**DEPARTMENT OF ZOOLOGY**

**II B.SC - ZOOLOGY - QUESTION BANK- III SEMESTER**

**CELL BIOLOGY,BIOMOLECULES,GENETICS & ORGANIC EVOLUTION**

**UNIT 1**

1. Plasma membrane of animal cell is made up of (b )

a)cellulose b)proteins and phospholipids c) chitin d) proteins and carbohydrates

2) The longest cell is ( c )

a)Muscle cell b) Epithelial cell c) Nerve cell d) White blood cell

3) The largest cell is ( d )

a) Egg of hen b) Egg of penguin c) Egg of crow d) Egg of ostrich

4) cytosol of cell consists of ( d )

a) Nucleus b) Ribosomes c) Mitochondria d) All the above

5) Fluid Mosaic Model was proposed by (b )

a) Porter & palade b)Singer & Nicolson c) Watson & crick d) Schleiden & schwan

6) The transport of substances across the plasma membrane against the concentration and electrochemical gradient is called as ( c )

a)Facilitated diffusion b) passive transport c) Active transport d) osmosis

7) Pinocytosis is performed by ( b )

a) Ribosomes b) plasma membrane c) Mitochondria d)Chromosomes.

8) The process of engulfing large sized solid food by the plasma membrane is known as (a )

a)Phagocytosis b)Pinocytosis c)Exocytosis d)Osmosis

9) Proteins are synthesized in ( b )

a) Smooth ER b) Rough ER c) Golgi complex d) Lysosomes.

10) Which of the following sarcoplasmic reticulum stores ( c )

a) sodium ions b) potassium ions c) calcium ions d) magnesium ions

11) Detoxification of substances takes place in ( b )

a)Pancreas b) Liver c) Stomach d) Intestine

12) The conversion of Glycogen into glucose is called ( d )

a) Glycogenesis b) Gluconeogenesis c)Glycolysis d) Glycogenolysis

13) Membranous organelle which is highly developed in glandular cells with high secretory activity. ( a )

a)Golgi complex b) lysosomes c) Mitochondria d) Ribosomes

14) Acrosome of the sperm is formed from ( c )

a)Ribosome b) Lysosome c) Golgi complex d) Nucleus

15) Primary lysosomes are formed from ( d )

a) Plasma membrane b) Ribosomes c) Nucleus d) Golgi complex

16) Protein factories of cell are ( b )

a) lysosomes b) Ribosomes c) chromosomes d) Mitochondria  
17) In animal cell 70s type of ribosomes are present in ( c )

1. Endoplasmic reticulum b) Golgicomplex c) Mitochondria d) Centriole.

18) Which type of ribosomes present in Eukaryotes ( b )

a) 70s ribosomes b) 80s ribosomes c) 60s ribosomes d) 77s ribosomes

19) Membrane bound cell organelles that show polymorphism are ( c )

a) Mitochondria b) Ribosomes c) Lysosomes d) Golgi complex.

20) Lysosomes that contain acid hydrolases are involved in ( d )

a) Protein synthesis b) Energy production c)Biosynthesis of ribosomes

d) Intra cellular digestion

21) cell organelles involved in detoxification of drugs are ( a )

a) Smooth ER b) Rough ER C) Ribosomes d) Mitochondria

22) Concentration , Modification and package of proteins associated with ( c )

a) ER b) Ribosomes c) Golgi complex d) Mitochondria

23) Cell organelles helpful to recycle worn out cellular components ( d )

a) Golgi complex b) ER c) Nucleus d) Lysosomes

24) The digestion of intracellular substances by lysosomes at the time of starvation is called as ( b )

a) Autolysis b) Autophagy c) Residual body d) None of the above

25) The dissolution of certain tissues or organs by the activity of their own lysosomes enzymes is called as (b)

