

# APPOLO STUDY CENTRE

## APPOLO STUDY CENTRE TRB PG ZOOLOGY - 2013

1. The arrangement of microtubules in the sperm tail is :  
(A) 9 + 0                      (B) 7 + 2                      (C) 7 + 0                      (D) 9 + 2
2. The attachment of the blastocyst to the uterine wall is known as :  
(A) Implantation                      (B) Insertion  
(C) Migration                      (D) Invagination
3. The sex Phenotype in Drosophila is mediated by the ratio of :  
(A) X chromosome : Y chromosome  
(B) X chromosome : Autosome  
(C) Y chromosome : Autosome  
(D) All the above
4. The human eye is lubricated by the secretion of \_\_\_\_\_ gland.  
(A) Lacrimal                      (B) prostaglandin E  
(C) Prostaglandin F                      (D) Eye - lashes
5. Childhood related aging disease is :  
(A) Huntington's chorea                      (B) Marfan's syndrome  
(C) Phenylketonuria                      (D) Hutchinson - Gilford Progeria
6. Poly adenylate sequences are found at the :  
(A) 3' end of mRNA                      (B) 5' end of mRNA  
(C) Initiation codon                      (D) Non coding region-1
7. Interaction between products of non-allelic genes is called :  
(A) Segregation                      (B) Independent Assortment  
(C) Epistasis                      (D) Dominance
8. Erythroblastosis fetalis is caused in between :  
(A)  $Rh^{-ve}$  mother and  $Rh^{+ve}$  fetus  
(B)  $Rh^{-ve}$  mother and  $Rh^{-ve}$  fetus

- (C)  $Rh^{+ve}$  mother and  $Rh^{-ve}$  fetus  
(D)  $Rh^{+ve}$  mother and  $Rh^{+ve}$  fetus.
9. One of the following is an example for specialized transducing phage :  
(A) Coliphage Lambda (B) T2 phage  
(C) P22 phage (D) PBS 1 phage
10.  $F^1$  elements are discovered in the year :  
(A) 1929 (B) 1939 (C) 1959 (D) 1969
11. In allele frequency  $p$  is :  
(A) Recessive allele (B) Dominant allele  
(C) Both (A) and (B) are correct (D) None
12. Albinism is caused due to the :  
(A) Lack of pigment (B) Recessive allele  
(C) Both (A) and (B) are correct (D) None
13. Theory which forms the basis of Modern Views of evolutionary theory is called :  
(A) Neodarwinism (B) Neolamarckism  
(C) Population genetics (D) None
14. The study of fossil is called :  
(A) Palaeontology (B) Archeology  
(C) Ichthyology (D) All
15. The 'Golden age of Dinosaurs' is :  
(A) Palaeozoic (B) Mesozoic  
(C) Cenozoic (D) Psychozoic
16. Which enzyme recognizes the damaged base in Excision DNA Repair ?  
(A) RNA Polymerase (B) DNA Polymerase  
(C) Glycosylase (D) DNA ligase
17. Oncogenes are a set of genes responsible for :  
(A) Formation of liver cells  
(B) Formation of nerve cells  
(C) Formation of kidney cells  
(D) Formation of normal cell into tumour cell
18. The other name for Phagocytosis :  
(A) cell vomiting (B) cell drinking  
(C) cell organelle (D) cell eating

