Crisp versus fuzzy relations - Projections and Cylindric Extensions - Binary Fuzzy Relations - Binary Relations and Singleset - Fuzzy Equivalence Relations - Binary Relations on a single set - Fuzzy Equivalence Relations - Fuzzy Compatibility Relations - Fuzzy Ordering Relations - Fuzzy Morphisoms - Sup-Compositions of Fuzzy Relations - Inf- μ_i Compositions of fuzzy Relations, (CH-5 of (I)).

M 305 LINEAR PROGRAMMING

UNIT – I

Mathematical Back ground : Lines and hyper planes: Convex sets, convex sets and Hyper planes , convex cones. [Sections 2.19 to 2.22 of Chapter 2of [1]].

Theory of the simplex method **:** restatement of the problem, slack and surplus Variables , reduction of any feasible solution to a basic feasible solution , some definitions and notations ,improving a basic feasible solution, unbounded solutions, optimality conditions alternative optima , Extreme points and basic feasible solutions. [Sections 3.1,3.2,3.4 to 3.10 of Chapter 3 of [1]]

UNIT –II

Detailed development and Computational aspects of the simplex method, The Simplex method , selection of the vector to enter the basis ,degeneracy and breaking ties further development of the transportation formulas , the initial basic feasible solution –artificial variables, Tableau format for simplex computations ,use of the tableau format, conversion of a minimization problem to a maximization problem,Review of the simplex method , illustrative examples. [Sections 4.1 to 4.5 ,4.7 to 4.11 of Chapter 4 of [1]].

UNIT –III

Transportation problems: Introduction ,properties of the matrix A: the simplex Method and transportation problems , simplifications resulting from all Yijαβ = ± 1or0, Stone algorithm, determination of an initial basic feasible solution, alternative procedure for computing z ij –c ij; duality. [Sections 9.1 to 9.7 ;9.10 to 9.11 of Chapter 9of [1]].

UNIT –IV

The assignment problem : Introduction ;description and mathematical statement of the problem ;Solution using the Hungarian method ;the relationship between transportation and assignment problems; further treatment of the assignment problem ;the bottle neck assignment problem. [Sections 6.1 to6.6 of Chapter-6of [2]

SEMESTER- IV
M 401 – NON COMMUTATIVE RINGS

UNIT -I

Primitive Rings, radicals completely reducible modules. [Sections 3.1,3.2 ,3.3 of Chapter 3]

UNIT – II

Completely reducible rings, Artinian and Noetherian rings, on lifting idempotents, local and semi perfect rings. [Sections 3.4, 3.5, 3.6, 3.7 of Chapter 3]

UNIT – III

Projective modules , Injective modules , the complete ring of quotients, rings of endomorphism's of injective modules.[Sections 4.1,4.2,4.3,4.4of Chapter 4]

UNIT –IV

Tensor products of modules, Hom and functors exact sequences. [Sections 5.1,5.2,5.3 of Chapter 5]

M 402 – PARTIAL DIFFERENTIAL EQUATIONS

UNIT-I

First Order Partial Differential equations. Curver and Surfaces, Genesis of first order partial differential equations, Classification of integrals, linear equations of the first order, Partial Differential equations. Compatible systems. Charpit's method. Differntial equations. Integral surfaces through a given curve. (Sections 1.1 to 1.9 of Chapter 1 of [1]).

UNIT-II

Second order Partial differential Equations. Genesis of Second Order Partial Differential Equations. Classification of Second Order Partial differential equations. One Dimensional Waves equations. Vibrations of an infinite string.Vibrations of a semi infinite string. Vibrations of a string of Finite Length , Riemann's Method vibratons of a string of finite length (method of separation of variables.)
(Sections 2.1 to 2.3.5 of Chapter 2 of [1]).

UNIT-III

Laplaces Equations . Boundary value problems and minimum principles, The Cauchy problem. The Dirichlet problem for the upper Half plane. The Neumann problem for the upper Half plane, the Dirichlet Interior problem for a circle. The dirichlet exterior problem for a circle. The Dirichlet problem for a Rectangle Harnacks Theorem.(Sections 2.4.1 to 2.4.10 of Chapter 2 if [1]).

UNIT-IV

Laplaces Equation – Green's Function. The Dirichlet problem for a Half plane.The Dirichlet problem for a circle, Heat conduction- infinite rod case, Heat conduction –Finite rod case, Duhamel's principle , Wave equation,Heat conduction equation. (Sections 2.4.11 to 2.4.13 , 2.5.1,2.5.2,2.6.1,2.6.2 of Chapter 2 or [1]).

PAPER - M 403 : NEAR-RINGS M 403(NR)

UNIT-I

The Elementary Theory of Near-Rings.

(a) Fundamental definitions and properties
   1. Near-rings.,
   2. N-groups.
   3. Substructures,
   4. Homomorphisms and Ideal-like concepts
   5. Annihilators
   6. Generated objects. .

(b) Constructions:
   1. Products, direct sums and subdirect products.

(c) Embeddings
   1. Embedding in M (Γ)

UNIT-II

Ideal Theory:

(a) Sums

1. Sums and direct sums
2. Distributive sums.

(b) Chain conditions
(c) Decomposition theorems
(d) Prime ideals
1. Products of subsets
2. Prime ideals
3. Semi prime ideals

(e) Nil and nilpotent.

UNIT-III

Structure Theory:
Elements of the structure theory

a) Types of N-groups
b) Change of the near-ring
c) Modularity
d) Quasi-regularity
e) Idempotents

UNIT-IV

Primitive Near-Rings

a) General.
1. Definitions and elementary results
2. The centralizer
3. Independence and density

b) 0-Primitive near-rings
c) 1-Primitive near-rings
d) 2-Primitive near-rings
1. 2-Primitive near-rings
2. 2-primitive near-rings with identity.

Prescribed Book:

Near-Rings, The Theory and its Applications by Gunter Pilz, North-Holland Publishing Company, AMSTERDAM, Revised Edition 1983.

M 404(A) – ALGEBRAIC CODING THEORY

UNIT –I

Introduction to Coding Theory: Introduction, Basic assumptions correcting and Detecting error patterns, Information Rate , The Effects of error Correction and Detection, finding the most likely codeword transmitted some basic algebra, Weight and Distance , Maximum likelihood decoding Reliability of MLD , error detecting Codes, error – correcting Codes. (Chapter 1)

UNIT – II

Linear Codes : Linear Codes , Two important subspaces , Independence, Basis, Dimension, Matrices, Bases for C= <S> and C , Generating Matrices and Encoding , Parity – Check Matrices, Equivalent Codes, Distance of a Linear Code , Cosets, MLD for Linear Codes, Reliability of IMLD for Linear Codes. (Chapter 2)

UNIT – III

Perfect and Related Codes: Some bounds for Code , Perfect Codes , Hamming Codes , Extended Codes , The extended Golay Code , Decoding of the extended Golay Code , the Golay code , Reed – Mullar Codes, Fast decoding for RM (1,m). (Chapter 3)

UNIT –IV

Cyclic Linear Codes : Polynomials and Words , Introduction to Cyclic codes, Polynomials encoding and decoding , Finding Cyclic Codes, Dual Cyclic Codes. (Chapter 4)

M 405 (B) – OPERATIONS RESEARCH

UNIT –I

Further Discussion of the simplex method: Further discussion ; the two phase Method for artificial variables ; phase-I; Phase-II; Numerical examples of the two phase method. [Sections 5.1 to 5.4 of Chapter -5 of [1]]

UNIT –II

Duality theory and its Ramifications: Alternative formulations of linear programming problems; Dual linear programming problems ;Fundamental properties of dual problems; other formulations of dual problems; unbounded solution in the primal; the dual simplex algorithm –an example. Post optimality problems, changing the price vector, changing the requirements vector, adding variables or constraints
[Sections 8.1 to 8.7;8.10 of Chapter 8 and 11.2 to 11.5 Chapter 11 of [1]).

UNIT –III

The Revised simplex method: Introduction ;Revised simplex method-standard form I; computational procedure for standard form I; Revised simplex method- Standard form II; computational procedure for standard form II; Initial identity matrix for phase –I ; comparison of the simplex method and Revised simplex method.
[Sections 7.1 to 7.6 ;7.8 of Chapter 7 of[1]).

UNIT –IV

Game theory: Game theory and Linear programming ;Introduction ;reduction of a game to a linear programming problem; conversion of a linear programming problem to a game problem.

Integer programming: Introduction; Gomory's cut, Balas Implicit Enumeration technique. Goal programming [Sections 11.2 to 11.14 of Chapter 11 of [1] and Sections 7.1,7.2and 7.4 of Chapter 7 and Section 10.3 ofChapter10 of[2]).

TEXT BOOKS:

[1] G.Hadley " Linear programming" Addison Wesley Publishing Company.
[2] Benjamin Lev and Howard J. Weiss " Introduction to Mathematical Programming" Edward Arnold Pub, London, 1982.

I Semester:

CM 1.1 : Business Management
CM 1.2 : Business Environment & Legislation
CM 1.3 : Business Economics
CM 1.4 : Quantitative Techniques for Business Decisions
CM 1.5 : Information Technology for Business (Revised)
CM 1.6 : Entrepreneurship Development

II Semester:

CM 2.1 : E - Commerce
CM 2.2 : Financial Accounting and Packages
CM 2.3 : Research Methodology & Business Analytics
CM 2.4 : Financial Management
CM 2.5 : Marketing Management
CM 2.6 : Human Resources Management

III Semester:

Group A: **(Accounting, Auditing & Taxation)**

CM 3.1(A) : Advanced Cost Accounting
CM 3.2 (A): Advanced Management Accounting
CM 3.3 (A): Auditing and Assurance
CM 3.4(A) : Advanced Auditing
CM 3.5 (A): Direct Taxes
CM 3.6(A): Indirect Taxes – I (Revised)

IV Semester:

Group A: **(Accounting, Auditing & Taxation)**

CM 4.1 (A): Financial Reporting
CM 4.2 (A): Strategic Financial Management
CM 4.3 (A): Information System Control and Audit
CM 4.4 (A): Advanced Auditing and Professional Ethics
CM 4.5 (A): Indirect Taxes – II
CM 4.6 (A): Corporate Tax Law and Planning

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JMJ COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

CERTIFICATE COURSES

Tailoring course

Classes

1. Drafting
2. Cutting
3. Stitching
4. Presentation Total:30Hrs

Materials needed:

1. Threads:-white, black, green
2. Needle:- small, big
3. Scissors
4. News paper
5. Measuring tape
6. Measuring scale
7. Milton chalk for marking
8. A file
9. Gum bottle
10. Cloth for stitching

Cutting &stitching

A.Basic stitches

Hemming	loops stitching	
Pletes stitching	running stitching	
Hooks stitching	back stitching	
Button stitching	Frills stitching	10Hrs

B.Baby items

Napkins	Pyjama	
Jubbas	Shameej	
Bed mat	Baby frok	
Night wear	Baby suit	10Hr

C.ladies item

Blouse	Chudidar	
Petticoat	Salwar	
Kurta	Saree fall	10Hr

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COP-CERTIFICATE COURSE
MULTIMEDIA- ADOBE PHOTOSHOP- SYLLABUS

UNIT 1: GraphicsBasics

1. Color/BitDepthandImageResolution
2. GraphicFileFormats
3. PixelResizevs.SmartResize
4. Opacity

UNIT 2: IntroductiontoColor

1. Colormodes-RGB,CMYK,Grayscale,LAB,Bitmap
2. Hue,Saturation,andBrightness
3. Shadows,HighlightsandMidtonesofanimage

UNIT 3: PhotoShopInterface, Tools and Options

1. AboutPhotoshop
2. ThePhotoshopInterface
3. Settingupa newPhotoshopdocument
4. Savinganewdocument
5. TheDefaultPalettes
6. WorkingwithPhotoshopPalettes
7. ThePhotoshopToolboxandOptionsbar
8. UsingGuidesandRuler

UNIT 4: PhotoshopImageandColorBasics

1. Supportedimportand exportimageformats
2. OpeninganImageinPhotoshop
3. CreatingImagesInPhotoshop
4. SavingImagesInPhotoshop
5. BasicImageEditing
6. ChangingImageSize
7. CroppinganImage
8. ChangingColor/BitDepth
9. OptimizingImagesusingSavefor Web
10. WorkingwithColorinPhotoshop

UNIT 5: PhotoshopTools

1. PartsoftheToolbox
2. ToolboxShortcuts
3. ToolsOptions
4. Marquees
5. Magicwand
6. Lassos
7. Movetool
8. Croptool
9. Slicetools
10. Pencil
11. Paintbrush
12. Erasertools
13. Historybrushes
14. Clonetamp-Patternstamp
15. Healingbrushtool
16. Retouchtool
17. Gradient
18. Paintbucket
19. Burn-Dodge-Sponge
20. Blur-Sharpen-Smudge
21. Shapes-line-rectangle-polygon-customshapes
22. Pathselectiontool
23. Pentool
24. Typetools
25. Notestool-Audioannotation
26. Eyedropper-Colorsampler-Measuretool

27. Hand-Zoom
28. Quickmask-Screenmodes
29. JumptoImageReady
30. BackgroundandForeground.

Blue Print

Units	Unit I	Unit II	Unit III	Unit IV	Unit V
No. of Questions (10 Marks)	2	2	2	2	2

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COP-CERTIFICATE COURSE
Web Technologies- SYLLABUS

UNIT 1

HTML Basics

Introduction: HTML, XML, and the World Wide Web.

HTML: Basic HTML , The Document body ,text ,hyperlinks ,adding more formatting, lists , Tables ,using colors and images ,images.

UNIT 2

More HTML : Multimedia objects ,frames ,forms-towards interactivity ,The HTML document head in detail ,XHTML-an evolutionary markup.

Cascading style sheets: Introduction, Using styles: Simple examples, Defining your own styles, properties and values in styles, Styles sheets-A worked example, Formatting blocks of information ,Layers.

UNIT 3

An introduction to java script: what is dynamic html, java script, javascript- the basics, variables, string manipulation, mathematical functions, statements, operators, arrays, functions.

UNIT 4

Objects in java script: data and objects in java script, regular expressions, exception handling, built in objects, events.

