ZOOLOGY QUESTION BANK

TDC - PART-I

GENERAL

(Non-Chordates, Cell Biology, Genetics and Evolution)

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MULTIPLE CHOICE QUESTIONS

UNIVERSITY DEPARTMENT OF ZOOLOGY

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2021

ZOOLOGY General

1. Who is regarded as the "Father of Zoology"?
   (a) Hyman (b) Darwin (c) Aristotle (d) None of these
2. Protozoa name was proposed by
   (a) Grant (b) Goldfuss (c) Hyman (d) Taylor
3. Arthropoda name was proposed by
   (a) Jacob Klein (b) Aristotle (c) Von siebold (d) Leuwenhock
4. Which one cell organelle is also called Lipochondria?
   (a) Lysosome (b) Golgibody (c) Mitochandria (d) Ribosome
5. **Leucosolenia** belongs to class ……..of profiera.
   (a) Calcarea (b) Hexactinellide (c) Demospongia (d) None of these
6. The causative agent of elephantiasis is
   (a) **Taenia Solium** (b) **Fasciola hepatica**
   (c) **Ascaris lumbricoides** (d) None of these
7. The body organization in **Hydra** is
   (a) Tissue grade (b) Organ grade
   (c) Cellular (d) None of these
8. Which one of the following belongs to class Anthozoa of phylum coelenterate?
   (a) Sea anemone (b) Sea mouse (c) Both (d) None
9. Mitochandrial DNA was discovered by
   (a) Benda (b) Altmann (c) Nass and Nass (d) Jhonson
10. "Survival of the Fittest" was called by
    (a) Darwin (b) Lamarck (c) Hugo de varies (d) Herbert Spencer
11. "Philosophie zoologique" book was published by-
    (a) Lamarck (b) Darwin (c) Oparin (d) None of these
12. Which of the following characters is not found in all Arhtropods?
    (a) True coelom (b) Malpighian tubules
    (c) Haemocoel (d) Exoskeleton
13. Malacology is the study of
    (a) Mammals (b) Mollusca (c) Arthropoda (d) Echinodermata
14. The study of insects is known as-

(a) Malacology (b) Herpetology (c) Entomology (d) None of these

15. Organ of Bojanus is excretory organ of

(a) Annelida (b) Arthropoda (c) Mollusca (d) None of these

16. Paramecium has

(a) One nucleus (b) Two nucleus

(c) Three nucleus (d) Four nucleus

17. In Ascaris Penial setal arise from

(a) Cloace of male (b) anus of female

(c) Vulva of female (d) None of these

18. The causative agent of liver rot in sheep is

(a) Degesia (b) Fasciola (c) Taenia (d) Schistosoma

19. The suicidal bag of Cell is

(a) Acrosome (b) Lysosome (c) Nucleosome (d) Polyri bosome

20. In plasma membrane the hydrophilic ends of phospholipids molecules

(a) Face protein molecule (b) Face each other

(c) Are not found (d) have not specific end

21. Which of the following is back cross

(a) TT × Tt (b) TT × tt (c) tt × tt (d) Tt × tt

22. In monohybrid cross the phenotypic ratio of dominant and recessive characters in F2 generation is

(a) 1:2:1 (b) 3:1 (c) 9:1 (d) 9:3:3:1

23. The functional unit in the compound eye of prawn is known is

(a) Stigma (b) Ocellus (c) ommatidium (d) eye spot

24. Prokaryotic Ribosomes are

(a) 30s (b) 50s (c) 70 s (d) 80s

25. Ribosomes help in

(a) Lipogenesis (b) Protein synthesis

(c) Chrosome synthesis (d) Glucose synthesis

26. Linked genes may be expressed by

(a) Crossing over (b) Polypoidy

(c) Gene mutation (d) Segregation

27. The exist pore of Scypha is

(a) Ostia (b) Osculum (c) Spongocoel (d) Apopyle

28. Canal system of scypha is

(a) ascon type (b) Syconoid type (c) Luconoid type (d) Rhagon type

29. The number of tentacles in young medusa of obelia is

(a) 16 (b) 32 (c) 64 (d) 128

30. Ascaris is

(a) host (b) bisexual (c) dioecious (d) digenetic

31. Young stage of syconoid sponge is

(a) Coelobalstula (b) Paranchymule (c) Olynthus (d) Stomoblastula

32. Paleomon belongs to class

(a) Insecta (b) Chilopode (c) Crustace (d) Diplopoda

33. Unit membrance model of plasna membrance was proposed by

(a) Robertson (b) Nicolson

(c) Danielli & Davson (d) Singer & Nicolson

34. The main functions of contractile vacuole is

(a) Pumping out excess water (b) excretion

(c) Osmoregulation (d) respiration

35. "Origin of species" was written by

(a) Lamark (b) Charles Darwin (c) Spinger (d) Hugo-devries

36. Nematocyst is found in

(a) Coelentrata (b) Porifera (c) Annelide (d) Echinodermata

37. Mitochondrial DNA is

(a) rod-shape (b) Circular (c) Comma shaped (d) None of these

38. When two plants of red and yellow flowers are cross, plants with red flowers appear in F_1 generation. The result justifies