19. Microtubules of spindle fibre are assembled from\_\_\_\_\_.
- (A) Ribonucleotide monomers
  - (B) Tubulin monomers
  - (C) Deoxyribonucleotide monomers
  - (D) Glucose monomers
20. Semi conservative method of DNA Replication was proposed by :
- (A) Watson and Crick
  - (B) Cavalieri and Rosenberg
  - (C) Flemming
  - (D) Altmann
21. In which stage of development, highly co-ordinated cell and tissue movements are observed ?
- (A) Zygote
  - (B) Morula
  - (C) Gastrula
  - (D) Blastula
22. Which term in physiology refers to a torpid condition with a substantial drop to metabolic rate in animals during winter.
- (A) Hibernation
  - (B) Activation
  - (C) Estivation
  - (D) Dormancy
23. The principal factors controlling the development and metamorphosis in vertebrates are derived from :
- (A) Pituitary gland
  - (B) Hypothalamus
  - (C) Thyroid Gland
  - (D) Adrenal gland
24. Which hormone is the main determinant of primary sexual characters in human during early development ?
- (A) FSH
  - (B) LH
  - (C) GnRH
  - (D) Testosterone
25. Vital staining technique to construct fate map in different types of animal eggs was discovered by:
- (A) Vogt
  - (B) Spratt
  - (C) Benzer
  - (D) Waddington
26. When the data is classified according to the magnitude, it is called\_\_\_\_\_.
- (A) Chronological data
  - (B) Qualitative data
  - (C) Quantitative data
  - (D) Continuous data
27. Multiple Bar diagram is used to represent:
- (A) Differential frequencies of a variable.
  - (B) frequency distribution of more than one variable.
  - (C) Continuous Quantitative data.
  - (D) Frequency of two or more characters.

28. Frequency polygon is an alternative way for representing :
- (A) Frequency distribution of Qualitative data
  - (B) Frequency distribution of Quantitative data
  - (C) Cumulative frequency of a character
  - (D) Percentage frequency of a variable
29. Percentage frequency distribution is represented by :
- (A) Frequency Polygon
  - (B) Ogive representation
  - (C) Pie diagram
  - (D) Frequency table
30. Find the Arithmetic Mean of the marks obtained by 10 students of a class in mathematics in an examination. The marks obtained are : 25, 30, 21, 55, 47, 10, 15, 17, 45, 35,
- (A) 25
  - (B) 35
  - (C) 15
  - (D) 30
31. Smooth endoplasmic Reticulum of ovary, testis and adrenal cortex has a role in the synthesis! of \_\_\_\_\_.
- (A) Creatine
  - (B) Vitamins
  - (C) Growth hormone
  - (D) Steroid hormones
32. Lysosomal digestion of intracellular food materials is named as \_\_\_\_\_.
- (A) Autophagy
  - (B) Autolysis
  - (C) Allophagy
  - (D) Heterophagy
33. In Eukaryotes 70 - 90% of rRNA synthesized in \_\_\_\_\_.
- (A) Nuclear membrane
  - (B) Chromosome
  - (C) Nucleolus
  - (D) Cytoplasm
34. Axoneme are found in :
- (A) Centrioles
  - (B) Spindle fibres
  - (C) Pseudopodium
  - (D) Cilium
35. hnRNAs are the precursors of the-----
- (A) tRNA
  - (B) rRNA
  - (C) mRNA
  - (D) DNA
36. What is the animal symbol of W.W.F?
- (A) Tiger
  - (B) Kangaroo
  - (C) Red Panda
  - (D) Giant Panda
37. Which is mainly responsible for the extinction of wild life ?
- (A) Pollution of air and water
  - (B) Hunting for flesh
  - (C) Destruction of habitats
  - (D) All of these

38. Approximately 50% of total world species are present on :  
(A) Coral reefs (B) Tropical rain forest  
(C) Temperate deciduous forest (D) None
39. Which substance is synthesised by Stanley Miller ?  
(A) Adenine (B) Ribose  
(C) Both (A) and (B) are correct (D) None
40. Who proposed new species arise from pre existing species ?  
(A) Darwin and Wallace (B) Malthus  
(C) Smith (D) Jacob and Monod
41. The arrangement of mutant and wild type forms of two genes in a heterozygote is called \_\_\_\_\_ configuration.  
(A) Cis (B) trans  
(C) chiasma (D) three factor cross
42. Crossing over occurs after :  
(A) Translation (B) Transcription  
(C) Replication (D) Mutation
43. In synkaryons, the number of nucleus will be :  
(A) 1 (B) 2 (C) 3 (D) 4
44. The three species, which are exhibiting same basic mtDNA organization, are :  
(A) Human, Drosophila and Yeast  
(B) Human, Mice and Cattle  
(C) Human, Mice and Drosophila  
(D) Human, Mice and Yeast,
45. HW equilibrium on multiple loci is applicable only at the state of :  
(A) Dominance (B) Recessive  
(C) Segregation (D) Linkage Disequilibrium
46. In an ecosystem the unit of measurement of energy as :  
(A) Calories (B) joules  
(C) Kilogram (D) erg
47. Which one is the example for Antibiosis ?  
(A) Penicillin (B) Azotobacter  
(C) E. Coli (D) Klebsiella