UNIT 5

Dynamic HTML with java script: data validation, opening a new window, messages and confirmations, the status bar, writing to a different frame, rollover buttons, moving images, multiple pages in a single download, A text-only menu system, floating logos.

Blue Print

Units	Unit I	Unit II	Unit III	Unit IV	Unit V
No. of Questions (10 Marks)	2	2	2	2	2

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CERTIFICATE COURSE
SYLLABUS FOR TALLY-ERP 9

UNIT-I:

MANUAL ACCOUNTING

- Need for Accounting
- Types of Accounts
- Rules of Debit and Credit
- Accounting Principles
- Journal & Ledger
- Trial balance
- Final accounts
- Balance sheet & Adjustment entries

UNIT-II:

Tally 5.4

- An Introduction
- Starting Tally
- Main parts of Tally main screen
- Creating a company and starting accounts
- Selecting a company
- Shutting a company
- Working on active company
- Gateway of Tally main menu accounting features
- Inventory features

UNIT-III:

Using tally 5.4

- Maters-accounts information
- Current assets and liability
- Fixed assets
- Investments loans
- Create a new group
- Create a new primary group master configurations
- Accounts
- Masters inventory masters

UNIT-IV:

Ledgers

- Multiple Ledgers
- Cost categories and cost centers
- Voucher types
- Inventory Information
- Stock Categorie

UNIT-V

Practicing in Tally 5.4

- Voucher entry

Inventory Vouchers
Viewing Reports
Accounts reports
Profit and loss accounts
Stock summary
Trail Balance
Statements of Accounts
Inventory books
Cash flow
Day book

Prescribed Text Books:

Accounts by Tally- Lalitha B.Singh
Vishnu B.Singh

Reference Books:

Implementing Tally 5.4- K.K.Nadhani

Blue Print

Units	Unit I	Unit II	Unit III	Unit IV	Unit V
No. of Questions (10 Marks)	2	2	2	2	2

Lab Cycle for Tally-ERP 9

Max Marks: 70M

1. Demonstration on Company creation with Bank Reconciliation statement
2. Demonstration on Security control
3. Demonstration on Stock Journal
4. Demonstration on ales Invoice
5. Demonstration on company creation with two partners
6. Demonstration on company creation with security control
7. Demonstration on Stock categories
8. Demonstration on Viewing reports
9. Demonstration on Accounts reports
10. Demonstration on Profit and loss accounts
11. Demonstration on Stock summary
12. Demonstration on Trail balance
13. Demonstration on Statements of Accounts
14. Demonstration on Inventory books
15. Demonstration on Cash flow

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Certificate Course in Android Applications
SYLLABUS

Unit I

1. Android Introduction.
2. Android Versions
3. Android Architecture
4. Android components
5. Installations

Unit - II

6. Activity and its lifecycle
7. Intents
8. Shared Preference
9. SQL lite Database

Unit - III

10. To create Android virtual Device. It's usage.
11. To use Text view, buttons, Edit text, Image views and some other UI elements.
12. To Create Android Application.
13. Create Hello World Application.
14. To Develop Application like Calculator to do mathematical operations.
15. To Develop Application to get current location by using GPS.

DEPARTMENT OF HUMANITIES

Certificate Course in Travel & Tourism - 30 hours

UNIT-I

Definition,Nature, Scop,components of Tourism-Typesof Tourism-Tourism as Industry.

UNIT-II

Principal of Management –Mening ,Nature Significance function –Tourism Management-Functions of Tourist Guide.Impact of Tourism-Economic,Social, Physical, and enviromental..l

UNIT-III

The concept pf Marketing, nature, classification and Characteristics of services and their marketing for service firms,Linkage in Tourism and other sector –Travel Agency Accommodation, food catering and entertainment.

UNIT-IV

Tourism policy of India –Tourism development stategies –National action plan of Tourism(1992),Draft National policy(1997), concept of natioal Tourism Board –State of Tourism in India –Tourism policies of A.P.

Filed Trip

The students of Travel& Tourism shall ge required to undertake field trip (2 weeks) to important tourist destination. (Historical &Archeological)

CERTIFICATE COURSE (COC) – 1st Year Syllabus

"BEAUTY *CARE SCIENCE"*

1. Beauty
2. Theading
3. Bleaching
4. Waying
5. Manicure
6. Pedicure
7. Hair care
8. Head Massage
9. Henna Treatment
10. Hair Dye
11. Hair cuts
12. Hair Style
13. Hair setting
14. Dandruff
15. Mehandi
16. Skin
17. Face pack
18. Skintypes
19. Yacial

CERTIFICATE COURSE (COC) – 2nd Year Syllabus

"BEAUTY *CARE SCIENCE"*

1. Bussiness Management
2. Advanced Facial
3. Fruit Facial
4. Japanies facial
5. Honey facial
6. Advance pedicure
7. Hi-Frequency
8. Gold pinching
9. Eare pinching
10. Glavanic
11. Alovera facial
12. Eye dot circles-pocks
13. Dandruff-Treatment
14. Hair Growth oil
15. Lice Tretment
16. Shahanaz Fscial
17. Advance Henna or Aroma Henna
18. Aroma both power

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DEPARTMENT OF ZOOLOGY - CERTIFICATE COURSE - SYLLABUS
MEDICAL LABORATORY ASSISTANT TRAINING PROGRAM (MLT)

1.Introduction (brief information about the following)

- Dos and don'ts
- Safety with chemicals
- First aid
- Introduction of laboratory instruments
- Microscope

1. Bio-chemistry

a) **Urine:**

- **Urinary system**, urine formation, urine collection, urine preservation
- **Physical examination**(colour, odor, transparency, appearance, volume, specific gravity, reaction)
- **Chemical examination**(Albumin, sugar, bile salts, bile pigments, urobilinogen, pregnancy test)
- **Microscopic examination (pus cells(RBC), casts, crystals, vegetative** forms, spermatozoa)

b) **Blood:**

- Introduction(composition of blood)
- Collection of blood sample
- Anti coagulants
- Separation of serum and plasma
- Blood cell count

i) Total white blood corpuscles count (TWBC)
ii) Total red blood corpuscles count (TRBC)
iii) Total platelets count
iv) Absolute Eosinophils count
v) Differential Leucocytes count
vi) Reticulocytes count
vii) Haemoglobin estimation
viii) Erythrocytes sedimentation rate

- Bleeding time
- Coagulation time
- Anaemia
- Leukemia
- Blood grouping and Rh typing and blood cross matching
- Estimation of blood sugar
- Glucose tolerance test (GTT)
- Estimation of serum cholesterol
- Estimation of serum bilirubin
- Estimation of blood urea
- Estimation of serum creatinin
- Estimation of total proteins
- Estimation of serum albumin

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NATIONAL CADET CORPS(NCC)
ELECTIVE SUBJECT
Semester – I
Subject Code: KENCC15
(Effective From 2013-2014)

Total Credits: 2 **Total Marks: 70**

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Unit 01: ***INTRODUCTION TO NCC***

Introduction, NCC Motto, NCC Flag, Aims of NCC, Cardinal points of NCC, Organization of defense forces in general, Organizational structure of Indian Army, Organizational structure of NCC, NCC Song, Incentives of NCC, Ranks in Army, Navy and Air Force – Certificate Examination in NCC– Honors and Awards

****

Unit 02: ***FOOT DRILL BASICS***

Aims of Drill, Word of Commands, Attention, Stand at Ease, Turning Left, Right and Inclining at the Halt. Sizing, Forming up in three Ranks and Numbering, Open and Close March Order, Dressing the Squad, Saluting at the Halt, Getting on Parade, Falling Out and Dismissing, Marching, Guard of Honour

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Unit 03: ***HEALTH AND HYGIENE***

Structure and Function of Human Body, Hygiene and Sanitation, Preventable Diseases, First Aid, Yoga: Introduction and Exercises, Physical and Mental Health, Fractures: Types and Treatment.

****

Unit 04: ***LEADERSHIP***

Meaning, Leadership Traits, Types of Leadership, Discipline & Duty of an Indian Citizen, Motivation, Code of Ethics, Perception, Communication, Customs of Services, Importance of Team Work.

****

Evaluation: Objective Type Questions

References: ***1. Cadet's Hand Book- Common Subject, All Wings, by DG NCC, New Delhi***
2. Cadet's Hand Book -Specialized Subject, Army, by DG NCC, New Delhi

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NATIONAL CADET CORPS
ELECTIVE SUBJECT
Semester – II
Subject Code: KENCC15

(Effective From 2013-2014)

Total Credits: 2 Total Marks: 70

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Unit 01: ***BASICS OF WEAPON TRAINING***

Introduction, Characteristic of Rifles, Stripping, Assembling, Care and Cleaning, and Sight Setting, Loading, Unloading of Rifle, Light Machine Gun and Stern Machine Carbine, Safety Procedures, Positions in Shooting and its Advantages, Trigger Control and Firing a Shot, Theory of Group and Snap Shooting.

Unit 02: ***NATIONAL INTEGRATION***

Meaning and Importance, Unity in Diversity, Indian History and Culture, Religion and Customs of India, India and its Neighbors, Contribution of Youth in Nation Building.

Unit 03: ***ENVIRONMENT AND ECOLOGY***

Environment: Meaning, Global Warming, Acid Rain, Depletion of Ozone Layer, Conservation of Environment.

Ecology: Introduction, Component of Ecological System, Forest Ecology, Wild Life, Pollution Control.

Unit 04: ***SOCIAL SERVICE ACTIVITIES***

Basics of Social Service, Weaker Sections in the Society and its Identification, Contribution of Youth towards Social Welfare, NGOs and their Role and Contribution , Social Evils, Drug Abuse, Family Planning, Corruption, Counter Terrorism, Eradication of Illiteracy – Aids Awareness programme – Cancer Awareness Programme .

****

Evaluation: Objective Type Questions

References: ***1. Cadet's Hand Book- Common Subject, All Wings, by DG NCC, New Delhi***
2. Cadet's Hand Book -Specialized Subject, Army, by DG NCC, New Delhi

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NATIONAL CADET CORPS
ELECTIVE SUBJECT
Semester – III
Subject Code: SENCC15
(Effective From 2015-2016)

Total Credits: 2 Total Marks: 70

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Unit 01: ***FIELD CRAFT AND BATTLE CRAFT***

Introduction, Description of Ground, Observation and Concealment, Judging Distance, Recognition, Description and Indication of Targets, Field Signals, Section Formation, Fire and Movement.

****

Unit 02: ***ADVENTURE ACTIVITIES***

Introduction, Aims, Various Adventure Activities

- Trekking: Planning, Organization and Conduct
- Cycle Expedition: Planning, Organizatrion and Conduct
- Rock Climbing

****

Unit 03: ***CIVIL DEFENCE AND DISASTER MANAGEMENT***

Civil Defence: Meaning, Organization and its Duties, Civil Defence Services, Fire Fighting : Meaning, Mode of Fire, Fire Fighting Parties, Fire Fighting Equipments.

Introduction, Classification of Disaster: Natural Disaster & Man Made Disaster, Disaster Management During Flood, Cyclone and Earth Quake, Assistance in Removal of Debris, Collection and Distribution of Aid Material, Message Services.

Unit 04: ***PERSONALITY DEVELOPMENT***

Introduction to personality development, Physical and social factors influencing / shaping personality, psychological and philosophical factors influencing / shaping personality, Self-awareness, SWOT analysis, mind set, interpersonal relationship and communication, effective communication, barriers of communication

****

Evaluation: Objective Type Questions

References: ***1. Cadet's Hand Book- Common Subject, All Wings, by DG NCC, New Delhi***
2. Cadet's Hand Book -Specialized Subject, Army, by DG NCC, New Delhi

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NATIONAL CADET CORPS
ELECTIVE SUBJECT
Semester – IV
Subject Code: SENCC15
(Effective From 2013-2014)

Total Credits: 2 Total Marks: 70

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Unit 01: ***MAP READING TECHNIQUES***

Meaning of Map, Types of Maps, Information of Maps, Topographical Forms, Cardinal Points, Types of North, Grid System, Setting of Map, Finding North.

Conventional Signs: Transport features, Buildings, Water Features, Vegetation, Land Features, Military Symbols & Others.

****

Unit 02: ***COMMUNICATION***

Types of communication, characteristics of wireless technology, Walkie/talkie, Basic RT procedure, Latest trends and development(Multi media, video conferencing, IT)

****

Unit 03: ***MILITARY HISTORY***

Biography of Indian Historical Leaders: Chhatra Pati Shivaji, Maharana Pratap, Akbar

Famous Battles / Wars of India: Indo – Pak War 1971, Kargil War

Biography of Successful Leaders: General Patton, General Mac. Arthur, Field Marshal Sam Maneksha

****

Unit 04: ***INTRODUCTION TO INFANTRY WEAPONS***

Characteristics of 7.62 mm SLR, Ammunition, Fire Power, Stripping, Assembling and Cleaning. SLR filling, Emptying of Magazine, sight Setting, Lying Position, Holding, Aiming and Firing, Characteristics of 5.56 mm INSAS Rifle, Ammunition, Fire power, Stripping, Assembling and Cleaning, Characteristics of 7.62 mm Light Machine Gun LMG, Ammunition, Fire Power, stripping, Assembling and Cleaning, Technical Data of Infantry Weapons.

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Evaluation: Objective Type Questions

References:*1. Cadet's Hand Book- Common Subject, All Wings, by DG NCC, New Delhi*

2. Cadet's Hand Book -Specialized Subject, Army, by DG NCC, New Delhi

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Department of Telugu - Certificate course

YOGA syllabus

1. What Is Meant By Yoga Introduction Different Types of Yoga Methods?
   Patanjali, Ashtanga, Yoga, Yama, Niyama, asana, pranayama, prathyahara, Dhahran, dhyana, Samadhi
2. **Asanas**: practice of warn up exercises skooshma vyayama kriyalu, jogging
   Four types of asanas, sitting, prone, supine, standing
3. **Standing asanas**: thada, trikona, parimritha trikona, ardha chakrasana, ardha katichakrasana, poadha host asana.
4. **Sitting Asanas**: Dan asana, vajrasana, sasankasana, ushtrasana, sputa vajrasana, paschimothasana, vakrasana, Ardha Maschendrasana.
5 **supane Asanas:** Hal asana, Sarvangasana, Anadhasana, Uthpodhasana, Setabanghasana.
6**. Prone asanas:** Bujiangasasana, salabhasana, dhanurasana, naukasana, pronayamam.
7. **Different Types of Pranayamam Techniques:** Sectional Breathing, Akara, Ukara, Makaranalu. Kaphalabathi, Bastrika, Naadisudhi Pranayamam. , Chandra Anuloma, Viloma Pranayamam. Ujjain Pranayamam, Bramari Pranayamam. What Is Meant By Meditation?