1. Autophagy b) Autolysis C)Exocytois d) Endocytosis

26) Power houses of the cell are ( d )

a) Ribosomes b) Golgi complex c) Lysosomes d) Mitochondria

27) The term mitochondria was coined by ( c )

a) Porter b) Palade c) Benda d) Flemming

28) Enzymes of kerb’s cycle are present in ( b )

a) Perichondrial space b) Mitochondrial matrix c) cytosol face d) cristae

29) The cell organelles usually multiply when a cell needs to produce more energy are ( a )

a) Mitochondria b) lysosomes c) Ribosomes d) Golgi complex

30) The process of glycolysis takes place in ( c )

A )Mitochondria b) cristae c) cytoplasm d) Ribosomes

31) Nebenkern sheath around the axial filament in the middle piece of sperm is formed by ( d )

a) Ribosomes b) Lysosomes c) ER d) Mitochondria

32) which organelles are involved in synthesis of yolk in the ovum ( b )

a) Ribosomes b) Mitochondria c) lysosomes d) Nucleus

33) No. of ATP molecules are formed during the oxidation of glucose ( d )

a) 32 b) 34 c) 36 d) 38

34) No. of chromosomes in man are ( b )

a)48 b) 46 c) 44 d) 42

35) The centromere present at the extreme end of the chromosome is called as ( b )

a) Metacentric b) Telocentric c) Acrocentric d) Sub metacentric

36) Nucleoulus is formed from ( a )

a) Secondary constriction b) Primary constriction c) Telomeres d) Satellite

37) The main function of lamp brush chromosomes is ( c )

a) Synthesis of carbohydrates b) synthesis of enzymes c) synthesis of proteins

d) synthesis of lipids.

38) Salivary gland chromoses were discovered by ( a )

a) Balbiani b) Waldeyer c) Rukert d) Callan and gall

39) polytene chromosomes present is ( c )

a) Buccal glands b) gastric glands c) salivary glands d) intestinal glands

40) Dynamic centre of the cell is ( d )

a) Mitochondria b) Ribosomes c) Lysosomes d) Nucleus

41) Euchromatin present is ( d )

a) Centromere b) Telomere c) satellite d) none of the above.

UNIT II

42) The main sources of energy are ( b )

a) Proteins b) Carbohydrates c) Lipids d) Enzymes

43) The chief sources of carbohydrates are ( d )

a) Wheat b) Rice c) Maize d) All the above.

44) Glucose is also called as ( b )

a) Fruit sugar b) Blood sugar c) Milk sugar d) maltose

45) In Monosaccharides , carbon , hydrogen and oxygen are present in ratio of ( c )

a) 2:1:1 b) 2:1:2 c) 1:2:1 d) 1:1:2

46) Glycogen is stored in ( a )

a) Liver b) Pancreas c) Heart d) Lungs

47) chitin is a ( c )

a) Monosaccharides b) Disaccharides c) Polysaccharides d) None of the above

48) The main buiding blocks of the body are ( b )

a) Carbohydrates b) Proteins c) Lipids d) Vitamins

49) Proteins that are soluble in water called as ( a )

a) Globulins b)Prolamines c) scleroproteins d) Glycoproteins

50) The examples of structural proteins are ( d )

a) collagen b) Elastin c) Keratin d) All the above.

51) Fat is stored in ( c )

a) Muscular tissue b) Epithelial tissue c) Adipose tissue d) Nervous tissue

52) Fats are soluble in ( a )

a) Alcohol b) Insulin C) Water d) Glycine

53) Purines are ( b )

a) Adenine and Thymine b) Adenine and Guamine c) Adenine and Cytosine

d) Thymine and cytosine.