48. IUCN headquarters is at :  
 (A) Paris (B) Prance  
 (C) Morges, Switzerland (D) Austria
49. Ex situ conservation includes :  
 (A) Zoo (B) Botanical garden  
 (C) Germplasm bank (D) All of the above
50. Hot spots are regions of high :  
 (A) Endemism (B) Ranity  
 (C) Critically endangered population (D) None
51. Formula for Median of ungrouped data is \_\_\_\_\_.  
 (A)  $\left[\frac{n+1}{2}\right]^{th}$  item (B)  $\frac{n}{2}$   
 (C)  $L_1 + \left[\frac{\frac{\sum f}{2} - F}{fm}\right] \times i$  (D) None of these
52. The demerits of Mode are :  
 (A) Mode is rigidly defined  
 (B) As compared to Mean, Mode is affected to a great extent by the fluctuations of sampling  
 (C) It is suitable for algebraic treatment  
 (D) All the above
53. Median is \_\_\_\_\_  
 (A) Central value (B) Central tendency  
 (C) Positional average (D) All of them
54. The tRNA is otherwise called as-----  
 (A) soluble RNA (B) supernatant RNA  
 (C) adaptor RNA (D) All of these
55. Okazaki fragments are formed during \_\_\_\_\_.  
 (A) RNA synthesis (B) DNA synthesis  
 (C) Protein synthesis (D) Lipid synthesis
56. Which is the principal mediator of the inflammatory response ?  
 (A) Histamine (B) Glucose  
 (C) Lymphocyte (D) None

57. Which is the secondary lymphoid organ ?  
(A) Lymph (B) Liver  
(C) Spleen (D) None
58. Kupffer cells are present in the :  
(A) Kidney (B) Liver  
(C) Bone (D) None
59. Which is the basis for the first, biological assay for IgE activity ?  
(A) PK reaction (B) NK reaction  
(C) KP reaction (D) None
60. Expansion of OPV :  
(A) Oral Polysaccharide Vaccine  
(B) Oral Pertussis Vaccine  
(C) Oral Polio Vaccine  
(D) None
61. The colour of the *Taenia solium* is\_\_\_\_\_.  
(A) Opaque white (B) Transparent  
(C) Yellow (D) Reddish Yellow
62. The female genital aperture in *Ascaris lumbricoides* is called\_\_\_\_\_.  
(A) Cloaca (B) Anus  
(C) Vulva (D) Vagina
63. *Balanoglossus* resembles\_\_\_\_\_.  
(A) Protozoa (B) Echinoderms  
(C) Platyhelminthes (D) Annelida
64. The horns and hoofs of animals are used for the preparation of\_\_\_\_\_.  
(A) Handles of Knives (B) Purses  
(C) Slippers (D) Suitcases
65. Culture of fishes along with agriculture is called\_\_\_\_\_.  
(A) Monoculture (B) Fish culture  
(C) Integrated fish culture (D) Horticulture
66. The shape of the heart of rabbit is\_\_\_\_\_.  
(A) Pear shaped (B) Conical shaped  
(C) Triangular shaped (D) S - shaped
67. The testes of scoliodon are :

- (A) Small, rod like oval bodies
- (B) Elongated, very long and cylindrical
- (C) Small, oval white coloured bodies
- (D) Comparatively large, oval, white coloured