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DEPARTMENT OF MATHEMATICS
CERTIFICATE COURSE: QUANTITATIVE APTITUDE

UNIT-I

Number System and Number Series:

Numbers and their classification,test for divisibility of numbers,number sries,three steps to solve a problem on series,binary number system.

UNIT-II

HCF And LCM Of Numbers:

Factors,Multiples,Principle of prime Factorisation,Highest common factor,Lowest common multiple,Product of two numbers.

UNIT-III

Averages:

Introduction,Average of different groups,Addition or removal of items and change in average.

UNIT-IV

Ratio and Proportion:

Introduction,properties of ratios,dividing a given number int the given ratio,comparison of ratios.

UNIT-V

CALENDAR:

Definition of odd days,How to find out number of odd days for a given period of time, How to find the day of the week on a given date.

UNIT-VI

Fractions:

Definition,Fractional part of a number,To insert any number of fractions in between two given fractions.

UNIT-VII

Relationships:

Introduction,Relationships basic consepts,problems on Blood relations

UNIT-VIII

Coding and Decoding:

Letter coding,Substition,Mixed number coding,Mixed letter coding.

MODEL PAPER - QUANTITATIVE APTITUDE

ANSWER ANY FIFTEEN QUESTIONS 15 x2=30

1. In a certain code language ‘’RUSTICATE” is written as “QTTUIDBSD” .How would “STATISTIC” be written in that code?
2. Find the average of first five multiples of 3.
3. In a certain code language “BEAT” is written as “YVZG” then what will be code of “MILD”.
4. If the mean of a,b,c is m and ab+bc+ca=0 then find the mean of a^2 ,b^2 , c^2
5. In a certain code the word “ROAD” is coded as “WTFI” .Then what should be the word for the code “GJFY”.
6. Find the average of all prime numbers between 30 and 50.
7. If E=5,PEN=35 then “PAGE=?
8. Find the average of first 40 natural numbers.
9. If pen is table ,table is fan ,fan is chair and chair is roof on which of the following will a person sit?
10. The average of 7 consecutive numbers is 20 . Find the largest of these numbers.
11. If GO=32, SHE=49,then “SOME=?
12. The average of 11 results is 60 .If the average of first six results is 58 and that of last six is 63.Find the sixth result.
13. How many prime factors are in $5^{10} X 7^5 X 10^3$
14. The third term of a AP is 3 .Find the sum of first 5 terms .
15. $\log\frac{16}{15} + \log\frac{5}{8} + \log\frac{2}{3}$ =?
16. $\log(x^2 - 4x + 7)$=2.
17. $\log 27 = 1.431, \log 9$ =?
18. If $\log 9 = 0.9542$,how many digits are there in 920.
19. A number when multiplied by 21 is increased by 200.Find that number.
20. 8597*65 what is the number in place of *.

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DEPARTMENT OF PHYSICS
Certificate Course in MS Office

WORD 2007 10Hrs

1. Word 2007 : Basic Editing
2. Word 2007 : Formatting
3. Word 2007 : Copying and moving Text and object
4. Word 2007 : Editing Features
5. Word 2007 : Paragraph Formatting
6. Word 2007 : Tables
7. Word 2007 : Lists
8. Word 2007 : Page Formatting
9. Word 2007 : Inserting Graphics , Pictures and Table Contents
10. Word 2007 : Advanced Tools

EXCEL 2007 10Hrs

1. Excel 2007 : Opening a New or Blank workbook, General Organisation
2. Excel 2007 : Highlights & Main Functions: Home,Insert,Page Layout- Formulas
3. Excel 2007 : Using Excel Help Function
4. Excel 2007 : Customizing the Quick Access Tool Bar
5. Excel 2007 : Working with Data: Entering, Editing, Copy, Cut, Paste, Paste Special
6. Excel 2007 : Formatting Data and Using Right Mouse Click
7. Excel 2007 : Saving, Page Setup, Printing
8. Excel 2007 : Using Headers and Footers
9. Excel 2007 : Using Formatting Tables
10. Excel 2007 : Basic Formulas and Use of Functions

POWERPOINT 2007 10Hrs

1. Powerpoint2007 : Creating a Basic Presentation
2. Powerpoint2007 : Building Blocks of Presentation
3. Powerpoint2007 : Working with Text
4. Powerpoint2007 : Working with Themes and Styles
5. Powerpoint2007 : Working with Charts, Graphs and Tables
6. Powerpoint2007 : Working with Media Clips and Animation
7. Powerpoint2007 : Packaging and Publishing the Presentation

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డిప్లొమా సర్టిఫికేట్ కోర్స్ సిలబస్

యూనిట్-I

1.తెలుగు పత్రికలు –ఆవిర్భావం

2.కందుకూరి వీరేశలింగం, గాడిచర్ల వారి సంపాదకీయాలు

3. ఆధునిక పత్రికలు

యూనిట్-II

1.తెలుగు పత్రికలు- వ్యక్తులు-భూమికలు

2. తాపీ ధర్మారావు- కాశీనాదుని నాగేశ్వరరావు

3. నార్ల వెంకటేశ్వరరావు - మూట్నూరి కృష్ణారావు

యూనిట్-III

1.ఫీచర్ల – వార్త – కథనాలు.

2.ఎ.బి.కె.ప్రసాద్

3.ముద్రణ కళ - పుట్టు పూర్వోత్తరాలు

యూనిట్-IV

1.ఆధునిక పత్రికలు

2. కాసా సుబ్బారావు-బెంజిమేన్ జార్జ్

3.తెలుగు ముద్రణ వికాసం క్రైస్తవ మిషనరీలపాత్ర

యూనిట్ - V

1. ప్రత్యేక వార్తలు

2. గ్రామీణ ప్రాంత విలేకరి

3. ప్రజా సంబంధాలు

డిప్లొమా సర్టిఫికేట్ కోర్స్

మోడల్ క్వశ్చన్ పేపర్

సమయం:2గం II లు మార్కులు: 50

I.క్రింది వానిలో ముఖ్య ప్రశ్నలకు జవాబులు వ్రాయుము 3×10 =30

ఎ. ఆధునిక పత్రికలు గురించి వివరించండి.

ఒ. ఫీచర్ల వార్త కదనలు గురించి విరించండి

సి. తెలుగు పత్రికలు ఆవిర్భావం గురించి వ్రాయండి

డి. ముద్రణ కళ పుట్టుపూర్వోత్తరాలు వ్రాయండి

ఈ. ప్రత్యేక వార్తలు ఏ విదంగా సేకరించాలో వివరించండి

ఎఫ్. తెలుగు ముద్రణ వికాసం మరియు టెంజిమెన్ జార్జ్ సేవలను గూర్చి వివరించండి

II. క్రింది ఏవేని ఏడు ప్రశ్నలకు జవాబులు వ్రాయుము 4×5 =20

1. ఏడ్ల వెంకట్రావు
2. కాశీనాదుని నాగేశ్వరరావు
3. తాపీ ధర్మారావు
4. కందుకూరి వీరేశలింగం
5. కాసా సుబ్బారావు
6. గాడిచర్ల హరి సర్వోత్తమరావు
7. ఎ.బి.కె ప్రసాద్

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DEPARTMENT OF BOTANY
CETIFICATE COURSE - MUSHROOM CULTIVATION
SYLLABUS

(Total hours 30 Hours (Teaching 15 Hours & Practical 15 Hours))

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UNIT – I MUSHROOM BIOLOGY (4 Hours)

- Morphology & Classification
- Life cycle of Basidio mycetes fungi
- Edible & poisonous mushrooms
- Medicinal & Nutritional values of mushrooms

UNIT – II MUSHROOM CULTIVATION TECHNIQUES (6 Hours)

- Cultivation conditions for tropical & temperate countries - Isolation
- Spawn production - Growth media - Spawn running & Harvesting of Mushrooms. (Volvariella Species, Pleurotus Species, Agaricus Species, Calocycle Species, Sentinus Species)
- Disorders / Contamination
- Post harvesting technology
- Freezing drying – Freeze drying – Canning

UNIT – III MUSHROOM ECONOMICS (5 Hours)

- Economics of production of Oyster mushroom – Milky mushroom – Paddy straw
- Mushroom cultivation Infrastructure - Facilities - Expenditure on fixed assets
- Cultivation plant & machinery – Cost of the project - Recurring expenditure
- Cost of production & Profit
- Entrepreneurship in mushroom cultivation

*** Practicals (15 hours)**

JMJ COLLEGE FOR WOMEN (A), TENALI
DEPARTMENT OF HOME SCIENCE
CERTIFICATE COURSE SYLLABUS
Title:-Fabric Embellishment

UNIT	TOPIC	HOURS
I	**Embroidery:-** **a.** Various methods of transferring design **b.** Preservation and care of embroidery **c.** Stitches:- 1. Stem stitch, 2. Chain stitch, 3. Herringbone stitch, 4. Feather stitch, 5. Satin stitch, 6. long and short stitch, 7. French knot stitch, 8. lazy daisy stitch, 9. Button hole stitch, 10. Bullion stitch	**14**
II	**Screen Printing:-** **a.** Introduction to printing **b.** Various methods of printing **c.** Introduction to screen printing **d.** Preparation of screens **e.** Dyes and Binders used and their mixing procedures:-	**10**

	1. Normal Binder, 2. fast fix Binder, 3. laser 4000 Binder, 4. Emboss Binder, 5. Gold Binder, 6. pearl Binder,7. Glitter Binder, 8. Foil binder, 9. Two color print in one frame, 10. Multi color photo frame.	
III	**Fabric painting:-** **a.** Introduction to Fabric painting **b.** Classification of fabric paints **c.** Brushing techniques 1. Free hand brush, 2. Filling the design, 3. Color combination, 4. Filling with lines, 5. Hibiscus flowers painting, 6. Three kinds of leaves, 7. Shading of roses, 8. Tulip flowers, 9. Asters, 10. Chrysanthemum flowers, 11. Dianthus flower, 12. Bird painting, 13. Free hand drawing, 14. Dress/ saree painting	**16**

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MEMORANDUM OF UNDERSTANDING

We the Department of Chemistry J.M.J. College for Women, Tenali, Dept. of Chemistry, Andhra Loyola College, Vijayawada is hereby come to a Common understanding to collaborate in the following areas:

a) Guidance to Curriculum Design
b) Training Programmes
c) Demonstrations
d) Consultancy
e) Project work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Fr. Principal, Andhra Loyola College, Vijayawada & Sr. Principal J.M.J. College for Women, Tenali.

For K. Nirguna.
Ms.V. Gouri Kumari
H.O.D. Chemistry
J.M.J. College for Women,
Tenali

Dr.G.S.S.Sastry
H.O.D. Chemistry
Andhra Loyola College
Vijayawada

HEAD DEPT. OF CHEMISTRY
ANDHRA LOYOLA COLLEGE
VIJAYAWADA - 520 008

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

Dr.K.R.R.M DEGREE COLLEGE: DUGGIRALA

MEMORANDUM OF UNDERSTANDING

We the Department of Chemistry, Dr. K.R.R.M Degree College, Duggirala, Department of Chemistry, J.M.J College for Women, Tenali is hereby come to a common understanding to collaborate in the following areas:

a. Guidance to Curriculum Design
b. Training Programs
c. Demonstrations
d. Consultancy
e. Project Work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Principal, Dr.K.R.R.M Degree College, Duggirala & Principal, J.M.J College for Women, Tenali.

G. Swathi
H.O.D. Chemistry
Dr. K.R..R.M Degree College,
Duggirala.

V. Gouri Kumari
H.O.D. Chemistry
J.M.J College,
Tenali.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform you that We Department of Mathematics, ASN Degree college, Tenali

are willing to render our collaboration in the form as specified here under to the **Department of Mathematics, JMJ College for Women (Autonomous): Tenali.**

- *Placement*
- *Curriculum Design*
- *Consultancy*
- *Servicing*
- *Any Other*

P. M. Balasubramanyam
Head of the Dept. of Mathematics
J.M.J. College for Women, TENALI

A.S.N. DEGREE COLLEGE TENALI.

N. Venkateswara Rao
HOD of Mathematics
S. N. DEGREE COLLEGE
NAKARAGRAHARAM, TENALI - 522 201

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform you that We Department of Mathematics NRK & KSR Gupta degree College, Tenali.

are willing to render our collaboration in the form as specified here under to the **Department of Mathematics, JMJ College for Women (Autonomous): Tenali.**

- *Placement*
- *Curriculum Design*
- *Consultancy*
- *Servicing*
- *Any Other*

P. M. Padmalatha
Head of the Dept. of Mathematics
M.J. College for Women, TENALI

D. Bapu Rao.
(H.O.D of Maths).

PRINCIPAL
N.R.K. & K.S.R. Gupta Degree College
TENALI

N.R.K. & K.S.R. Gupta Degree College
Dt.
TENALI

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform you that We The Department of Mathematics VSR & NVR Degree College, Tenali

are willing to render our collaboration in the form as specified here under to the **Department of Mathematics, JMJ College for Women (Autonomous): Tenali.**

- *Placement*
- *Curriculum Design*
- *Consultancy*
- *Servicing*
- *Any Other*

P. M. Reddy
Head of the Dept. of Mathematics
M.J. College for Women, TENALI

DHE

(DR. D. HADHASUDHANA RAO)
Head; Dept. of Mathematics
V.S.R. & N.V.R. COLLEGE
TENALI

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

Dr.K.R.R.M DEGREE COLLEGE: DUGGIRALA

MEMORANDUM OF UNDERSTANDING

We the Department of Mathematics, Dr. K.R.R.M Degree College, Duggirala, Department of Mathematics, J.M.J College for Women, Tenali is hereby come to a common understanding to collaborate in the following areas:

a. Guidance to Curriculum Design
b. Training Programs
c. Demonstrations
d. Consultancy
e. Project Work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Principal, Dr.K.R.R.M Degree College, Duggirala & Principal, J.M.J College for Women, Tenali.