54) The diameter of the double helix of DNA is ( d )

a) 35o A b) 30o A c) 25o A d) 20o A

55) The length of single twist of DNA is ( d )

a) 30o A b) 32o A c) 33o A d) 34o A

56) The distance between two nucleotides in a twist of DNA is ( d )

a) 3.1o A b) 3.2o A c) 3.3o A d) 3.4o A

57) DNA is absent in ( b )

a) Animal viruses b) Plant viruses c) Bacteria d) Bacteriophages

58) Genetic RNA is present in ( c )

a) Bacetria b) Animal viruses c) Plant viruses d) Bacetriophages

59) r- RNA is present in ( b )

a) Lysosomes b) Ribosomes c) Golgi complex d) Mitochondria

60) The name messenger RNA was given by ( d )

a)Portar & Palade b) Watson & crick c) Beadle & Tatum d) Jacob &Monad

61) The synthesis of m-RNA from template DNA is called as ( b )

a) Translocation b) Transcription c) Translation d) Transduction

62) The process of passage of genetic information from codon to anticodon is called ( b )

a) Transcription b) Translation c) Translocation d) Transfection

63) r- RNA is synthesized from ( b )

a) Primary constriction b) secondary constriction c) Telomere d) Satellite

64) Amino acid attachment site of t- RNA is having three specific nucleotides namely ( c )

a) ACC B) CAC C) CCA D) CCC

65) The main role of RNA is ( d )

a) carbohydrate synthesis b) fats synthesis c) hormones synthesis

d) protein synthesis

**UNIT- III**

66.Genes occupying corresponding loci on homologous chromosomes are called ( a )

a). Alleles b). Non alleles c). Phenotype d). Genotype

67. An organism with two identical alleles for a particular character is called ( b )

a). Heterozygous b). Homozygous c). Allelomorphs d). All the above

68. A cross between tall heterozygous F1 hybrid and double recessive homozygous is ( a )

a). Test cross b). back cross c). monohybrid cross d). dihybrid cross

69. Inheritance of flower colour in Mirabilis jalapa exhibits ( c )

a). complete dominance b). co- dominance c). incomplete dominance d). epistasis

70. The cross that determines a dominant phenotypic expression in homozygous or heterozygous is ( a )

a). back cross b). test cross c). monohybrid cross d). dihybrid cross

71. When an allele fails to express itself in presence of other allele is called ( b )

a). recessive b). dominant c). co- dominant d). incomplete dominant

72.When two alleles express their characters equally in F1 hybrids is called ( a )

a). co- dominance b). incomplete dominance c). complete dominance d). recessive

73. Four types of phenotypes are found in the ratio of 9:3:3:1 in dihybrid cross due to ( b )

a). purity of gametes b). independent assortment c).co dominance

d). incomplete dominance

74. The ratio of complementary genes is ( b )

a). 9:6:1 b). 9:7 c). 9:3:4 d).9:3:3:1

75. When an allele of one gene suppresses an allele of another gene,the phenomenon is ( d )

a). co dominance b). incomplete dominance c). lethal d). epistasis

76. Chromosome theory of sex determination was discovered by ( a )

a). Wilson and Steven b). Henking c). C.B.Bridges d). T.H.Mergan

77. Human males with AAXXY chromosomes exhibits ( c )

a).Down syndrome b).Turner syndrome c). Klinefelter syndrome d).Patau syndrome

78. Genic balance theory was put forward by ( b )

a) Wilson and Steven b). C.B.Bridges c). T.H.Morgan d). Bateson and punette

79. In cattle sex differentiation is influenced by ( b )

a). environment b). hormones c). enzymes d). food

80. Genes located on Y- chromosome are called ( a )

a). holandric genes b). X-linked genes c). XY- linked genes d). sex limited genes

81. Concept of sex linked inheritance in drosophila was introduced by ( b )

a). C.B.Bridges b). T.H.Morgan c). Bateson d). Henking

82. Characters which are passed on from male parent to male grandson through daughters are called ( b )

a). y-linked characters b). x-linked characters c). xy -linked characters d). sex influenced