(a) Law of segregation (b) Law of dominance

(c) Law of complete linkage (d) Law of independent assortment

39. When two or more characters do assert independently in F_2 generation, it indicates that characters are not

(a) dominant (b) recessive (c) linked (d) lethal

40. Movement of food vacuole in paramecium along a definite path is known as

(a) cytokinesis (b) Cyclosis (c) Endomix's (d) Circulation

41. During conjugation how many paramecia are formed from one paramecium

(a) 2 (b) 4 (c) 8 (c) 16

42. In scypha water current are produced by

(a) choanocyto (b) archacocyto (c) pincocytes (d) Theocytes

43. The various forms of a given gene are called

(a) genotype (b) Phenotype (c) gamete (d) alleles

44. Emasculation is achieved by

(a) removal of anthers (b) removal of style

(c) removal of petals (d) removal of sepals

45. The sperm bears a cap like structure called acrosome. It is produced by

(a) Plasma membrane (b) A Golgi body

(c) Endoplasmic reticulum (d) Mitochondria

46. A species inhabiting different geographical areas is known as

(a) Sympatric (b) Allopatric (c) Siblings (d) Biospecies

47. Charles Darwin toward in a ship for 5 yrs

(a) Alexander (b) Philips (c) Dusmania (d) Beagle

48. The theory of evolution is based on

(a) Mutation (b) reproductive isolation

(c) Sexual reproduction (d) All of the above

49. The theory of natural selection failed to explain the

(a) Survival of the fittest (b) arrival of the fittest

(c) over reproduction (b) balance in size of population

50. Darwin in his natural selection theory did not believe in the role of which one of the following in organic evolution

(a) Parasites and predators as natural enemies
(b) survival of the fittest (c) Struggle for existence
(d) inheritance of acquired characters.

51. In paramecium, genetic in formation is store in

(a) All the nuclei present (b) mitochondria

(c) Micronucleus (d) Macronucleus

52. Phylum protozoa is classified based on

(a) Size (b) shape (c) number of nuclei (d) locomotory organ

53. Which of these animals lack ventral nerve cord

(a) Pila (b) Earthworm (c) Leech (d) Cockroach

54. Organ of Bojanus in pila is

(a) Respiratory (b) Excretory (c) Digestive (d) Reproductive

55. The terrestrial species of Echinodermata is

(a) Brittle star (b) Star fish (c) Sea lily (d) None of these

56. The echinodermata are related to chordate by their similarity in the development of

(a) Gut (b) Nervous system (c) Heart (d) Coelom

57. Miracidium is a larval stage in the development of

(a) Taenia solium (b) Fasciola hepatia (c) Ascaris (d) Filaria worm

58. Assembly of two sub units 40s & 60s of the ribosome is

(a) 100 s unit (b) 80s unit (c) 70 s unit (d) 90s unit

59. Smooth endoplasmic reticulum is the site of

(a) Protein synthesis (b) Carbohydrate synthesis

(c) amino acid synthesis (d) lipid synthesis

60. Which of the following is associated with the structure of Golgi complex

(a) Cristae (b) Cisternae (c) Annuli (d) Quantosome

61. Which is non-membranous organelle from the following

(a) Ribosome (b) Endoplasmic reticulam

(c) Nucleus (d) Chloroplast

62. Which of the following is not a component of the nucleus?

(a) Chromosome (b) Nucleolus (c) Cytoplasm (d) Nuclear envelop

63. Characteristic features of Echinodermata is

(a) They are triploblastic (b) They have a true coelom

(c) Fertilization is external (d) All of these

64. Sympatric speciation develops reproductive isolation without

(a) geographical barrier (b) barrier to mating

(c) barrier to gene flow (d) genetic change

65. Which is fresh water sponge

(a) Scypha (b) Spongilla (c) Leucosolenia (d) None of these

66. A short length of DNA molecule has 80 thymine and 80 guanine. The total number of nucleotides in the DNA fragment is

(a) 160 (b) 40 (c) 320 (d) 640

67. Cell membrane is made up of carbohydrate fat and protein.
(a) All of three occur in equal proportion
(b) Lipid are in less proportion
(c) Carbohydrates are less proportion
(d) Proteins are in less proportion

68. According to fluid mosaic model, the plasma membrane
(a) has extrinsic and intrinsic protein (b) It is a semifluid structure
(c) Is selective permeable (d) All of the above

69. Z-DNA have a
(a) Double helical nature (b) Zig-Zag appearance
(c) Uracil base (d) Single stranded nature

70. Which of the following help in anchorage and defence of parmeciun
(a) nematocyst (b) mucocyst (c) trichocyst (d) Cilia

71. When a cluster of genes show linkage behavior they
(a) do not show a chromosome map
(b) show recombination during meiosis
(c) do not show independent assortment
(d) induce cell division

72. Left handed DNA is
(a) A-DNA (b) B-DNA (c) Z-DNA (d) C-DNA

73. By which process misincorporated base can change into a permanent mutation
(a) Replication (b) Transcription (c) Translation (d) Transposition

74. Point mutation involves
(a) deletion (b) insertion (c) duplication (d) change in single base pair

75. Gene mutation occur at the time of
(a) DNA repair (b) DNA-replication
(c) Cell division (d) RNA transcription

76. Head, foot and visceral mass this combination of characters is diagnostic of
(a) Echinodermata (b) Arthopoda (c) Mollusca (d) Annelida