H.O.D. Mathematics,
Dr. K.R.R.M Degree College,
Duggirala.

H.O.D. Mathematics,
J.M.J College,
Tenali.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform you that We Department of Mathematics, ASN degree college, Tenali

are willing to render our collaboration in the form as specified here under to the **Department of Mathematics, JMJ College for Women (Autonomous): Tenali.**

- *Placement*
- *Curriculum Design*
- *Consultancy*
- *Servicing*
- *Any Other*

P. M. Padmalatha
Head of the Dept. of Mathematics
J.M.J. College for Women, TENALI

A.S.N. DEGREE COLLEGE 22/10/14 TENALI.

N. Venkateshwara Rao
HOD of Mathematics
A.S.N. DEGREE COLLEGE
NARASARAOPET ROAD, TENALI - 522 201

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform you that We Department of Mathematics NRK & KSR Gupta degree college, Tenali.

are willing to render our collaboration in the form as specified here under to the **Department of Mathematics, JMJ College for Women (Autonomous): Tenali.**

- *Placement*
- *Curriculum Design*
- *Consultancy*
- *Servicing*
- *Any Other*

P. M. Padmalatha
Head of the Dept. of Mathematics
V.J. College for Women, TENALI

D. Bapu Rao.
(H.O.D & Maths).

PRINCIPAL
N.R.K. & K.S.R. Gupta Degree College
TENALI

N.R.K. & K.S.R Gupta Degree College * TENALI *

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

1

Encl: 27

MEMORANDUM OF UNDERSTANDING

This is to inform you that We The Department of Mathematics VSR & NVR Degree College, Tenali

are willing to render our collaboration in the form as specified here under to the **Department of Mathematics, JMJ College for Women (Autonomous): Tenali.**

- *Placement*
- *Curriculum Design*
- *Consultancy*
- *Servicing*
- *Any Other*

P. M. R. [illegible]
Head of the Dept. of Mathematics
M.J. College for Women, TENALI

DMR
(DR. D. MADHUSUDANA RAO)
Head, Dept. of Mathematics
V.S.R. & N.V.R. COLLEGE
TENALI

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform you that We Department Of Mathematics, JMJ College for Women (Autonomous): Tenali are willing to render our collaboration in the form as specified here under to the **Department Of Mathematics, Andhra Christian College Guntur.**

- **Placement**
- **Curriculum Design**
- **Consultancy**
- **Servicing**
- **Any Other**

P. M. Padmalatha

Dr. P. Mary Padmalatha
H.O.D. of Mathematics
J.M.J. College for Women (Autonomous)
TENALI.

J. M. Prasad

Head of the Department
Department of Mathematics
Andhra Christian College, Guntur

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

We the Department of Humanities J.M.J College for Women, (Autonomous)Tenali, Department of Humanities D.A.R College Nuzvidu is hereby come to a common understanding to collaborate in the following areas:

i) Guidance to Curriculum Design
j) Training Programmes
k) Consultancy
l) Project Work

The Memorandum of understanding (MOU) is being exchanged in the presence of Principal D.A.R College Nuzvidu and Sr. Principal J.M.J College for Women, (Autonomous)Tenali.

T. Arogyamma

Mrs.T. Arogyamma H.O.D
Department of Humanities
J.M.J College for Women, Tenali

Mrs. T. AROGYAMMA
H.O.D. of Humanities
J.M.J. College for W
TENALI

Mr. Rajendra Prasad
H.O .D of Political Science
D.A.R College
Nuzvidu.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

We the Department of Humanities J.M.J College for Women, (Autonomous)Tenali, Department of Humanities Montessori Mahila Kalasala (Autonomous) Vijayawada is hereby come to a common understanding to collaborate in the following areas:

e) Guidance to Curriculum Design
f) Training Programmes
g) Consultancy
h) Project Work

The Memorandum of understanding (MOU) is being exchanged in the presence of Principal Montessori Mahila Kalasala (Autonomous) Vijayawada and Sr. Principal J.M.J College for Women, (Autonomous)Tenali.

T. Arogyamma.

Mrs.T. Arogyamma H.O.D
Department of Humanities
J.M.J College for Women, Tenali.

Mrs. T. AROGYAMMA
H.O.D. of Humanities
J.M.J. College for Women
TENALI

H.O.D of Humanities
Montessori Mahila Kalasala
Vijayawada

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

We the Department of Economics J.M.J. College for Women, Tenali, Dept. of Economics, Andhra Loyola College, Vijayawada is hereby come to a Common understanding to collaborate in the following areas:

a) Guidance to Curriculum Design
b) Training Programmes
c) Demonstrations
d) Consultancy
e) Project work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Fr. Principal, Andhra Loyola College, Vijayawada & Sr. Principal J.M.J. College for Women, Tenali.

T. Arogyamma

Ms. T.Arogyamma
H.O.D. Economics
J.M.J. College for Women,
Tenali

Mrs.B. Baby Rani
H.O.D. Economics
Andhra Loyola College
Vijayawada

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

We the Department of Humanities J.M.J College for Women, (Autonomous)Tenali, Department of Humanities Andhra Christian Degree college Guntur is hereby come to a common understanding to collaborate in the following areas:

i) Guidance to Curriculum Design
j) Training Programmes
k) Consultancy
l) Project Work

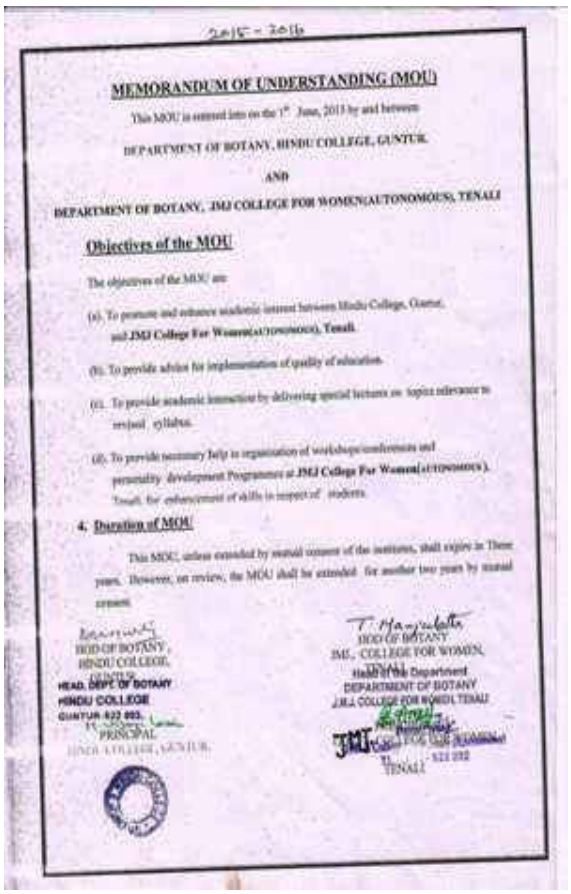
The Memorandum of understanding (MOU) is being exchanged in the presence of Principal Andhra Christian Degree College Guntur and Sr. Principal J.M.J College for Women, (Autonomous)Tenali.

T. Arogyamma.
Mrs.T. Arogyamma H.O.D
Department of Humanities
J.M.J College for Women, Tenali.

Mrs. T. AROGYAMMA
H.O.D. of Humanities
J.M.J. College for Women
TENALI

P. Sreenadem
H.O.D of Humanities
Andhra Christian Degree College
Guntur.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202



2015 - 2016

MEMORANDUM OF UNDERSTANDING (MOU)

This MOU is entered into on the 1st June, 2015 by and between

DEPARTMENT OF BOTANY, HINDU COLLEGE, GUNTUR.

AND

DEPARTMENT OF BOTANY, JMJ COLLEGE FOR WOMEN(AUTONOMOUS), TENALI

Objectives of the MOU

The objectives of the MOU are

(a). To promote and enhance academic interest between Hindu College, Guntur, and JMJ College For Women(AUTONOMOUS), Tenali.

(b). To provide advice for implementation of quality of education.

(c). To provide academic interaction by delivering special lectures on topics relevance to revised syllabus.

(d). To provide necessary help in organization of workshops/conferences and personality development Programmes at JMJ College For Women(AUTONOMOUS), Tenali, for enhancement of skills in respect of students.

4. Duration of MOU

This MOU, unless extended by mutual consent of the institutes, shall expire in Three years. However, on review, the MOU shall be extended for another two years by mutual consent.

HOD OF BOTANY,
HINDU COLLEGE,
GUNTUR.

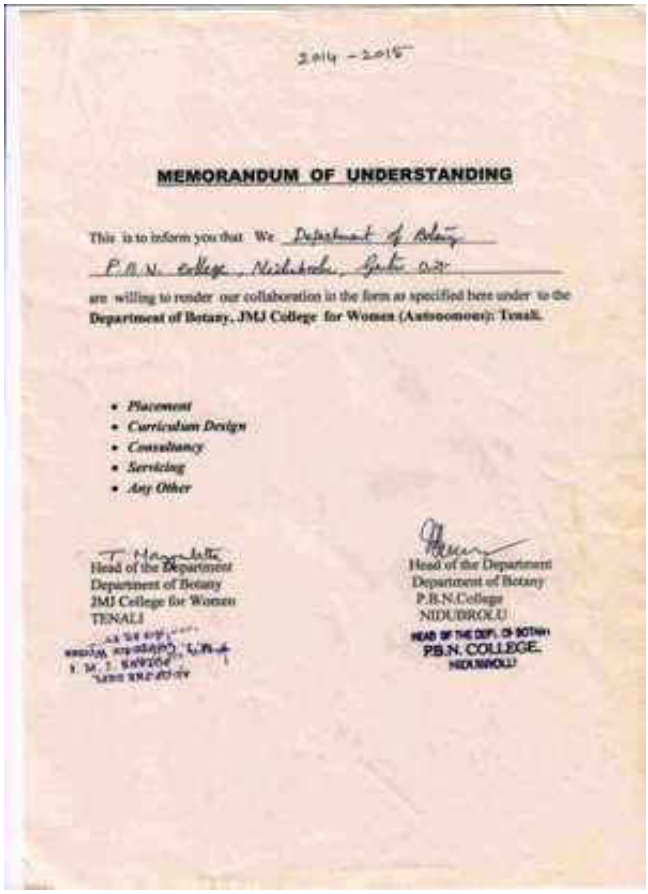
HEAD, DEPT. OF BOTANY
HINDU COLLEGE
GUNTUR-522 002.

PRINCIPAL
HINDU COLLEGE, GUNTUR.

T. Manjulatha
HOD OF BOTANY
JMJ. COLLEGE FOR WOMEN,
TENALI

Head of the Department
DEPARTMENT OF BOTANY
J.M.J. COLLEGE FOR WOMEN, TENALI

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202



2014 - 2015

MEMORANDUM OF UNDERSTANDING

This is to inform you that We Department of Botany
P.B.N. College, Nidubrolu, Guntur Dt.
are willing to render our collaboration in the form as specified here under to the **Department of Botany, JMJ College for Women (Autonomous): Tenali.**

- ***Placement***
- ***Curriculum Design***
- ***Consultancy***
- ***Servicing***
- ***Any Other***

T. Manjulatha
Head of the Department
Department of Botany
JMJ College for Women
TENALI

Head of the Department
Department of Botany
P.B.N.College
NIDUBROLU

HEAD OF THE DEPT. OF BOTANY
P.B.N. COLLEGE,
NIDUBROLU

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

2013 – 2014

MEMORANDUM OF UNDERSTANDING

This is to inform that I/We

Dr. [illegible]

is willing

to render our collaboration in the form as specified here under to the J.M.J. college for women, Tenali.

a)Placement

b)Curriculum design

c)Instructions

d)Consultancy

e)Servicing

f)Any other

Signature

Ayurvedic And Allied

2012 – 2013 2012 – 13

MEMORANDUM OF UNDERSTANDING,

This is to inform that I/We B. [illegible] Horticulture Officer, Tenali

is willing to render our collaboration in the form as specified here under to the J.M.J. college for women,Tenali.

- Placement
- Curriculum design
- Instructions
- Consultancy
- Servicing
- Any other

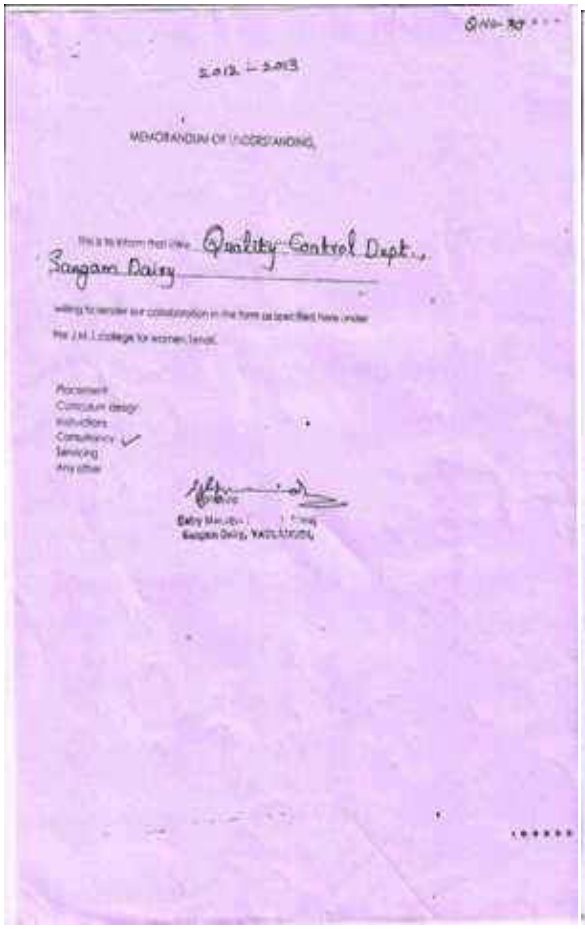
Signature,

TENALI.