83. Baldness in man is good example for ( c )

a). sex limited character b). X-linked characters c).sex influenced character

d). y-linked characters

84.If a haemophilic women marries a normal man all her sons will be ( b )

a). normal b). haemophilic c). 50% normal & 50% haemophilic d). carriers

85. Shell coiled towards right hand is called ( b )

a). sinistral b). dexstral c). spiral d). all the above

86.The paramecium of killer strain contains large no. of particles in cytoplasm are called ( b )

a). gama particle b). kappa particle c). granular particle d). volutin particle

87. 13-trisomy is called ( a )

a).Patau syndrome b). Down syndrome c). Edward syndrome d)Turner syndrome

88.In Q-banding ,chromosomes are stained with ( b )

a). giemsa b). quinacrine c). acridine d). acetocaramine

89. Turner syndromes are ( d )

a). fertile males b). sterile males c). fertile females d). sterile females

90. Epicanthal fold in found in ( b )

a). Edward syndrome b). down syndrome c). patau syndrome d). klinefelter syndrome

UNIT-IV

91.Philosophie zoologiquc book was published by ( b )

a). Darwin b). Lamarck c). Weismann d).Devries

92. The inheritance of acquired characters in organisms was proposed by ( c )

a). Weismann b). Darwin c). Lamarck d).Devries

93. In Lamarck’s theory new characters are acquired by the living beings ( d )

a). use and disuse b). effect of environment c). inheritance of acquired character

d).all the above

94. Germplasm theory was proposed by ( c )

a). Lamarck b). Darwin c). Weismann d).Devries

95. Which characters are inherited to the next generation ( b )

a). somatic characters b). genetic characters c). autosomal characters

d). general characters

96. The origin of species by natural selection book was published by ( b )

a).Lamarck b). Darwin c).Morgan d). Weismann

97.Struggle for existence was introduced by ( c )

a). Morgan b). Bridges c). Darwin d). Wallace

98.The struggle is found among the individual of same species is called ( b )

a). inter specific b). intra specific c). neutralism d). antagonism

99. Which variations are favoured by the nature ( a )

a). useful b). harmfull c). neutral d). all the above

100. The idea of survival of the fittest was proposed by ( d )

a). Darwin b).Lamarck c). Weismann d). Herbert spencer

101. Recombination of genes takes place by ( d )

a). fertilization b). meiosis c). crossing over d). all the above

102.Loss of one chromosome from diploid no. of chromosomes is called ( b )

a). trisomy b).monosomy c). nullisomy d). tetrasomy

103.Exchange of chromatids between non homologous chromosomes is called ( b )

a). translation b). translocation c). transcription d). transfection

1o4. Reshuffling or rearrangement of genes is sexually reproducing organisms resulting ( d )

a). gene mutation b). chromosomal mutation c). chromosomal aberration

d). gene recombination

105. Mutagenic agents are ( d )

a). radiations b). chemicals c). high temperature d). all the above

106.In small population gene frequencies fluctuate purely by chance is called ( b )

a). genetic equilibrium b). genetic drift c). natural selection d). gene balance

107.Genetic drift is also called ( a )

a). Sewall wright effect b). environmental effect c). hardy – Weinbergs law

d). genetic equilibrium

108. Stabilizing selection favours ( b )

a). variable phenotypes b). normal phenotypes c). mutations d). extreme varients

109. Directional selection favours ( b )

a). normal phenotype s b). variable phenotypes c). neutral phenotypes

d). harmfull phenotype s

110. Biston betularia is a good example for ( c )

a). stabilizing selection b). disruptine selection c). directional selection d). cyclic selection

111. Structural differences in the genital organs prevent coupulation is called ( d )

a). ecological isolation b). ethological isolation c). seasonal isolation d). mechanical isolation

112.Offsprings of F1 hybrids have reduced fertility is called ( c )

a). hybrids inviability b). hybrid infertility c). hybrid break down d). hybrid mortality

113.The evolution of new species from the parent species which are geographically isolated is called ( a )

a). allopatric speciation b). sympatric speciation c). phyletic spiciation d). quantum speciation

114.The evolution of new species from the parent species which are living in the same habitat is called ( b )

a). allopatric speciation b). sympatric speciation c). phyletic speciation

d). quantum speciation