77. Devil fish is the common name of

(a) Sepia (b) Aurelia (c) Octopus (d) Silver fish

78. Which among following having open circulatory system

(a) Arthopoda (b) Mollusca (c) Annelida (d) Coelentrata

79. In earthworm clitellum occurs between

(a) Segment 14-15-16 (b) Segment 13-14-15

(c) Segments 15-16-17 (d) Segments 12-13-14

80. The excretory units of annelids are

(a) Uriniferous tubule (b) Nephridia

(c) Flane cell (d) Nephrostome

81. The mode of respiration in earthworm is

(a) pulmonary (b) Sub-cutaneous (c) gills (d) Cutameous

82. Redia larva is of

(a) Taenia solium (b) Fasciola hepatica (c) Planaria (d) Ascaris

83. In the life cycle of liver fluke the sheep get infection when they ingest

(a) Metacercaria (b) Miracidia (c) Sporocyst (d) redia

84. Which one of the following is filter feeder

(a) Amoeba (b) Trypnosoma (c) Monocystis (d) Paramecium

85. In Prawn, Statocyst is present in

(a) antennules (b) antenna (c) mandible (d) rostrum

86. The immage formed in the compound eye in bright light is

(a) Superposition (b) mosaic image

(c) inverted image (d) distorted image

87. Body wall of Ascaris lacks

(a) muscle (b) longitudinal muscle (c) circular muscle (d) both b and c

88. The first larva formed in liver fluke is

(a) redia (b) sporocyst (c) miracidium (d) cercaria

89. According to law of segregation in monohybrid cross the genotypic ratio in F2 generation is

(a) 1:2 :1 (b) 3 : 1 (c) 1:3 (d) 2:1:3

90. An isolated gene is attached to a plasmid with the help of enzyme

(a) Polymerase (b) Endonuclease (c) Ligase (d) Transferase

91. The enzyme endonuclease is used for

(a) Gene isolation (b) Gene recombination

(c) Gene synthesis (d) Protein synthesis

92. Which of the following correctly represent centraldogma

(a) DNA → RNA → Protein (b) RNA → DNA → Protein

(c) DNA ⇌RNA → Protein (d) Protein→ DNA→ RNA

93. i- gene is

(a) Regulatory gene (b) Operator gene

(c) Repressor gene (d) Structural gene

94. When a cross is made between normal male and carrier female

(a) All boys will be coloured blind (b) All girls will be coloured blind

(c) 50% boys will be coloured blind (d) 50% girls will be coloured blind

95. Crossing over occurs

(a) At chaismata between sister chromatids

(b) At chaismata between non-sister chromatia

(c) At any where between non-sister chromatia

(d) At anywhere between sister chromatids

96. Golgi body is produced by

(a) cisternae (b) Vacuoles (c) Vesicles (d) Nuclear Membrane

97. Which of the following does not participated in protein synthesis

(a) Rough surface endoplasmic reticulum

(b) Smooth surface endoplasmic reticulum

(c) RNA (d) DNA

98. Apple snail is common name of

(a) Sepia (b) Unio (c) Pila (d) Octopus

99. Ospharadium is to test the purity of water in

(a) Pila (b) Starfish (c) Housefly (d) Leech

100. The type of sugar in DNA is

(a) triose (b) tetrose (c) Pentose (d) Herose

101. According to Charles Darwin evolution is

(a) descent with modification (b) Natural selection

(c) Survial of fittest (d) irreversible change

102. The cell involved in large amount of lipid synthesis do not posses this organelle on endophasmic reticulum

(a) Mitochondrion (b) Ribosome (c) Golgi apparatus (d) Lysosome

103. In human which cell lack nucleus

(a) Lysosome (b) RBC (c) Monocytes (d) Neutrophil

104. Who proposed that new cells arise only from the pre-existing cell

(a) Mohl (b) Virchow (c) Brown (d) Haeckel

105. The smallest living cells with cell wall are

(a) Viroids (b) Algae (c) Bacteria (d) Mycoplasma

106. The cells organelle is responsible for extracting energy from carbolydrate to form energy ATP is

(a) Lysosome (b) Ribosome (c) Chloroplast (d) Mitochondrion

107. Pick the incorrect statement

(a) Mycoplasma is a wall less microorganism

(b) Pill and fimbriae are mainly involved in motality of bacterial cells

(c) The bacterial cell wall is made up of peptidoglycan

(d) Cyanobacteria lack flagellated cell

108. As per fluid mosac model plasma membrane is composed of

(a) Phospholipids and integral proteins

(b) Phospholipids extrinsic and intrinsic protein

(c) Phospholipids and hemicelluloses

(d) Phospholipids and Oligosaccharids

109. Pick the correct statement regarding plams membrane

(a) Lipids are arranged in a bilayer with polar heads

(b) Na+ and K+ ions more across cell membrane by passive transports

(c) Fluid mosaie model was proposed by singer and Nicolson

(d) Proteins make up 60-70% of cell membrane

110. This structure between two adjacent cells is an effective transport pathway

(a) Plasmalemma (b) Plasmodesmata (c) Plastiquinone (d) ER

111. The tendency of an offspring to resemble its parent is known as

(a) Variation (b) Heridity (c) Resemblence (d) Inheritance

112. Who is known as the "Father of Geneties"

(a) Morgan (b) Mendel (c) Watson (d) Bateson

113. The alternate form of a gene is

(a) Alternate type (b) Recessive character

(c) Dominent Charactert (d) Allele

114 The genotypic ratio of a mononhybrid cross is

(a) 1 : 2 : 1 (b) 3:1 (c) 2:1:1 (d) 9:3:3:1

115. The crossing of F1 to either of the parents is known as

(a) Test cross (b) Back cross (c) F1 cross (d) All of the above

116. Which of the following statements is true regarding the law of segregation"?

(a) Law of segregation is the law of purity of genes

(b) Alleles separate from each other during gametogenesis

(c) Segregation of factor is due to the segregation of chromosomes during meiosis