Principal

J.M.J. COLLEGE FOR WOMEN (Autonomous)

TENALI - 522 202



2012 – 2013

MEMORANDUM OF UNDERSTANDING

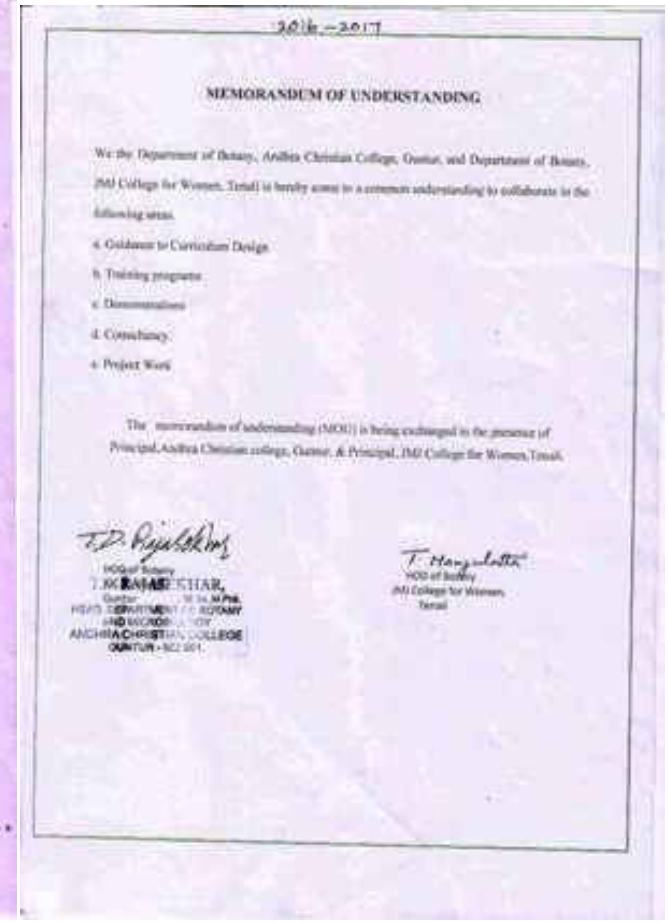
This is to inform that I/we Quality Control Dept., Sangam Dairy

willing to render our collaboration in the form as specified here under

for J.M.J. college for women, tenali.

Placement
Curriculum design
Instructors
Consultancy ✓
Servicing
Any other

Dairy Manager
Sangam Dairy, VIJAYAWADA



2016 – 2017

MEMORANDUM OF UNDERSTANDING

We the Department of Botany, Andhra Christian College, Guntur, and Department of Botany, JMJ College for Women, Tenali is hereby come to a common understanding to collaborate in the following areas.

a. Guidance to Curriculum Design
b. Training programs
c. Dissertations/thesis
d. Consultancy
e. Project Work

The memorandum of understanding (MOU) is being exchanged in the presence of Principal, Andhra Christian college, Guntur, & Principal, JMJ College for Women, Tenali.

HOD of Botany
[illegible]
Guntur
HEAD DEPARTMENT OF BOTANY
AND MICROBIOLOGY
ANDHRA CHRISTIAN COLLEGE
GUNTUR - 522 001.

HOD of Botany
JMJ College for Women,
Tenali

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

ENCL-4

Surya Systems

HCL

☎ 08644 (S) 235269 (R) 222584
Cell : 9848193081

Ref. No.

Date :.....

Tenali
09-04-2014

To

The Pricipal
JMJ College for Women
TENALI

Respected Madam

Sub:- MOU regarding Technical Collaboration with your Institute.

With reference to your letter dt. 8-4-14 and the discussion having with undersigned we herewith happy to extend our technical and academicals collaboration for Computer related technical courses i.e Vocation Degree Course being conducted by your esteemed institution. Areas of collaboration will be affected on the following as given.

1. Designing curriculum
2. Training programme
3. Project work
4. Consultancy
5. Any other , other than the mentioned above which is related to course curriculum.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

Place: Tenali

Date: 9.4.14

for SURYA SYSTEMS

AUTHORISED SIGNATORY

SURYA SYSTEMS 9.4.14 TENALI

PRINCIPAL
J. M. J. College For Women
TENALI

ANDHRA SERVERS
#40-4-12, Near D V Manor,
Tikkle Road, Labbipet
Vijayawada – 520010

To

Tenali
07-4-2014

The Pricipal
JMJ College for Women
TENALI

Respected Madam

Sub:- MOU regarding Technical Collaboration with your Institution.

With reference to your letter dt. 1-4-14 and the discussion having with undersigned we herewith happy to extend our technical and academic collaboration in relation to Software Development Vocational Degree course being conducted by your esteemed institution. Areas of collaboration will be affected on the following as given.

1. Designing curriculum
2. Training programme
3. Project work
4. Consultancy
5. Any other , other than the mentioned above which is related to course curriculum.

Place: Vijayawada

Date: 7.4.2014

ANDHRA SERVERS VIJAYAWADA

AUTHORISED SIGNATORY

MEMORANDUM OF UNDERSTANDING

We the Department of Computer Science J.M.J. College for Women, Tenali, Dept. of Computer Science, Andhra Loyola College, Vijayawada is hereby come to a Common understanding to collaborate in the following areas:

a) Guidance to Curriculum Design
b) Training Programmes
c) Demonstrations
d) Consultancy
e) Project work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Fr. Principal, Andhra Loyola College, Vijayawada & Sr. Principal J.M.J. College for Women, Tenali.

Ms. J.Vasundhara
Lect. in Computer Science
J.M.J. College for Women,
Tenali

Mrs.A.Lavanya
H.O.D.Computer Science
Andhra Loyola College
Vijayawada

Head Department of Computer Science
Andhra Loyola College (Autonomous)
VIJAYAWADA-520 008.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

SHREE LAKSHMI COMPUTER INSTITUTIONS

Near Umesh Chandra statue, above Alfa tea center,1st floor,chenchupet,tenali.522202.
Phno: 91600 59859, 9441-648-846

Date: 28/03/2016,
Tenali.

TO
The Principal,
JMJ College for Women,
Tenali.

I am U.RavindraBabu, Chairman of SHREE LAKSHMI COMPUTER INSTITUTIONS, Tenali .We organized 75 days program for 3rd BSc [MCS, MPComp] on C#.NET with various projects in the campus on pay role. We are thankful to work with you.

Yours Faithfully,
U.RavindraBabu.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

SHREE LAKSHMI COMPUTER INSTITUTIONS
Chenchupet
TENALI
522 202

MEMORANDAM OF UNDERSTANDING

We the Department of Physics, JMJ College for Women (Autonomous), Tenali, Department of Physics, SDMS Mahila Kalasala, Vijayawada, hereby come to a common understanding to collaborate in the following areas:

a. Guidance to Curriculum Design

b. Training Programmes

c. Demonstrations

d. Consultancy

e. Project Work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Principal, JMJ College, Tenali & Principal, SDMS Mahila Kalasala, Vijayawada.

Dr G. Saraswathi

H.O.D Physics

JMJ College For Women,

Tenali

Head of the Dept. of Physics
J. M. J. College, TENALI

G. Neelakshi

H.O.D Physics

SDMS Mahila Kalasala,

Vijayawada

Principal
Sri Durga Malleswara
Siddhartha Mahila Degree College
VIJAYAWADA-10

HEAD OF THE DEPT. OF PHYSICS
Sri Durga Malleswara Siddhartha
Mahila Kalasala
VIJAYAWADA-520 010

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDOM OF UNDERSTANDING

We , The Department of Physics ,JMJ College for Women (Autonomous),Tenali and The Department of Physics ,Government College for Women (Autonomous), Guntur hereby come to a common understanding to collaborate in the following areas

a) Guidance to Curriculum Design
b) Training Programmes
c) Demonstrations
d) Consultancy
e) Project work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Principal, JMJ College for women, Tenali and Principal , Government College for Women ,Guntur.

Dr. G. Saraswathy Devi
H.O.D Physics,
JMJ College for women,
Tenali

Head of the Dept. of Physics
J. M. J. College, TENALI

H.O.D Physics, 18/10/
Govt. College for Women,
Guntur

DEPT. OF PHYSICS
GOVT. COLLEGE FOR W
GUNTUR

PRINCIPAL
J.M.J. COLLEGE FOR WOMEN
TENALI

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

We the Department of Statistics, Dr. K.R.R.M Degree College, Duggirala, Department of Physics, J.M.J College for Women, Tenali is hereby come to a common understanding to collaborate in the following areas:

a. Guidance to Curriculum Design
b. Training Programs
c. Demonstrations
d. Consultancy
e. Project Work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Principal, Dr.K.R.R.M Degree College, Duggirala & Principal, J.M.J College for Women, Tenali.

G. Aravinda Kumar
(G. ARAVINDA KUMAR)
H.O.D. Physics
Dr. K.R.R.M Degree College,
Duggirala.

Dr. G. Saraswathy Devi
H.O.D. Physics
J.M.J College,
Tenali.
Head of the Dept. of Physics
J. M. J College, TENALI

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform you that We, Department of Physics, JMJ College for Women (A), Tenali are willing to render our collaboration in the form as specified here under to the **Department Of Physics, Andhra Christian College Guntur.**

- **Placement**
- **Curriculum Design**
- **Consultancy**
- **Servicing**
- **Any Other**

C. M. Anitha
Head of the Dept. of Physics
J. M. J. College, TENALI

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

Dr. P.M. VINAYA TEJA
M.Sc.,Ph.D.
HEAD OF THE DEPT. OF
PHYSICS & COMPUTER SCIENCES
Andhra Christian College
GUNTUR - 522 001.

MEMORANDUM OF UNDERSTANDING

BETWEEN

Department of Physics, P.B.N. COLLEGE, NIDUBROLU

AND

Department of Physics, J.M.J.COLLEGE for Women, TENALI

Sub: Academic Collaboration-reg

In order to foster academic excellence and to promote co-operation between P.B.N.College, Nidubrolu and J.M.J.College for Women (Autonomous), Tenali, both the colleges enter into this formal statement of collaboration in the form of Memorandum of Understanding (MOU) on 29th October 2014.

Both the institutions have found it mutually beneficial to explore co-operative activities for the following purposes:

1. Promotion of academic interaction in the form of collaboration Projects, Seminars, Assignments and Short term Research Projects.
2. Organization of Training Programmes and Workshop
3. It is evident that the details of joint activities/conditions for utilization of result achieved, arrangement of specific visits, exchange and all other form of co-operation will be handled on mutually agreeable terms for each specific case.

In-charge

Department of Physics

Dr. G. Saraswathy
In-charge

Department of Physics
Head of the Dept. of Physics
J. M. J. College, TENALI

Principal

PRINCIPAL
P.B.N. COLLEGE, NIDUBROLU

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

2016 - 17

MEMORANDUM OF UNDERSTANDING

We the Department of Zoology, JKC College, Guntur, and Department of Zoology, JMJ College for Women, Tenali are here come to a common understanding to collaborate in the following areas.

a. Guidance to Curriculum Design

b. Training programs

c. Demonstrations

d. Consultancy.

e. Project Work

The memorandum of understanding (MOU) is being exchanged in the presence of Principal, JKC College, Guntur, & Principal, JMJ College for Women, Tenali.

HOD of Zoology
JKC College,
Guntur.

Head of the Department
Dept. of Zoology
J.K.C. COLLEGE, GUNTUR-6.

HOD of Zoology
JMJ College for Women,
Tenali.

Head of the Department of Zoology
J.M.J. College for Women (Autonomous)
TENALI - 522 202 (A.P.)

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

2015 - 16

MEMORANDUM OF UNDERSTANDING

We the Department of Zoology, Government college for women,Guntur,and Department of Zoology, JMJ College for Women, Tenali is hereby come to a common understanding to collaborate in the following areas.

a. Guidance to Curriculum Design

b. Training programs

c. Demonstrations

d. Consultancy.

e. Project Work

The memorandum of understanding (MOU) is being exchanged in the presence of Principal, Government college for women ,Guntur, & Principal, JMJ College for Women,Tenali.

M. Hanumantha Raju
(Dr. M. HANUMANTHA RAJU)
HOD of Zoology
GCW College,
Guntur

M. Ashalakshmi.
HOD of Zoology
JMJ College for Women,
Tenali
Head of the Department of Zoology
J.M.J. College for Women (Autonomous)
TENALI - 522 202 (A.P.)

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

2014 - 15

MEMORANDUM OF UNDERSTANDING

We the Department of Biotechnology, NRK &KSR Gupta College, Tenali. & Department of Zoology, JMJ College for Women, Tenali are here by come to a common understanding to collaborate in the following areas.

a. Guidance to Curriculum Design

b. Training programs

c. Demonstrations

d. Consultancy.

e. Project Work

The memorandum of understanding (MOU) is being exchanged in the presence of Principal,NRK &KSR Gupta College, Tenali. & Principal, JMJ College for Women, Tenali.

Head of the Department of
Bio-Technology
N. R. K. & K. S. R. G. D. College
TENALI.

HOD of Zoology
JMJ College for Women,
Tenali
M. ADILAKSHMI
Head of the Department of Zoology
J.M.J. College for Women (Autonomous)
TENALI - 522 202, A.P.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

2013 - 14

MEMORANDUM OF UNDERSTANDING

We the Department of Zoology, VSR &NVR College. Tenali,Department of Zoology JMJ College for Women,Tenali is here by come to a common understanding to collaborate in the following areas.

a. Guidance to Curriculum Design

b. Training programs

c. Demonstrations

d. Consultancy.

e. Project Work

The memorandum of understanding (MOU) is being exchanged in the presence of Principal,VSR &NVR College, Tenali, & Principal, JMJ College for Women,Tenali.

HOD of Zoology
VSR & NVR College.
Dr. L. Cyril Arun Kumar, M.Sc., Ph.D.
Department of Zoology
V.S.R & N.V.R College.
TENALI - 522 201

HOD of Zoology
JMJ College for Women,
M. ADILAKSHMI
Head of the Department of Zoology
J.M.J. College for Women (Autonomous)
TENALI - 522 202, A.P.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

2012 - 13 .