68. The quantitative relationship among pH, buffering action of a mixture of weak acid with its conjugate base is given by :

- (A) Michaelis Menten's equation
- (B) Lowry equation
- (C) Knoop's theory
- (D) Henderson - Hasselbalch Equation

69. The arrangement of fundamental particles inside an atom was proposed by :

- (A) Ernest Rutherford
- (B) Calvin
- (C) Bronsted
- (D) Mendel

70. The pH of human blood is :

- (A) 8.0
- (B) 7.5
- (C) 7.4
- (D) 6.0

71. Who made the first attempt to classify the known animals ?

- (A) Carolus Linnaeus
- (B) Aristotle
- (C) Charles Darwin
- (D) Alexander Flemming

72. The study of Zoology is necessary for preprofessional work in\_\_\_\_\_.

- (A) Medicine
- (B) Dentistry
- (C) Veterinary Science
- (D) All the above

73. In the upper part of the large intestine of Man, *Entamoeba histolytica* produces\_\_\_\_\_.

- (A) Ulcer and abscesses
- (B) Acidity
- (C) Hernia
- (D) Stomach tuberculosis

74. Plasmodium in red blood corpuscles possesses double membrane namely :

- (A) Plasma membrane
- (B) Plasmalemma
- (C) Cell membrane
- (D) Endoplasmic reticulum

75. *P. malariae* causes Quartan malaria in which fever comes on every\_\_\_\_\_ .

- (A) 24 hrs
- (B) 48 hrs
- (C) 72 hrs
- (D) 96 hrs

76. Bronsted and Lowry defined acid as :



- (A) Proton acceptor                      (B) Proton donor  
(C) Electron acceptor                    (D) Electron donor

77. The molecular formula for pyruvic acid is :

- (A)  $\text{CH}_3\text{CO}\text{COOH}$                       (B)  $\text{CH}_3\text{COOH}$   
(C)  $\text{CH}_3\text{CH}_2\text{COOH}$                     (D)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$

78. Glucagon hormone converts :

- (A) Glucose into Glycogen              (B) Glycogen into Glucose  
(C) Glucose into Fructose              (D) Fructose into Glucose

79. The data collected by investigator from personal experimental studies is called \_\_\_\_\_.

- (A) Secondary data                      (B) Arrayed data  
(C) Primary data                        (D) None of the above

80. Advantages of census methods are :

- (A) The data has high degree of accuracy  
(B) The data is more representative and true  
(C) Results are more reliable  
(D) All the above

81. Ampullae of Lorenzini are found in :

- (A) Insects                                (B) Elasmobranch  
(C) Amphibians                        (D) both (B) and (C)

82. The most primitive photoreceptor is present in :

- (A) Teleosts                              (B) Bacteria  
(C) Euglena                              (D) Calotes

83. Acetylcholine is a :

- (A) Mechanotransmitter                (B) Neurotransmitter  
(C) Phototransmitter                  (D) All the above

84. The amount of retinol, retinal, rhodopsin and iodopsin decreases with diet deficient in :

- (A) Vitamin B                              (B) Vitamin B12  
(C) Vitamin A                              (D) Vitamin C

85. Among the following which is not a gastrointestinal tract hormone :

- (A) Histamine                            (B) Insulin  
(C) Secretin                              (D) Gastrin