(d) All of the above

117. Homozygosity and heterozygosity of an individual can be determined by

(a) back cross (b) self-fertilization (c) Test cross (d) All of the above

118. An exception to Mendel's law is

(a) Independent assortment (b) Linkage

(c) Dominance (d) Purity of gametes

119. Pea plants were used in Mendel's experiments because

(a) They were cheap (b) They had contrasting characters

(c) They were available easily (d) All of the above

120. The smallest unit of genetic material which produces a phenotypic effect on mutation is

(a) Muton (b) Gene (c) Recon (d) Nucleic acid

121. Mendel's findings were rediscovered by

(a) correns (b) De vries (c) TS Chermark (d) All of the above

122. Alleles are

(a) Alternate forms of genes (b) Linked genes

(c) Chromosomes that have crossed over (d) Homologous chromosomes

123. When the activity of one gene is supressed by the activity of a non-allelic gene it is known as

(a) P seudo - dominance (b) Hypostasis

(c) Epistasis (d) Incomplete dominance

124. Cystic fibrosis is

(a) Sex-linked recessive disorder

(b) Autosomal dominant disorders

(c) Autosomal recessive disorder

(d) Sex-linked dominant disorder

125. 9:7 ratio is the F2 generation represent

(a) Incomplete dominance (b) Co-dominance

(c) Epistasis (d) Complementary interaction

126. A small amount of lethal mutation is always present in the population due to

(a) Positive selection (b) Negative selection

(c) Frequency - dependent selection (d) Mutation-selection balance

127. If a plant with genotype AaBb is self fertilized, the probability of getting AABB genotype will be (A and B are not linked)