MEMORANDUM OF UNDERSTANDING

We the Department of Zoology J.M.J. College for Women, Tenali, Dept. of Zoology, Andhra Loyola College, Vijayawada is hereby come to a Common understanding to collaborate in the following areas.

a) Guidance to Curriculum Design
b) Training Programmes
c) Demonstrations
d) Consultancy
e) Project work

The Memorandum of Understanding (MOU) is being exchanged in the presence of Fr. Principal, Andhra Loyola College, Vijayawada & Sr. Principal J.M.J. College for Women, Tenali.

M Adilakshmi

Ms. M.Adilakshmamma
H.O.D.Zoology
J.M.J. College for Women,
Tenali

K Ravi Sankar

Mr. K.Ravi Sankar
H.O.D. Zoology
Andhra Loyola College
Vijayawada

Head of the Department of Zoology
Andhra Loyola College (Autonomous)
VIJAYAWADA - 520 008.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

2016-17 .

MEMORANDUM OF UNDERSTANDING

We the Department of Zoology, Andhra Christian College, Guntur, and Department of Zoology, JMJ College for Women, Tenali is hereby come to a common understanding to collaborate in the following areas.

a. Guidance to Curriculum Design

b. Training programs

c. Demonstrations

d. Consultancy,

e. Project Work

The memorandum of understanding (MOU) is being exchanged in the presence of Principal, Andhra Christian College, Guntur, & Principal, JMJ College for Women, Tenali.

HOD of Zoology
Andhra Christian College
Guntur
Capt. DAVID SR DASARI
Head of the Department
Department of Zoology,
A.C. College, GUNTUR, A.P.

HOD of Zoology
JMJ College for Women,
Tenali
Head of the Department of Zoology
J.M.J. College for Women (Autonomous)
TENALI - 522 202 (A.P.)

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform that I/We ....S.C., S.T., B.C., Minority, Rural Development Society, Organisation.... is willing to render our collaboration in the form as specified here under to the J.M.J. College for women, Tenali.

a) Placement
b) Curriculum design
c) Instruction
d) Consultancy
e) Servicing
f) Any other

Date : 12-1-2014

Place : Tenali

B. Ratna Kumar.
Signature

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform that I/We Department of Commerce, VSR&NVR college, Tenali is willing to render our collaboration in the form as specified here under to the J.M.J. College for women, Tenali.

a) Placement
b) Curriculum design
c) Instruction
d) Consultancy
e) Servicing
f) Any other

Date : 31-10-2014

Place : Tenali

V. Kanupalluri
Head of the Department of Commerce
V.S.R. & N.V.R. COLLEGE, TENALI
Signature

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform that I/We State Banks of India, Chennai Super Br. is willing to render our collaboration in the form as specified here under to the J.M.J. College for women, Tenali.

a) Placement
b) Curriculum design
c) Instruction
d) Consultancy
e) ✓ Servicing
f) Any other

Date : 20-7-2014
Place : Tenali

भारतीय स्टेट बैंक
For STATE BANK OF INDIA
Signature
शाखा प्रबंधक/Branch Manager
चेन्नपेट CHENCHUPET

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform that I/We ..... Unesco Club of Rural and youth Development is willing to render our collaboration in the form as specified here under to the J.M.J. College for women, Tenali.

a) Placement
b) Curriculum design
c) Instruction
d) Consultancy
e) Servicing
f) Any other

Date : 12-1-2012

Place : Tenali.

Signature

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform that I/We Pratyusha Brahma Kumaris Ishwariya vishwa vidyalaya, Tenali is willing to render our collaboration in the form as specified here under to the J.M.J. College for women, Tenali.

a) Placement
b) Curriculum design
c) Instruction
d) Consultancy
e) Servicing ✓
f) Any other

Date : 12. 1. 2013

Place :

B G Sundar.
Signature

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

MEMORANDUM OF UNDERSTANDING

This is to inform you that I Dr.T.Ramesh Babu, High Court Advocate and Tax Consultant, R/o Hyderabad is willing to render the following for the students good welfare in collaboration with JMJ College for Women (Autonomous),Tenali.

a. Curriculum Design in Commerce
b. Instruction
c. Consultancy on Tax matters
d. Servicing
e. Other matters if any with further understandings

All the above is on charity basis except as per advocate rules.

Date : 11.11.2015

Place : Tenali

Signature

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

J.M.J. COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

MINUTES OF THE ACADEMIC COUNCIL 2011-2012

Members Present

S.No	Name & Address	Signature
1.	Rev. Dr. Sr. Jacintha Bala Sundari.N, Principal & Chair Person	Present
2.	Prof. G. Prasad, Principal, University College of Arts, Law & Commerce, ANU	Present
3.	Prof. N. Sameyulu, OSD, ANU	Present
4.	Prof. G. Krupachari, Retd. H.O.D of Telugu, ANU	Present
5.	Prof. V. L. Narasimham, Retd. Professor, Dept of Statistics, ANU	Present
6.	Rev. Dr. Sr. Mary Thomas, Correspondent & Controller of Examination, JMJ	Present
7.	Ms. N. Vimala Devi, H.O.D of English, JMJ	Present
8.	Ms. B. Mary Kumari, H.O.D of Telugu, JMJ	Present
9.	Dr. P. Neeraja, H.O.D of Hindi, JMJ	Present
10.	Ms. B. Dhana Lakshmi, H.O.D of Sanskrit, JMJ	Present
11.	Dr. A. V. Vijaya Kumari, H.O.D of Mathematics, JMJ	Present
12.	Ms. D. Vidyavathi, H.O.D of Physics, JMJ	Present
13.	Ms. R. Sudha Rani, H.O.D of Chemistry, JMJ	Present
14.	Ms. T. Manju Latha, H.O.D of Botany, JMJ	Present
15.	Ms. M. Adilakshmamma, H.O.D of Zoology, JMJ	Present

16.	Ms. N. Vijaya Rathnam, H.O.D of Home Science, JMJ	Present
17.	Rev. Sr. K. Mareelu, H.O.D of History, JMJ	Present
18.	Ms. T. Arogyamma, H.O.D of Economics, JMJ	Present
19.	Ms. K. Swaroopa Rani, H.O.D of Political Science, JMJ	Present
20.	Ms. R. Naga Jyothi, H.O.D of Commerce, JMJ	Present
21.	Ms. P. Komali, H.O.D of Bio-Technology, JMJ	Maternity Leave
22.	Ms. J. Vasundhara, H.O.D of Computer Science, JMJ	Present
23.	Ms. K. Naga Deepthi, H.O.D of Electronics, JMJ	Present
24.	Ms. G. Hepsi Rani, H.O.D of Statistics, JMJ	Apologies
25.	Dr. Ms. A. V. Rajeswari, Reader in Physics, JMJ	Present
26.	Ms. K. Prameela, Lecturer in Botany, JMJ	Present
27.	Ms. K. Nirguna, Lecturer in Chemistry, JMJ	Present
28.	Ms. K. Sailaja, Assistant Controller of Examinations, JMJ	Present
29.	Ms. V. Gouri Kumari, Member Secretary, Lecturer in Chemistry, JMJ	Present

1. **Prayer:**

   The Academic Council Meeting of J.M.J. College for Women (Autonomous), Tenali was held on 18.04.2011 at 10.45am in Staff Seminar Room. The meeting was started with Prayer Service conducted by Sr. K. Mareelu and Sr. Amul Mary.

2. **Introduction of New Members:**

   Rev. Dr. Sr. N. Jacintha Bala Sundari, Principal introduced the new members Prof. G. Prasad, Principal, University College, ANU and Prof. G. Krupachary, Rtd. Prof., ANU.

3. **Self Introduction of new members:**

   New members of the Academic Council introduced themselves.

4. **Presentation of Previous minutes:**

Ms. V. Gowri Kumari, Member Secretary, presented the minutes of the previous Academic Council Minutes.

5. **Exam Pattern for Environmental Studies & Science, Technology and Development:**

Inclusion of Environmental Studies in III Semester and Science, Technology and Development in IV Semester, Examination pattern was approved as presented by Ms. K. Sailaja, Assistant Controller of Examinations.

6. **Minutes of the Board of Studies:**

All the Heads of the Departments presented the minutes of the Board of Studies for approval. The minutes of Statistics were presented by Ms. K. Sailaja and Bio-Technology by Ms. K. Prameela as the members concerned were absent. The Academic Council approved the minutes of all departments with the following suggestions.

Telugu: Prof. G. Krupachary advised

- To introduce topics on "Mahilaabhyudhayam"
- "Minikavithalu, Nanilu, Hykulu" to make one topic
- Prof. G. Prasad, Principal, ANU, suggested to introduce Journalism in Special Telugu, as it will be advantageous for the students.

Hindi:

- To encourage students for P.G. in Hindi.
- To include translations as it improves job opportunities.

Sanskrit: to introduce translations – Telugu to Sanskrit and Sanskrit to Telugu.

Home Science: Prof. G. Prasad advised to change the course as "Counseling, Food & Nutrition, Food Technology" and to apply for approval to the Chairman, A.P.S.C.H.E., Hyderabad.

History: Prof. G. Krupachary congratulated for introducing "Travel & Tourism". He advised to introduce one chapter on "Anchoring".

Commerce: To have a member from the Dept. of Computer Science in B.O.S. of B.Com (Comp).

Statistics: Prof. Lakshmi Narasimham advised to write the title of the papers and topics in clear i.e., in expanded form.

7. **Pattern of Internal Examination Papers:**

After much discussion, decided to continue the same pattern.

8. **Suggestions from the Members:**

- To present the Minutes of B.O.S. in a sequence, 1. Languages, 2. Physical Sciences, 3. Bio Sciences, 4. Arts, 5. Commerce.
- To introduce Credit System.
- To encourage students for higher studies.
- To conduct more seminars, preferably once in a month, as they give new thoughts.
- To carry out mini projects for the development of college.
- To improve communication, language and computer skills of students.
- To have Alumni and Parents' association.
- To identify the hidden talents of students and increase leadership skills.
- To have M.O.Us with industries.
- Media exposure.
- To make the industrialist present for the B.O.S. meeting.
- To utilize the schemes and projects of U.G.C.
- To have more activities by N.S.S. students in the campus.
- To create platform in class room for the development of students.
- Prof. G. Prasad, Principal, ANU, emphasized "Organization is more important than individuals".

9. **Vote of thanks:**

The Academic Council Meeting was concluded with vote of thanks proposed by Rev. Dr. Sr. N. Jacintha Bala Sundari, Principal.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

J.M.J. COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

MINUTES OF THE ACADEMIC COUNCIL 2012-2013

28th March, 2012

Members Present

S.No	Name & Address	Signature
1.	Rev. Dr. Sr. K. Mareelu, Principal (FAC) & Chair Person	Present
2.	Prof. G. Prasad, Registrar & Principal, University College of Arts, Law & Commerce, ANU	Present
3.	Prof. N. Sameyulu, OSD, ANU	Present
4.	Prof. G. Krupachari, Retd. H.O.D of Telugu, ANU	Present
5.	Prof. V. L. Narasimham, Retd. Professor, Dept of Statistics, ANU	Present
6.	Rev. Dr. Sr. Mary Thomas, Correspondent & Controller of Examination, JMJ	Present
7.	Ms. N. Vimala Devi, H.O.D of English, JMJ	Present
8.	Ms. B. Mary Kumari, H.O.D of Telugu, JMJ	Present
9.	Dr. P. Neeraja, H.O.D of Hindi, JMJ	Present
10.	Ms. B. Dhana Lakshmi, H.O.D of Sanskrit, JMJ	Present
11.	Dr. A. V. Vijaya Kumari, H.O.D of Mathematics, JMJ	Present
12.	Ms. D. Vidyavathi, H.O.D of Physics, JMJ	Present
13.	Ms. R. Sudha Rani, H.O.D of Chemistry, JMJ	Present
14.	Ms. T. Manju Latha, H.O.D of Botany, JMJ	On Leave
15.	Ms. M. Adilakshmamma, H.O.D of Zoology, JMJ	Present
16.	Ms. N. Vijaya Rathnam, H.O.D of Home Science, JMJ	Present
17.	Rev. Dr. Sr. K. Mareelu, H.O.D of History, JMJ	Present

18.	Ms. T. Arogyamma, H.O.D of Economics, JMJ	Present
19.	Ms. K. Swaroopa Rani, H.O.D of Political Science, JMJ	Present
20.	Ms. R. Naga Jyothi, H.O.D of Commerce, JMJ	Present
21.	Ms. P. Komali, H.O.D of Bio-Technology, JMJ	Absent
22.	Ms. J. Vasundhara, H.O.D of Computer Science, JMJ	Present
23.	Ms. A. Koteswaramma, H.O.D of Electronics, JMJ	Present
24.	Ms. G. Hepsi Rani, H.O.D of Statistics, JMJ	Present
25.	Ms. K. Prameela, Lecturer in Botany, JMJ	Present
26.	Ms. K. Nirguna, Lecturer in Chemistry, JMJ	Present
27.	Ms. G. Saraswathi Devi, Lecturer in Physics, JMJ	Present
28.	Ms. K. Sailaja, Assistant Controller of Examinations, JMJ	Present
29.	Ms. V. Gouri Kumari, Member Secretary, Lecturer in Chemistry, JMJ	Present
	HONORARY MEMBERS	
30.	Dr. Fr. Francis Xavier, Principal, A.L. College, Vijayawada	Present
31.	Sr. Stella Maris, Director of P.G. Courses, JMJ	Present
32.	Sr. N. Jacintha Bala Sundari, Former Principal, JMJ	Present
33.	Sr. Shiny Vice-Principal, JMJ	Present
34.	Ms. C. Rama Devi, Lecturer in Botany, JMJ	Present

1. **Prayer:**

   The Academic Council meeting of J.M.J. College for Women (Autonomous), Tenali is held on 28.03.2012 at 10.15 a.m. in Board room. The meeting is started with Prayer Service conducted by Sr. K. Mareelu and Sr. Shiny.

2. **Introduction of new Principal:**

   Rev. Dr. Sr. Mary Thomas, Correspondent introduced the new Principal, Dr. Sr. K. Mareelu.