86. Haptens are :
- (A) Antigenic and Immunogenic  
 (B) Antigenic  
 (C) Immunogenic  
 (D) None
87. V - region in the immunoglobulin molecule is :
- (A) Constant (B) Inactive (C) Variable (D) None
88. Basophils causes:
- (A) Allergic (B) Anemia (C) Fever (D) None
89. Denitrification is carried out by :
- (A) Proteus (B) Pseudomonas  
 (C) Clostridium (D) Azotobacter
90. Who coined the term Ecosystem ?
- (A) Odum (B) Dash (C) Tansley (D) None
91. The frequency of phenylketonuria among the offspring of unrelated parents will be :
- (A) 0.0001 (B) 0.001 (C) 0.01 (D) 0.1
92. One of the following is an example for genetically engineered protein used in industries :
- (A) Taq DNA polymerase (B) Reverse transcriptase  
 (C)  $\alpha$  - amylase (D) Chymotrypsin
93. \_\_\_\_\_ Cleavage site is used to join the HGH DNA with the DNA of E. coli.
- (A) EcoRI (B) HaeIII (C) EcoR II (D) Hind III
94. \_\_\_\_\_ Promoter is joined in the high - lysine zein coding .genes :
- (A) CaMV 35 S (B) Pro C (C) nif - 3 (D) R 5
95. Cholecystokinin is a mammalian gastro intestinal hormone secreted from :
- (A) Stomach (B) Duodenum (C) Pancreas (D) Liver
96. Which of the fossil man is most recent ?
- (A) Neanderthal (B) Zinjanthropus  
 (C) Cro-Magnon (D) Smanthropus
97. When was the 'Man and the Biosphere', a broad based ecological programme, launched by the UNESCO ?

- (A) 1967                      (B) 1983                      (C) 1953                      (D) 1971

98. Conservation of natural resources is the :

- (A) Proper use of natural habitat  
(B) Protection of natural habitat  
(C) Management of natural resources  
(D) All the above

99. 'Biosphere reserve-project' was started in India during :

- (A) 1986                      (B) 1985                      (C) 1972                      (D) 1975

100. Why do we need Biosphere Reserves ?

- (A) To conserve biological diversity  
(B) To maintain healthy ecosystem  
(C) To learn about natural system and how they are changing  
(D) All

101. During the metabolic activity, ornithine cycle is associated to : '

- (A) Urea                                      (B) Uric acid  
(C) Ammonia                                      (D) Amino acid

102. The skeletal muscle always remain in state of light tension in the body is called:

- (A) Toxicity                                      (B) Tonicity  
(C) Elasticity                                      (D) Conductivity

103. Which of the following Vant Hoff s laws is used to temperature and rate of activity?

- (A)  $Q_{10} = \frac{k_2}{k_1} \times \frac{10}{(t_2-t_1)}$                                       (B)  $Q_{10} = \frac{k_1}{k_2} \times \frac{10}{(t_2-t_1)}$   
(C)  $Q_{10} = \frac{k_2}{k_1} \times \frac{10^2}{(t_2-t_1)}$                                       (D)  $Q_{10} = \frac{k_1}{k_2} \times \frac{10}{(t_2-t_1)}$

104. Aquatic animals that live only within a narrow range of out side salinities are said to

- (A) Euryhaline                                      (B) Stenohaline  
(C) Trimethylamine                                      (D) Purinotelic

105. The diffusion of CZ ions into the RBC from the plasma and back this phenomenon :

- (A) Haemopoiesis                                      (B) Hamburger  
(C) Homeostasis                                      (D) Homeothermic

106. During the digestion in small intestine, the food is mixed with three secretion which are :
- (A) Saliva, Bile and Gastric juice
  - (B) Saliva, Pancreatic juice and Intestinal juice
  - (C) Bile, Pancreatic juice and Gastric juice
  - (D) Pancreatic juice, Intestinal juice and Bile
107. Formation of Glucose from surplus amino acid is called :
- (A) Gluconeogenesis
  - (B) Glycogenesis
  - (C) Glycogenolysis
  - (D) Glycolysis
108. Identify which one of the respiratory pigment with least oxygen carrying capacity is :
- (A) Haemoglobin
  - (B) Chlorocruroin
  - (C) Haemoerythrin
  - (D) Haemocyanin
109. Pellagra is caused due to deficiency of :
- (A) Pyruvic acid
  - (B) Nicotinic acid
  - (C) Folic acid
  - (D) Fatty acid
110. Human heart beat starts at :
- (A) S.A. node
  - (B) A.V. node
  - (C) Purkinje fibres
  - (D) Bundle of His

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