(a) 1/2 (b) 1/4 (c) 1/8 (d) 1/16

128. How many phenotypes can occur in the human blood group ABO with Alleles $|A|B_1$?

(a) 2 (b) 3 (c) 4 (d) 1

129. The geometrical device that helps to find out all the possible combinations of male and female gametes is known as

(a) Bateson square (b) Mendel square

(c) Pumett square (d) Mendel's cube square

130. Which term represents a pair of contrasting characters?

(a) Heterozygous (b) Hemozygous

(c) Codominant genes (d) Allelomorphs

131. Which one is used for knowing whether or not a population is evolved

(a) Degree of evolution (b) Genetic drift

(c) Proportion between acquired variation

(d) Hardy Weinberg equation

132. According to De Varies theory, evolution is

(a) Jerky (b) discontinuous

(c) Continuous and smooth (d) both a and b

133. Mutation may be described as

(a) Continuous genetic variation (b) Phenotypic change

(c) Discontinuous genetic variation (d) Change due to hybridization

134. The theory of use and disuse was given by

(a) Stebbins (b) Lamarck (c) Aristotle (d)Darwin

135. The evolution of a species is based upon the sumtotal of adaptive changes preserved by

(a) natural selection (b) isolation (c) speciation (d) human conservation

136. Genetic drift is on account of

(a) Variation (b) Mutation

(c) increases in population (d) decrease in population

137. According to Neo-Darwinism, natural selection operates through

(a) Fighting between organisms (b) Variations

(c) Killing weaker organism (d) Differential reproduction

138. Sympatic speciation develops reproductive isolation without

(a) Geographic barrier (b) Barrier to mating

(c) Barrier to gene flow (d) Genetic change

139. Quick change in phenotypes in a small based of colonizer is called

(a) Founder effect (b) Genetic bottleneck (c) Genetic drift (d) Gene flow

140. Genetic drift is found in

(a) Small population with or without mutated genes

(b) Large population with random mating

(c) Plant population (d) Animal population

141. Which as related to reproduction isolation

(a) genetic isolation (b) temporal isolation

(c) behavioural isolation (d) All of these

142. In which condition gene ratio remain constant in a species

(a) Gene flow (b) mutation (c) random mating (d) sexual selection

143. Lamarck theory of organic evolution is usually known as

(a) Natural selection (b) Inheritance of acquired characters

(c) Descent with charge (d) Continuity of germ plasm

144. A species inhibiting different geographical area is known as

(a) Sympatric (b) allopatric (c) Sibling (d) biospecies

145. Balancing selection is concerned with the successful reproduction of

(a) Homozygous recessive (b) Homozygous individual

(c) Heterozygous individual (d) All of the above

146. The earthworm is placed under the group

(a) Polychaeta (b) Hirudinea (c) Oligochaeta (d) Crustacea

147. The typhlosole in earthworm is related to

(a) respiration (b) excretion (c) absorption (d) reproduction

148. The most effective organ for food digestion in earthworm

(a) mouth (b) Buccal cavity (c) Pharynx (d) Stomach

149. What is present on the 5th to 9th segments of the earthworm body

(a) Clitellum (b) Peristomium

(c) Female genital pore (d) Spermathecal aperture

150. Which is the female genital pore present in earthworm

(a) 16th segment (b) 18th segment

(c) 14th segment (d) 9th segment

151. In arthropods, the coelom is reduced to the

(a) Cavities (b) gonads (c) limbs (d) joints

152. In arthropods the growth is accompanied by the process of

(a) moulting only (b) ecdysis only (c) mitosis (d) moulting and ecdysis

153. Crayfish, lobsters and shrimps are included under subphylum

(a) annelids (b) Arachnida (c) crustacean (d) Fishes

154. Flagellated cells which line the spongocoel in porifera is known as

(a) Oxtia (b) meseuchymal cells (c) Choanocytes. (d) Oscula

155. Which of the following is not a characteristics of the phylum Arthopoda

(a) Metameric segmentation (b) Jointed appendages

(c) Chitinous exoskeleton (d) Parapodia

156. This is an example of belaterally symmetrical and triplobalstic animal

(a) Cnidaria (b) Sponges (c) ctenophore (d) Round worm

157. Phylum Annelida is not characterized by

(a) Segmentation (b) closed circulatory system

(c) Ventral nerve cord (d) Pseudocoelom

158. Which contain notochord in the embryonic stage?

(a) Non-chordate (b) Vertebrates

(c) All chordates (d) Some of the chordate

159. A characteristic features, which is present only in the phylum coelenterate is

(a) nematocyst (b) Flame cells (c) hermaphrodite (d) spicules

160. Cnidaria which exhibit only polypstage

(a) Cuboza (b) Scyphozoa (c) Anthozoa (d) Hydrozoa

161. In Flatworm, excretion is performed by

(a) Protonephridia (b) Flame cells (c) Green Gland (d) Malpighian tubule

162. The group of mollusks which posses eyes similar to vertebrates

(a) bivalvia (b) gastropoda (c) Cephalopoda (d) Pelecypoda

163. Tube feet are found in

(a) Cuttle fish (b) Cray fish (c) Star fish (d) Jelly fish

164. In Ascaris

(a) Male tail is curved (b) Female tail is curve

(c) Both male and female tail is curved (d) None of these

165. When a fresh water protozoa kept in marine water

(a) It will die (b) contractile vacuole disappear

(c) There is no change (d) None of these

166. The number of contractile vacuole in paranecilum is

(a) 1 (b) 2 (c) 3 (d) 4

167. The term gene was coined by

(a) Mc Clintock (b) Morgan (c) Johnsen (d) De Duve

168. Functional unit of gene that specifies synthesis of one polypeptide is

(a) Codon (b) Cistron (c) Recon (d) Muton

169. Smallest gene affected by mutation is

(a) Muton (b) Cistron (c) Recon (d) Exon

170. Intron is part of DNA which

(a) Codes for protein synthesis (b) Helps in joining pieces of DNA
(c) Does not code for protein synthesis (d) initates transcription

171. In split gene, the coding sequences are called

(a) Introns (b) Operons (c) Exons (d) Cistrons

172. Gene capable of moving from one chromosomes to another?

(a) cosmid (b) Exonic gene (c) Transposon (d) Mutagene

173. DNA elements, which can switch their position, are called

(a) Exons (b) Introns (c) Cistrons (d) Transposons

174. A distinct mechanism that usually involves a short segment of DNA with remarkable capacity to move from one location in a chromosome to another, this is called

(a) DNA replication (b) DNA transposition

(c) DNA hybridization (d) DNA recombination

175. Transformation experiment was first performed on which of the following bacteria?

(a) E.Coli (b) Salmonella (c) Pasteurella (d) Diplococus pneumonia

176. DNA is mainly found in

(a) Nucleus only (b) Nucleus and cytoplasm

(c) Cytoplasm only (d) Nucleus and cell wall

177. In DNA helix, cytosine is paried with guanine by

(a) Covalent bond (b) phosphate bond

(c) Two hydrogen bonds (d) Three hydrogen bonds

178. Select the specific base pairs of DNA

(a) Adenine and cytosine (b) Adenine and thymine

(c) Guanine and adenine (d) Guanine and uracil

179. The number of hydrogen bonds between adenine and thymine in a DNA molecule are

(a) Two (b) Three (c) Four (d) Eight

180. DNA synthesis can be specially measured by estimating the incorporation of radio labeled

(a) Uracil (b) Adenine (c) Thymidine (d) Deoxyribose sugar

181. In DNA, when AG-CT occur, their associate is as per which of the following pair?

(a) AG-CT (b) AC-GT (c) AT-GC (d) AGC-GCT

182. Genes are made up of

(a) Histones (b) Lipoprotein (c) Hydrocarbons (d) Polynucleotides

183. Nucleoside is

(a) Sugar + Phosphate (b) Purine/pyrimidine + sugar

(c) Purine/pyrimidine (d) Purine/pyrimidine+sugar+phosphate

184. A Nucleotide is

(a) Base + Sugar (b) Base + Phosphate

(c) Sugar + Phosphate (d) Base + Sugar + Phosphate

185. In a polynucleotide strand of DNA nucleotides are attached by

(a) Hydrogen bonds (b) Covalent bonds

(c) Vander Waal force (d) Electrovalent bond

186. Which of the following statement regarding a double helical molecule of DNA is true?

(a) Each strand is identical (b) Each strand replicates itself

(c) Bases are perpendicular to the axis

(d) All hydroxyl groups are involved in linkage

187. If the sequence of based in DNA is ATTCGATG then the sequence of bases in its transcript will be

(a) CAUGGAAU (b) UAAGCUAC (c) GUAGCUUA (d) AUUCGAUG

188. How many base pairs are present in one turn of DNA

(a) 10 (b) 9 (c) 11 (d) 12

189. The usual method of DNA replication is

(a) Replication (b) Dispersive (c) Transcription (d) Semi-Conservative

190. Which of the following is true for DNA helicases?

(a) DNA helicase hydrolyse ATP

(b) DNA helicases are ATP dependent unwinding enzymes

(c) Promote separation of two parental strand and establish replication focks

(d) All of these

191. Which of the following enzymes is used to join bits of DNA?

(a) Ligase (b) Primase (c) Endonuclease (d) DNA polymerase

192. Which purine base is found in RNA?

(a) Cytosine (b) Guanine (c) Thymine (d) Uracil

193. HIV has a protein coat and a genetic material which is

(a) s-s DNA (b) s-s RNA (c) d-s DNA (d) d-S RNA

194. RNA retrovirwses have a special enzymes that

(a) Translates host DNA (b) Disintegrates host DNA

(c) Polymerises host DNA (d) Transcribes viral RNA to cDNA

195. In Rous sarcoma virus information flow in
(a) DNA →Protein →RNA (b) DNA →RNA →Protein
(c) RNA →DNA →Protein (d) RNA →DNA →RNA →protein

196. Genes connected with cancers are
(a) cancer genes (b) carcinoma genes
(c) oncogenes (d) sex linked genes

197. Which of the following step of translation does not consume a high every phosphate bond?
(a) Translocation (b) Amino acid activation
(c) Peptidyl transfer reaction (d) Aminoacyl + RNA binding to A-site

198. Jacob and Monad studied lactose metabolism in E.coli and proposed operon concept.
(a) Prokaryotes (b) Eukaryotes (c) Protozoans (d) All of these