Correspondent thanked former Principal, Dr. Sr. Jacintha Bala Sundari for her yeomen services and placed on records.

3. **Welcoming the Academic Council members:**

Correspondent, Rev. Dr. Sr. Mary Thomas, welcomed the Academic Council members.

4. **Self Introduction of members:**

All the members of the Academic Council introduced themselves.

5. **Presentation of Previous Minutes:**

Ms. V. Geuri Kumari, Member Secretary, presented the minutes of the previous Academic Council meeting.

6. **Examination reforms:**

Rev. Dr. Sr. Mary Thomas, Controller of Examinations, presented the changes made in the examination pattern.

a. Introduction of Credit System:

Part-I	– 30 Credits
Core Subjects	– 30 Credits each (3X30=90)
Total	**– 120**
Others - NSS/NCC/AICUF	– 1
Games & Sports / Cultural Programmes	– 1
Co curricular & Extracurricular	– 1
Extension	– 1
Project Works / Certificate Courses	– 1

b. Introduction of two mid-semester examinations instead of one.

- Old System : 2 hrs duration; 50 Marks converted to 20 Marks.
- New System : 1 hr duration; 20 Marks.

7. **Minutes of the Board of Studies:**

All the heads of the departments presented the minutes of the Board of Studies for approval. The minutes of Botany department are presented by Ms. K. Prameela and Bio-Technology by Ms. C. Rama Devi as the heads concerned are not present. The Academic Council approved the minutes of the departments with the following suggestions.

a. **Bio-Technology:** Prof. N. Sameyulu suggested to have M.O.U.s with different companies by consulting Prof. Sambasiva Rao of A.N.U.

b. **Home Science:** Prof. G. Prasad enquired about changing the title of the course, as was suggested in the previous meeting. He also mentioned about various courses related to Home Science available in M.Sc. like Food Technology, Nutrition, etc.

c. **Statistics:** Prof. Lakshmi Narasimham insisted on giving the terms in the syllabus in expanded form as using abbreviations lead to confusion.

8. **Suggestions:**

a. **Prof. G. Prasad:**

- Enquired about exercising the privileges of autonomy in designing the curriculum, so that the students will be competent to pursue higher studies at National Institutions like Central Universities, National Institutes of Technology, University of Madras, University of Pondicherry etc.
- Suggested to move forward with dynamism.
- Suggested to prepare the students for competitive examinations and various entrance tests.
- To go for 2 or 3 innovative courses proposed by UGC in XII plan.

b. **Prof. N. Sameyulu:**

- Suggested to give awareness/orientation to students on various courses available in different universities, research facilities, competitive examination etc.

c. **Prof. G. Krupachari:**

- Suggested to go through the UGC website, to know about innovative courses at UG and PG level and gave an example.
- Enquired about previous results and admissions.

d. **Dr. Fr. Xavier Francis:**

- To have uniformity in syllabus for all the subjects – 5 units each.
- Uniformity in question paper.
- To have pre B.O.S. meeting for discussion on syllabus.
- Exchange programmes among the colleges.

9. **Vote of thanks:**

The Academic Council Meeting is concluded with vote of thanks proposed by Rev. Dr. Sr. K. Mareelu, Principal.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS): TENALI

MINUTES OF THE ACADEMIC COUNCIL 2013-14

9th APRIL, 2013

Members Present:

S.No	Name & Address	Signature
1.	Rev. Dr. Sr. K. Mareelu, Principal (FAC) & Chair Person	Present
2.	Prof. A.V.Dattatreya Rao, Principal, University Science College, ANU	Present
3.	Prof. M. Madhusudhana Rao, Principal, University Arts College, ANU.	Present
4.	Prof. G. Krupachari, Retd. H.O.D of Telugu, ANU	Present
5.	Rev.Fr.Dr.Francis Xavier,Correspondent, AL College, Vijayawada.	Present
6.	Rev. Dr. Sr. Mary Thomas, Correspondent & Controller of Examination, JMJ	Present
7.	Rev.Sr.Stella Maris Director of P.G. courses, JMJ	Present
8.	Rev.Sr.Shiny. Vice Principal,JMJ.	Not Present
9.	Ms. N. Vimala Devi, H.O.D of English, JMJ	Present
10.	Ms. B. Mary Kumari, H.O.D of Telugu, JMJ	Present
11.	Dr. P. Neeraja, H.O.D of Hindi, JMJ	Present
12.	Ms. B. Dhana Lakshmi, H.O.D of Sanskrit, JMJ	Not Present
13.	Dr. A. V. Vijaya Kumari, H.O.D of Mathematics, JMJ	Present
14.	Ms. D. Vidyavathi, H.O.D of Physics, JMJ	Present
15.	Ms. Gouri Kumari, H.O.D of Chemistry, JMJ	Present
16.	Ms. T. Manju Latha, H.O.D of Botany, JMJ	Present
17.	Ms. M. Adilakshmamma, H.O.D of Zoology, JMJ	Present
18.	Ms. N. Vijaya Rathnam, H.O.D of Home Science, JMJ	Present

19.	Ms.G.Hepsi Rani, HOD of Statistics,JMJ	Present
20.	Ms. J. Vasundhara, H.O.D of Computer Science, JMJ	Present
21.	Rev. Dr. Sr. K. Mareelu, H.O.D of History, JMJ	Present
22.	Ms. T. Arogyamma, H.O.D of Economics, JMJ	Present
23.	Ms. K. Swaroopa Rani, H.O.D of Political Science, JMJ	Present
24.	Ms. R. Naga Jyothi, H.O.D of Commerce, JMJ	Present
25.	Ms.C.Raja Sri, Lecturer in Home Science, JMJ	Present
26.	Ms. K. Prameela, Lecturer in Botany, JMJ	Not Present
27.	Ms. K. Nirguna, Lecturer in Chemistry, JMJ	Present
28.	Ms. G. Saraswathi Devi, Lecturer in Physics, JMJ	Present
29.	Ms. K. Sailaja, Addle Controller of Examinations, JMJ	Present
30.	Ms.M.Aruna,Member Secretary, Lecturer in Zoology, JMJ	Present
31.	Mr. K.Subramanyam, Industrialist,Tenali.	Present

1. **Prayer:**
   The Academic Council meeting of JMJ College for Women (Autonomous), Tenali is held on 09.04.2013 at 10 a.m in Board room. The meeting began with prayer led by Dr. Sr. K. Mareelu and Sr. Amul Mary.

2. **Welcoming the Academic Council Members**
   Rev. Sr. Dr. Mary Thomas, the Correspondent of the College Welcomed the Academic Council members.

3. **Presentation of Previous Minutes**
   Ms. M. Aruna, Member Secretary, Presented the minutes of the previous Academic Council meeting.

4. **Examination Reforms**
   Ms. K. Sailaja, Additional Controller of Examinations, Presented the changes made in the Examination pattern.

Introduction of Choice Based credit System:

Part – I	–	30 Credits
Core Subjects	–	90 (30 Credits each **3 X 30 = 90**)
Knowledge based elective	-	02
Skill based elective	-	02
Total	-	**124 Credits**
Project Work	-	**03**

Others : - (To acquire more Credits)

NSS / NCC	- 03
AICUF	- 03
Games / Sports / Cultural Programme	- 03
Literary Activities	- 03

Extension Activities: -

Community Service

30Hrs - 1
60Hrs - 2
} 3

5. **Minutes of the Board of Studies**

The heads of all the departments presented the minutes of the Board of Studies for approval. Sanskrit minutes was read by Dr. Neeraja instead of Ms. Dhanalakshmi and the minutes of physics department was presented by Ms. G. Saraswathi instead of Ms. D. Vidyavathi due to ill health. The Academic council approved the minutes of the departments with the following suggestions.

a) **English:-** Prof Machusudhana Rao Suggested arrangirg group discussions and essay writing practice in the language class room.

b) **Telugu:** - Prof. Krupachari advised to change the pattern of question paper,as to allot 10marks for paragraph, 5 marks for translation i.e from English to Telugu.

c) **Home Science:-** Prof. Dathatreya Rao suggested to change the subject name Home Science into Nutrition. Mr. Subramanyam an Industrialist, suggested to introduce Hotel Management into the curriculum so that the stucents will be able to start business after their studies.

d) **Statistics:-**Prof. Dattatreya Rao suggested togive full form instead of giving abbreviations in the syllabus as it leads to confusion.

e) **Computer Science:** - Prof. Dattatreya Rao suggested to implement C++ in V Semester and also practicals to be in the course including basic of electronics.

f) **Commerce:-** Prof. Dattatreya Rao Suggested, instead of fundamental C++, Database Management concepts can be included for the benefit of the commerce students.

6. Suggestions:

a) **Prof. Madhusudhana Rao :-**

- Suggested to conduct Mock Interviews in the class rooms.

- Suggested that counseling is necessary for girls for every 15 days either by a Psychologist or by an Elder person.
- To arrange personality development classes.
- To enhance academic quality of each department.
- To obtain feedback from the students as well as from the staff.

b) **Prof. Dattatreya Rao :-**

- He suggested that perfect recording, maintaining the documents, Academic Audit and healthy practices are necessary for the NAAC.

c) **Prof. G. Krupachari :-**

- Suggested to go through the UGC website, and get funds from funding Agencies.
- He also suggested attending seminars in National and Global level.

d) **Rev. Fr. Francis Xavier**

- Suggested introducing new courses and certificate course like Journalism.

7. **Vote of Thanks:**

The Academic Council Meeting was Concluded with vote of thanks proposed by Rev. Sr. Dr. K. Mareelu, Principal.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

JMJ COLLEGE FOR WOMEN (AUTONOMOUS):: TENALI

MINUTES OF THE ACADEMIC COUNCIL 2014-15

03rd APRIL2014

Members Present:

S.No	Name & Address	Signature
1	Rev. Sr.Shiny, Principal & Chair Person	Present
2	Prof. A.V.Dattatreya Rao OSD ANU	Present
3	Prof. M. Madhusudhana Rao Principal,University Arts College, ANU	Not Present
4	Prof. G. Krupachari Retd. H.O.D. of Telugu, ANU	Present
5	Rev. Fr. Dr. Francis Xavier, Correspondent, Loyala College, Hyderabad.	Present
6	Mr. K. Subramanyam, Industrialist , Tenali	Not Present
7	Rev. Sr Stella Maris Correspondent & Controller of Examinations, JMJ	Present
8	Rev. Sr. Amul Mary Vice-Principal, JMJ	Present
9	Ms.N.Vimala Devi HOD of English, JMJ	Present
10	Ms. B. Mary Kumari HOD of Telegu, JMJ	Present
11	Ms. D. Haritha HOD of Hindi, JMJ	Not Present
12	Ms. B. Dhanalakshmi HOD of Sanskrit, JMJ	Not Present
13	Dr. A.V. Vijaya Kumari HOD of Mathematics, JMJ	Not Present
14	Ms. D. Vidyavathi HOD of Physics, JMJ	Present
15	Ms. V. Gouri Kumari HOD of Chemistry JMJ	Present
16	Ms. T. Manju Latha HOD of Botany, JMJ	Present
17	Ms. M. Adilakshmamma HOD of Zoology, JMJ	Present
18	Ms.C. Raja Sree HOD of Home Science, JMJ	Not Present
19	Ms. G. Hepsi Rani HOD of Statistics, JMJ	Present

20	Ms. J. Vasundhara HOD of Computer Science, JMJ	Present
21	Mr. M. Bhaskara Rao HOD of History, JMJ	Present
22	Ms. T. Arogyamma HOD of Economics, JMJ	Present
23	Ms. K. Swarupa Rani HOD of Political Science, JMJ	Present
24	Dr. M. Sambasivudu HOD of Commerce, JMJ	Present
25	Ms. K. Prameela Lecturer in Botany, JMJ	Present
26	Ms. K. Nirguna Lecturer in Chemistry, JMJ	Present
27	Ms. G. Saraswathi Devi Lecturer in Physics, JMJ	Present
28	Ms. C.M. Anitha Lecturer in Physics, JMJ	Present
29	Ms. K. Sailaja Addl. Controller of Examinations, JMJ	Present
30	Ms. M. Aruna Members Secretary, Lecturer in Zoology JMJ	Present
31	Dr. S. Uma Maheswari Lecturer in Mathematics & Associate NCC Offiecer, JMJ	Present

1. Prayer:

The Academic Council meeting of JMJ College for Women (Autonomous), Tenali was held on 03.04.2014 at 11 a.m in Board room. The meeting began with prayer led by Sr. Amul Mary. Rev.Sr. Stella Maris welcomed the Academic Council Members. In her Inaugural address she stated that the Modern Technology, innovations should bring changes in the institutions.

2. Welcoming the Academic Council Members

Rev. Sr. Shiny, the Principal of the College warmly Welcomed and Introduced the new Academic Council members.

3. Presentation of Previous Minutes

Ms. M. Aruna, Member Secretary, Presented the minutes of the previous Academic Council meeting.

4. Minutes of Board of Studies:

- In the place of Ms. Dhana lakshmi, Dept. Sanskrit, Ms. B. Mary Kumari, presented the Minutes of Board of Studies.
- In the place of Ms. D. Haritha, Dept of Hindi, Ms. G. Saraswathi presented the Minutes of Board of Studies.

- In the place of Dr. A.V. Vijaya Kumari, Ms. P.M. Padma Latha presented the Minutes of Mathematics.

- The Heads of All Departments presented the Minutes of the Board of Studies for approval

- The Academic Council Approved the Minutes of the Departments with the following Suggessions.
    a. **Sanskrit:-** Prof. G. Krupa Chari Suggested to Enhance the Syllabus of Sanskrit.
    b. **Statistics:-**Prof. Dattatreya Rao suggested to develop awareness about ISS (Indian Statistical Service) and IES(Indian Economic Services) to the students which paves the way for employability as Joint Director posts through UPSC.
    c. **Computers:-** Prof. Dattatreya Rao also suggested to update the computer certificate course (Tally, DTP etc.,) following the revised syllabus of ANU.
    d. **Botany:-**Prof G. Krupa Chari suggested availing the opportunities provided by AYUSH, Hyderabad and Ayurvedic College, Vijaywada. He suggested that funds can be obtained from these institutions to start diploma from the above said institutions to implement Diploma Course and to take up Project works on Mediciral Plants.