199. Genes that are involved in turning on or off the transcription of a set of structural genes are called
(a) operators genes (b) Redundant genes
(c) Regulatory genes (d) Polymorphic genes

200. The Iac operon is an example of
(a) Drabinose operon (b) Inducible operon
(c) Represible operon (d) Overlapping genes

201. In operon model Regulator gene functions as
(a) Represser (b) Regulator (c) Inhibitor (d) All of these

202. In E.coli, during lactose metabolism repressor binds to
(a) Regulator gene (b) promoter gene
(c) operator gene (d) structural gene

203. A gene which synthesizes a represser protein is
(a) operator gene (b) structural gene (c) promoter gene (d) Regulator gene

204. In E.Coli, lac operon is induced by
(a) Lactose (b) Promoter gene (c) β-glucotosidase (d) I-gene

205. The second messenger inside a cell is
(a) ATP (b) ADP (c) NADP (d) Cyclic AMP

206. Exon part of MRNA, has code for

(a) Protein (b) Lipid (c) Phospholipid (d) Carbohydrate

207. Which of the following in a terminantion codon for the biosysthesis of protein?

(a) UAA (b) UAG (c) UGA (d) All of these

208. Out of 64 codons, 61 codons code for 20 types of amino acid, It is called

(a) Wobbling of codon (b) Overlapping of genes

(c) Universality (d) Degeneracy

209. The codon causing chain termination are

(a) TAG, TAA, TGA (b) GAT, AAT, AGT

(c) AGT, TAG, UGA (d) UAG, UGA, UAA

210. Which of the following serves as terminal codon?

(a) AUG (b) GCG (c) UAG (d) AGA

211. The genes are responsible for the growth and differentiation in an organism through the regulation of

(a) Translocation (b) Transformation

(c) Transduction and translation (d) Translation and transcription

212. Transcription takes place in

(a) Matrix (b) Cytosol (c) Nucleus (d) Cytoplasm

213. Transcription is a process in which

(a) RNA Synthesize (b) Protein Synthesize

(c) Assembly of ribosomes and Golgi bodies

(d) MRNA is formed from DNA

214. MRNA is synthesized on DNA temp late in which direction?

(a) 2'-4' (b) 3'-5' (c) 5'-3' (d) 7'-9'

215. Fertilization in scypha is

(a) External (b) Internal (c) Bisexual (d) Holoblastic

216. Phasmid are term associated with

(a) Taenia (b) Filaria worm (c) Ascaris (d) None of these

217. Green gland is found in

(a) Protein (b) Cockroach (c) Butterfly (d) Scorpion

218. Life originated in the past period of about

(a) 2.5 - 2.8 billion years (b) 4 - 5 billion years

(c) 3.3 - 3.5 billion years (d) 2.5 - 3.2 billion years

219. Theory of spontaneous generation was first reported experimentally by

(a) Sapllanzani (b) Von Helmont (c) Redi (d) Pasteur

220. Which scientist decisively proved that life on present earth can orginate only from pre-existing life

(a) Louis Pasteur (b) Charles Darwin (c) Weismann (d) Boxmann

221. Chemical theory for origin of life was given by

(a) Stanley Miller (b) Oparin and Haldone

(c) Spallanzani (d) Louis Pasteur

222. Russian scientist who proposed the theory of origin of life

(a) Oparin (b) Haldone (c) Miller (d) Fox

223. Planet nearest to sun is

(a) Earth (b) Moon (c) Mercury (d) Mars

224. Earth originate in the past period of about

(a) 4.5 billion years (b) 8 billion years

(c) 3 billion years (d) 1 billion years

225. Gaseous mixture used by miller for synthesis of amino acid through heat and electric discharge included

(a) Methane, ammonia, hydrogen and water vapours

(b) Methane, ammonia, nitrogen and water vapours

(c) Methane, nitrogen, hydrogen and water vaopurs

(d) Ammonia, carbon, dioxide, nitrogen and water vapours

226. Miller and urey's experiment in its created atmosphere employed.

(a) Oxygen, ammonia, methane and water

(b) Hydrogen, ammonia, ethane and water

(c) Hydrogen, oxygen, nitrogen and water

(d) Hydrogen, ammonia, methane and water

227. The spark-discharge experiment to test chemical evolution of life was designed by

(a) Oparin and Haldane (b) Urey and Miller

(c) Jacob and Monad (d) Dixon and Jolley

228. The most primitive cell like chemical aggregates capable of growth and division were

(a) Chemoautotrophs (b) Eobionts

(c) Procaryotes (d) Microspheres

229. First organisms to evolve on the earth were

(a) Saprotrophs (b) Chemoheterotrophs

(c) Phtoautotrophs (d) Chemo autotrophs

230. Life originated/origin of life took place in

(a) Life (b) Soil (c) mountains (d) water

231. Lamarck's theory of evolution is also called

(a)Theory of special creation (b) Inheritance of acquired characters

(c) Survival of the fittest (d) Theory of spontaneous generation

232. Basis of Lamarckism

(a) Origin of species (b) Inheritance of acquired characters

(c) Population dynamics (d) Struggle for existence

233. Homologous organs are
(a) Similar in behaviour (b) Similar in origin
(c) Similar in function (d) Similar in development

234. An important evidence of the organic evolution is occurance of

(a) Analgous organs only (b) Analogous and vestigid organs

(c) Homologous and Analogous (d) Homologous and vestigial organs

235. Which of the following are homologous organs
(a) Wings of bat and wings of cockroach
(b) Wings of bird and wings of insect
(c) Wings of bird and hand of man
(d) Nails of human being and claws in animals

236. Which of the following exhibit homology?

(a) Paddles of whale and hands of man

(b) Wings of pigon and wings of bat

(c) Wings of birds and wings of butterfly

(d) None

237. Wings of pigeon, mosquito and bat show

(a) Atavism (b) Mutation (c) Divergent evolution (d) Convergent evolution

238. Vestigial organs can be explained as

(a) Helpful in location (b) Characteristics of birds

(c) Not of much use today (d) Common in many groups

239. Which of the following is the correct group of vestigial organs in man?

(a) Appendix, coccyx, ear muscles and elbow joint

(b) Wisdom teeth, coccyx, body hair and ear muscles

(c) Nictitating membrane, ear muscles, eyelids and coccyx

(d) Wisdom tooth, body hairs, nitiating membrane and vermiform appendix

240. Which of the following set includes all vestigial structure of man

(a) coccyx, appendix, ear muscle

(b) vermiform appendix, body hair, cochlea

(c) coccyx, wisdom teeth, patella

(d) Ear muscles, attas, body hair

241. Which of the following is not vestigial in human

(a) coccyx (b) Nail (c) Third molar (d) Abdomen

242. Archaeopteryx is called a connecting link, why?

(a) It showed combined characters of reptiles and birds

(b) It showed combined characters of birds and mammals

(c) It showed combined characters of chordates and non-chordates

(d) None of these

243. In general in the development history of mammalian heart, it is observed that it passes through a two chambered fish-like heart, three chambered frog-like heart and finally four chambered stage. To which hypothesis can the above cited statement be approximated

(a) Mendelian principle (b) Hardy - weinberglaw

(c) Lamark's principle (d) Biogenetic law

244. "Ontogeny repeats phylogeny" this is expressed by

(a) Natural selection theory (b) Recapitulation theory

(c) Mutation theory (d) Theory of inheritance of acquired characters

245. Which of the following eras, in geological time-scale, corresponds to the period when life had not originated upon the earth?

(a) Azoic (b) Mesozoic (c) Palaeozoic (d) Archaeozoic

246. Which of the following is the age of fishes

(a) Silurain (b) Ordovician (c) Devonian (d) cambium

247. Ancestral amphibians were tetrapods that evolved during

(a) Jurassic period (b) Cretaceous period

(c) Devonian period (d) Carboniferous period

248. In which of the following era, reptiles were the dominant species/regarded as age of reptiles?

(a) Coenozoic era (b) Archaezoic era

(c) Palaeozoic era (d) Mesozoic era

249. Dinosaurs became extinct in

(a) Triassic period (b) Permian period

(c) Cretaceous period (d) Jurassic period

250. The geological era extending from present to 65 million years ago is called

(a) Proterozoic era (b) Palaeozoic era

(c) Coenozoic era (d) Mesozoic era

251. Mamals are supported to have evolved about how many years ago

(a) 1 million (b) 75 million (c) 220 million (d) 375 million

252. According to geological time scale, Homo sapiens evolved during

(a) Eocene (b) Pilocene (c) Pleistocene (d) Oligocene

253. The earliest fossil form, in the phylogeny of horse is

(a) Eofippus (b) Merychippus (c) Equus (d) Mesohippus

254. Darwin finches are related to which of the following evidences?

(a) Fossil (b) Embryology (c) Anatomy (d) Geographical distribution

255. Which theory was proposed by Lamarck?

(a) Germ plasm theory (b) Acquired chromosomes are inherited

(c) Acquired characters are inherited (d) Continuity of life

256. Who prepared Germ plasm theory against Lamarck's principle of use and disuse?

(a) Darwin (b) Nuttal (c) Weismann (d) de varies

257. Who was the scientist, who cut the tails of mice for several generations and yet found that the characteristics of taillessness was not inherited?

(a) Darwin (b) Bateron (c) Lamarck (d) Weismann

258. What is the basis of Darwin's natural selection?

(a) Use and disuse of organs (b) Inheritance of acquired characters

(c) variations (d) Prodigality, struggle for existence, survival of the fittest

259. Which of the following theories was not given by Darwin?

(a) struggle for existence (b) Natural selection

(c) survival of the fittest (d) Genetic drift

260. The idea of "survival of the fittest" was proposed by

(a) Wallace (b) Darwin (c) Haeckel (d) Herbert spencer

261. Pangenesis hypothesis was propounded by

(a) Weismann (b) Gatton (c) Wagner (d) Darwin

262. Which of these was the contribution of de varies?

(a) Theory of mutation (b) Law of dominance

(c) Theory of natural selection (d) Law of segregation

263. de varies pioneered theory of mutations to explain mechanism of evolution. Material on which he had experimented was