Suggestions:

a) The Academic Council Members suggested applying for Minor and Major Research Projects by UGC. They informed that the un aided faculties are also eligible for Minor Research Projects.

b) There are other funding Agencies like DST provide funds for Research Projects.

c) They also informed that un employed women candidates are eligible to work as Women Scientists who as minimum Under Graduation and age limit is 50.

d) **Dr. Rev. Fr. Francis Xavier:**
Suggested imparting special coaching on Communicative English to the students cope with the Global Job Market.

e) Rev. Sr. Shiny informed in her concluding remarks that there is a plan to organize an Inter Disciplinary International Seminar for the Coming Academic Year 2014 - 15.

5. **Vote of Thanks:**

The Academic Council Meeting was ended at 1.15 P.M. and Rev. Sr. Shiny, the Principal thanked every member for their co-operation, valuable suggestions and encouragement.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

JMJ COLLEGE FOR WOMEN (AUTONOMOUS):: TENALI

MINUTES OF THE ACADEMIC COUNCIL MEETING 2015-2016

23rd March, 2015

Members Present:

S.No	Name & Address	Signature
1	Rev. Sr.Shiny, Principal & Chair Person	Present
2	Prof. A.V.Dattatreya Rao OSD ANU	Present
3	Prof. M. Madhusudhana Rao Principal,University Arts College, ANU	Not Present
4	Prof. G. Krupachari Retd. H.O.D. of Telugu, ANU	Present
5	Rev. Fr. Dr. Francis Xavier, Correspondent, Loyala College, Hyderabad.	Present
6	Mr. K. Subramanyam, Industrialist , Tenali	Present
7	Rev. Sr Stella Maris Correspondent & Controller of Examinations, JMJ	Present
8	Rev. Sr. Amul Mary Vice-Principal, JMJ	Present
9	Ms.N.Vimala Devi HOD of English, JMJ	Present
10	Ms. B. Mary Kumari HOD of Telegu, JMJ	Present
11	Ms. A. Chiranjeevi HOD of Hindi, JMJ	Present
12	Ms. B. Dhanalakshmi HOD of Sanskrit, JMJ	Present
13	Dr. A.V. Vijaya Kumari HOD of Mathematics, JMJ	Present
14	Ms. D. Vidyavathi HOD of Physics, JMJ	Present
15	Ms. V. Gouri Kumari HOD of Chemistry JMJ	Present
16	Ms. T. Manju Latha HOD of Botany, JMJ	Present
17	Ms. M. Adilakshmamma HOD of Zoology, JMJ	Present
18	Ms.C. Raja Sree HOD of Home Science, JMJ	Present
19	Ms. Y. Visalini Ratna HOD of Statistics, JMJ	Present

20	Ms. J. Vasundhara HOD of Computer Science, JMJ	Present
21	Mr. G. Dwarakamani HOD of History, JMJ	Present
22	Ms. T. Arogyamma HOD of Economics, JMJ	Present
23	Ms. K. Swarupa Rani HOD of Political Science, JMJ	Present
24	Dr. M. Sambasivudu HOD of Commerce, JMJ	Not Present
25	Dr. S. Uma Maheswari Lecturer in Mathematics & Associate NCC Officer, JMJ	Present
26	Ms. K. Prameela Lecturer in Botany, JMJ	Present
27	Ms. K. Nirguna Lecturer in Chemistry, JMJ	Present
28	Ms. G. Saraswathi Devi Lecturer in Physics, JMJ	Present
29	Ms. K. Sailaja Addl. Controller of Examinations, JMJ	Present
30	Ms. M. Aruna Lecturer in Zoology JMJ	Present
31	Mr.M.Bhaskara Rao Member Secretary, Lecturer in History, JMJ	Present

The Academic Council meeting of JMJ College for Women (Autonomous), Tenali was held on 23.03.2015 at 10.30 am in the Board room.

1. **Prayer**

The meeting began with prayer song by Dr.R.Nagajyothi, Dept. of Commerce and Prayer led by Sr.Shiny. Before beginning the meeting, the members observed a few minutes of silence and paid tribute to late Prof.M.Madhusudhana Rao, the Principal of Arts College, ANU who passed away recently. The management places on record the service of Prof. M.Madhusudhana Rao for the past two years. Rev.Sr.Stella Maris, the Correspondent of the college welcomed the Academic Council members. In her inaugural address she stated that every teacher should be a lifelong learner and need to adopt new techniques to make the teaching effective

2. **Welcoming the Academic Council members**

Sr.Shiny, the Principal of the College warmly welcomed and introduced the new Academic Council members.

3. **Presentation of the Previous minutes**

Mr.M.Bhaskara Rao, the Secretary of the Academic Council presented the minutes of the previous Academic Council meeting.

4. **Examination Reforms**

Ms.K.Sailaja, the Additional Controller of Examinations presented the Examination reforms. She stated that Human Values and Professional Ethics will be introduced as a Foundation Course for all 1st Degree students with effect from 2015-2016 batches. She explained about the evaluation pattern of the paper and two credits are allotted to this course.

5. **Minutes of the Board of Studies**

The heads of the Departments presented the minutes of the Board of Studies for approval.

In the place of Dr.M.Sambasivudu, the HOD of Commerce, Dr. R.Nagajyothi presented the minutes of Board of studies.

The Academic Council approved the minutes of the Departments with the following suggestions.

a. **English:** Prof.G.Krupachari and Prof.A.V.Dattatreya Rao suggested changing the title of an elective paper from "English for Specific Situations into "Enhancement of Communicative English".

b. **Telugu:** Prof.G.Krupachari suggested replacing the book titled "Eekaveera" to the book titled "Athanu Adavini Jayinchadu" as this novel would be more understandable for the students.

c. **Hindi:** Prof.G.Krupachari suggested adopting attractive and employability oriented syllabus. Mr.Subramanyam suggested taking cooperation from Hindi Premamandali for the implementation of any papers.

d. **Sanskrit:** Prof.A.V.Dattatreya Rao suggested presenting the minutes of Hindi or Sanskrit in official language only i.e. in English only in order to make the members to understand the minutes.

e. **Mathematics:** Prof.A.V.Dattatreya Rao and Rev.Fr.Dr.Francis Xavier suggested assigning specific projects to the students which could be integrated with computer programme instead of making the students to do projects on general topics.

f. **Home Science:** Prof.G.Krupachari suggested including a medical Doctor in the Board of Studies of the department and to take measures to increase the strength of the students in Home Science.

g. **Statistics:** Prof.A.V.Dattatreya Rao commented that Elective papers titled "Actuarial Statistics and Textile Technology selected in the Board of Studies were very difficult to get the faculty for teaching the papers. Therefore, he advised to consult with the faculty of Andhra Loyola College and Maris Stella College and select the papers for which faculty are available to teach the papers. He also said that inorder to retain the selected papers in the Board of study, two eminent experts namely Prof. Rajagopal from Coimbatore and Prof. G. Gopal from Madras University could be invited as guest faculty to teach the papers.

Rev.Fr.Dr.Francis Xavier suggested that V.Srinivasa Rao, Lecturer in Statistics from Andhra Loyola College, Vijayawada could be included as BOS member.

6. **Suggestions**

a. It is resolved to introduce Yoga course as a general elective from the academic year 2015-2016 with Post Act Approval. However, the syllabus, model question paper, allotment of credits will be discussed in B.O.S meeting and the minutes will be submitted in the next Academic Council meeting

b. Prof.A.V.Dattatreya Rao suggested taking feedback from the students in subject wise on teacher performance, analyze the feedback and identify it and the weak students could be given remedial coaching. He also suggested arranging part time lecturers from outside other than the existing faculty if the students are failing continuously in a particular subject.

c. Rev.Fr.Dr.Francis Xavier suggested that every department should do something unique to attract the attention of NAAC peer team to get 'A' grade in the forth coming NAAC Accreditation. He also advised preparing quality syllabus that could be unique to the college.

d. He also suggested that IQAC could take the feed back after every semester end exam and also could evaluate the activities of the departments after every 3 months.

e. Prof.G.Krupachari asked the faculty to adopt latest technology in teaching to attract more students.

7. **Vote of Thanks**

The Academic Council was ended at 1.30 pm and Sr.Shiny, the Principal thanked every member for their cooperation and valuable suggestions and concluded with prayer.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202

JMJ COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

MINUTES OF THE ACADEMIC COUNCIL MEETING 2016-2017

22nd March, 2016

Members Present:

S.No	Name & Address	Signature
1.	Rev. Sr. Shiny, Principal & Chair Person	Present
2.	Prof. C. Rambabu Principal, University College of Sciences, ANU	Present
3.	Prof. V. Chandrasekhara Rao Principal, University College of Arts, ANU	Present
4.	Sri. A. Vittal Rao Controller of Examinations, P.B.Siddhartha Arts&Science College, Vijayawada	Not Present
5.	Rev.Fr.Dr.Francis Xavier,Correspondent, AL Institute of Engineering & Technology, Vijayawada.	Present
6.	Dr. S. Siva Rama Krishna, B.A. M.S (UK) Jeevaka Ayurvedic Bhavan	Present
7.	Rev.Sr.Stella Maris Correspondent, JMJ	Not Present
8.	Rev.Sr.Amul Mary Vice Principal,JMJ.	Present
9.	Ms. S. Gayathri, H.O.D of English, JMJ	Present
10.	Ms. D. Vijaya Lakshmi, H.O.D of Telugu, JMJ	Present
11.	Ms. A. Chiranjeevi, H.O.D of Hindi, JMJ	Present
12.	Ms. B. Dhana Lakshmi, H.O.D of Sanskrit, JMJ	Present
13.	Dr. P.M. Padmalatha, H.O.D of Mathematics, JMJ	Present
14.	Ms. D. Vidyavathi, H.O.D of Physics, JMJ	Present
15.	Ms. Gouri Kumari, H.O.D of Chemistry, JMJ	Present
16.	Ms. K. Prameela,	Present

	Dept. of Botany, JMJ	
17.	Ms. M. Adilakshmamma, H.O.D of Zoology, JMJ	Present
18.	Ms. C. Raja Sri, H.O.D of Home Science, JMJ	Not Present
19.	Ms.Y. Visalini Ratna, HOD of Statistics,JMJ	Present
20.	Ms. J. Vasundhara, H.O.D of Computer Science, JMJ	Present
21.	Ms. G. Dwarakamani, H.O.D of History, JMJ	Present
22.	Ms. T. Arogyamma, H.O.D of Economics, JMJ	Present
23.	Ms. K. Swaroopa Rani, H.O.D of Political Science, JMJ	Present
24.	Dr. M. Sambasivudu, H.O.D of Commerce, JMJ	Present
25.	Dr. S. Uma Maheswari Associate NCC Officer, JMJ	Present
26.	Ms. K. Nirguna, Lecturer in Chemistry, JMJ	Present
27.	Ms. G. Saraswathi Devi, Lecturer in Physics, JMJ	Present
28.	Ms. P. Hemalatha Dept. of Home Science	Present
29.	Ms.M.Aruna,Member Secretary, Lecturer in Zoology, JMJ	Not Present
30.	Ms. Ch. Sarojini Controller of Examinations, JMJ	Present

The Academic Council meeting of JMJ College for Women (A), Tenali was held on 22nd March 2016 at 10:30 AM in the Board Room.

1. Prayer and Welcoming

The meeting commenced with prayer led by Sr. Amul Mary, Vice Principal. Dr. Sr. Shiny K.P, the Principal welcomed all the members and introduced the new Academic Council members namely, Prof. C. Ram Babu, Principal, University College of Science, Prof. Chandra Sekhar Rao, Principal, University College of Arts, Dr Rama Krishna Industrialist and Ms.Ch. Sarojini Controller of Examinations of our college.

2. Presentation of the Previous Minutes

Dr. P. M .Padmalatha, the Secretary of the Academic Council presented the minutes of the previous Academic Council meeting.

3. Examination Reforms

Ms Ch. Sarojini, the Controller of Examinations presented the examination reforms. She informed the members regarding the implementation of Foundation Courses such as Communication Skills, Soft Skills and Analytical Skills, Information Technology and Entrepreneurship Education and Certificate Course on Tailoring in III & IV Semesters for the Academic Year 2016-2017. Memorandum of Marks with Photo and marks along with credits would be issued to 2013 admitted Batch onwards. There are no practicals for Mathematics students from 2016-2017 batches onwards. In that place, Problem Solving session is introduced.

4. Minutes of the Board of Studies

The Heads of the Departments presented the minutes of the Board of Studies for approval.
The Academic Council approved the minutes of the Departments with the following suggestions and resolutions.
Prof. Chandra Sekhara Rao suggested using modern technology in teaching and learning process. Prof. Ram Babu suggested making use of the infrastructure especially Laboratories to do experiments to acquire practical knowledge and to enhance research aptitude. The members suggested introducing a few hours for practical in Communication Skills Foundation Course as the aim of this course is to improve the Communication Skills of the students. All the subjects need to have five Units in the Syllabus as per the UGC norms and the same question paper pattern for the benefit of the students.
Dr. Rama Krishna assured of his help in introducing short term Certificate Courses related to the subjects like Botany, Home Science and Commerce and also giving training and placements to the students.
Prof. Chandra Sekhar Rao suggested that the Commerce department may tie up with **Tally Solutions** for Certificate Course and motivate the students to register for MOOC (**Massive Open Online Course**) at ANU as there are 100 courses are available in the site. He also invited the lecturers to join as Content Developers to share their rich teaching experience and knowledge for the benefit of the students. Website: moocs.anuonline.ac.in.
Rev Dr.Fr. Francis Xavier invited the Home Science students to visit Andhra Loyola Food Technology Lab to have exposure. He also suggested having Departmental Orientation Programme between Autonomous Colleges and the department of Computer Science could take the guidance of industrialists in framing the syllabus.

5. Vote of Thanks

The Academic Council Meeting was ended at 1.P.M. Dr. Sr. Shiny K.P., the Principal expressed her gratitude to every member by name for their cooperation, guidance and suggestions for the further progress of the institution.

Principal
J.M.J. COLLEGE FOR WOMEN (Autonomous)
TENALI - 522 202