(a) Fruit fly (b) Garden pea

(c) Evening prime rose (oenothera lamarckianaa) (d) China rose

264. Which of the following is the main category of mutation?

(a) Genetic mutation (b) Zygote mutation

(c) Sometic mutation (d) All of these

265. Phenomenon of 'Industrial Melanism' demonstrates

(a) Natural selection (b) Induced mutation

(c) Geographical selection (d) Reproduction isolation

266. H.J.Muller was awarded Nobel prize for his

(a) Discovery that ionizing radiations can induce gene mutation

(b) work on gene mapping in Drosphilla

(c) Efforts to prevent the use of nuclear weapons

(c) Discovery that chemicals can induce gene mutation

267. Discontinuous variations are

(a) Mutations (b) Acquired characters

(c) Essential features (d) Non-essential feature

268. Which of the following term is not concerned with genetic recombination in bacteria?

(a) Translation (b) Transduction (c) Transformation (d) Conjugation

269. Genetic drift is

(a) Random change is gene frequencies

(b) Not common with inbreeding

(c) Orderly change in gene frequencies

(d) Produces great fluctuations in large populations

270. Genetic drift operates in

(a) Small isolated population (b) Large isolated population

(c) Slow reproduction population (d) Fast reproductive population

271. Genetic drift operates only in

(a) Island populations (b) Smaller populations

(c) Large populations (d) Mendelian population

272. Most striking example of point mutation is found in disease called

(a) Thalassaemia (b) Night blindness

(c) Down's syndrome (d) Sickle cell anaemia

273. The age of the fossil of Dryopithecus on the Geological time scale is

(a) 75×10^6 years back (b) 50×10^6 years back

(c) 25×10^6 years back (d) 20×10^6 years back

274. Ape and hominids evolved from

(a) Australpithecus (b) Dryopithecus (c) Homo habiles (d) Homo erectus

275. Which fossil man has been known from Siwalic hill in India?

(a) Pithecanthropus (b) Ramapithecus

(c) Sinanthropus (d) Zinjanthropus

276. Which of the following was the transitional stage between ape and humans?

(a) Homo habilis (b) Homo erectus

(c) Australopitheus ramidus (d) Both (b) and (c)

277. Evgene Dubois discovered fossil of man from

(a) Java (b) Africa (c) China (d) France

278. Maximum fossils of prehistoric man have been recovered from which continent?

(a) Asia (b) America (c) Africa (d) Europe

279. The correct sequence of stages in the evolution of modern man (Homo sapiens) is

(a) Neanderthal man, Australopithecus, cro-magnon man, Homo erectus, Modern Man

(b) Australopithecus, Homo erectus, Neanderthal Man, Modern Man

(c) Homo erectos, Australopithecus, Neaderthal man, cro-magnon man modern man

(d) Australopithecus, Nean derthal man, Go-magnon man, Homo erectus, modern man

280. Neanderthal man had brain volume of

(a) 1650 cc (b) 1450 cc (c) 1050cc (d) 950 cc

281. The cranial capacity was largest among the

(a) peking man (b) African man

(c) Java ape man (d) Neanderthal man

282. Cranial capacity of which primitive man resembles with modern man

(a) Homo erectus (b) Java man

(c) Homo nean derthalensis (d) Peking man

283. The correct statement for evolution of man is

(a) Homo erectos was preceded by Homo habiles

(b) Au stralopithecus lived in Australia

(c) Neanderthal man and cro-magnon man lived at the same time also

(d) All of them

284. Which of the following order is the correct order of evolutionary history of man?

(a) Peking man, heidel berg man, neandertha, cro-magnon
(b) Peking, man, Homo sapiens, cro-magnon, neanderthal
(c) Peking man, Neanderthal, Homo sapiens, hei delberg
(d) Peking man, cro-magnon, Homo sapiens, neanderthal

285. In which pre-historic man's period was proper burial of dead bodies started?

(a) Java man (b) Peking man

(c) Cro-magnon man (d) Neanderthal man

286. Which of the following statements is correct?

(a) Homo erectus is the ancestor of man

(b) Cro-magnon man's fossil has been found in Ethiopia

(c) Australopitheus is the real ancestor of Homo sapiens

(d) Neanderthal man is the direct ancestor of Homo sapiens

287. Homo sapiens evolved form

(a) Neanderthal man (b) Java Man

(c) Cro-magnon man (d) Peking man

288. How do sponges feed?

(a) Filter microorganisms from water brought in through pores

(b) Use namatocysts to capture small prey

(c) Extract decaying plant material from sediment

(d) Absorb hydrogen sulphide directly from the water

289. Which of the following are constrains imposed by the blind sac plan?

(a) Only occurs in asexual organism (b) Restricted to small size organism

(c) No separation of consumption and excretion (d) b & c

290. Which one of the following has radial symmetry

(a) Arthopoda (insects, spider, crustaceus)

(b) Cnidaria (Jelly fish, anemoves & cords)

(c) Mollusca (clams, squid, octopus and sepia)

(d) None of these

291. What is coelom

(a) A body cavity partially lined with mesoderm

(b) A body cavity lined with endoderm

(c) The body cavity of Jelly fish

(d) A body cavity completely lined with mesoderm

292. Which of the following phyla thought to be evolved first?

(a) Arthopoda (b) Cnidaria (c) Mollusca (d) Echinodermata

293. Which of the following are sensibility abilities that are found among invertebrates?

(a) Contact chemosensation (b) Colour vision

(c) Gravitational sensation (d) All of these

294. Which of the following is not a mechanism of asexual reproduction

(a) Hermaphordism (b) Budding (c) Parthenogenesis (d) Fission

295. Which of the following is not an advantage of the exoskeleton in arthropods and molluscks?

(a) Provides protection from predators

(b) Enhances sensory perception

(c) Provides rigid places for muscles to insert and against which can they do work.

(d) Permit greater jange of movement that body plans without a rigid skeletal structure.

296. Why it is impossible to have a single celled organism or an organism with only two tissue layers the size of an elephant?

(a) Not impossible, just by chance such an animal has never evolved

(b) locomotion would be difficult

(c) Not enough material could be moved across cell membrances quickly enough to meet nutritional and energetic requirement

(d) None of these

297. Which of the following phyla do not have blind-sac plan?

(a) Annelida (b) platyhelminthes (c) Ctenophora (d) Cnidarie

298. Which of the following is not a major factor in the success of Arthopoda

(a) Paired appendages (b) A chitinous exoskeleton

(c) Body segmentation (d) Radical symmetry

299. Which of the following phyla are not consumed for food by human

(a) Cnidaria (b) Arthopoda (c) Echidermata (d) Playhelminthes

300. Which of the following are not trends observed in the evolution of the central nervous system in invertebrate

(a) Increasing size of cerebral ganglia formation of a brain

(b) Reduction in the number of nerve chord

(c) Replacement of nerve chords by nerve nets

(d) Dominance of the ventral pair of nerve chords