

## SCIENTIFIC ASSISTANT - ZOOLOGY

1. **Deposition of large number of foraminifera shells forms**
  - 1) Proloculus chambers
  - 2) Imperforate shell
  - ~~3) White chalk~~
  - 4) Unilocular shell
2. **The basal bodies of the cilia are connected with each other by**
  - 1) Tonofibrils
  - 2) Myofibrils
  - ~~3) Interciliary fibrils~~
  - 4) Neurofibrils
3. **Fossil protozoans include**
  - 1) Foramina
  - 2) Foraminiferans
  - 3) Foramen of panizza
  - 4) Foramen of manroe
4. **Radial folds develop and secrete the**
  - ~~1) Sclerosepta~~
  - 2) Corallite
  - 3) Planula
  - 4) Medura
5. **Cocclerate having more than three type of zooids are called**
  - ~~1) Polymorphic~~
  - 2) Dimorphic
  - 3) Mono morphic
  - 4) Trimorphic
6. **The glochidium larva of freshwater mussel is an example**
  - 1) Partial parasites
  - ~~2) Permanent parasites~~
  - 3) Ectoparasites
  - 4) Endoparasities
7. **In many species of asteroids the development is shortened by deletion of some larval stages. For example in astropecten-**
  - ~~1) The brachiolaria larva is omitted and the bipinnaria metamorphases into the adult~~
  - 2) The pleutes stages is omitted
  - 3) Bipinnaria stage is omitted
  - 4) None of the above
8. **The order coenothecalia include single genes**
  - 1) Flabellum
  - ~~2) Hebopoia~~
  - 3) Fungia
  - 4) Forgonia
9. **Polyperson theory was proposed by**
  - ~~1) Vogt, Leuchart~~
  - 2) Habel
  - 3) Moser
  - 4) Sedgewich
10. **The recaptulation theory of evolution was put forth by**
  - ~~1) Ernst stackel~~
  - 2) Hugo de Vries
  - 3) Lamarck
  - 4) Warsmann's
11. **Darwin's theory of pangensis proposes-**
  - 1) Development of useful organs and degeneration of useless
  - 2) Devolement of an organ due to will power
  - 3) Increase in organ size with age
  - ~~4) Every organ of body produces minute herditary particles called gametes which are carried by the blood~~

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12. Leaf like bracts or thick and gelatinous medusa studded with nematocysts are called as

- 1) Gonophore  
2) ~~Phyllozooids~~  
3) Dactylozooids  
4) Gonozooids

13. Reef that are found ten miles away from the shore is

- 1) ~~Barrier reef~~  
2) Fringing reef  
3) Atoll reef  
4) Corallite

14. The precious red coral with branches is called

- 1) ~~Corallum nobile~~  
2) Helipora  
3) Madrepora  
4) Fungra

15. Theory of inheritance of acquired characters or theory of use and disuse of organ was proposed by

- 1) Wallace  
2) ~~Lamarck~~  
3) Charles Darwin  
4) Hugo de Vries

16. The sponge used for culture belong to the sub species of

- 1) Spongia dura  
2) ~~Euspongia officinalis~~  
3) Spongia barbara  
4) Euspongia Zimocca

17. Coral reefs lying close to the shores of some volcanic island on a part of some continent is

- 1) Barrier reef  
2) Atoll  
3) ~~Fringing reef~~  
4) Coralite

18. Coral colonies that grow continuously in size by budding of polyps often form

- 1) ~~Coral reefs~~  
2) corallite  
3) Lagoons  
4) Reef edge

19. The tentacles which are fixed to the substratum and with pedal disc up movement to substratum is achieved by pulling the tentacles along. This movement is called-

- 1) ~~Looping~~  
2) Somersault  
3) climbing  
4) Swimming

20. Organism that depends on the other for food and shelter is called :

- 1) Protopodite  
2) Predator  
3) ~~Parasite~~  
4) Host

21. Which among the following is not an endo parasite

- 1) Liver fluke  
2) Tapeworm  
3) Round worm  
4) ~~Ticks~~

22. Ancylostomiasis is the name given to the infection caused by the worm

- 1) Entamoeba histolytica  
2) Ascaris lumbricoides  
3) ~~Ancylostoma duodenale~~  
4) Wuchereria bancrofti

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23. **aphrodite a marine polychaete is commonly called**  
1) Sea fan  
~~2) sea mouse~~  
3) Sea horse  
4) Sea lilly
24. **The Notopodium and Neuropodium in Nerosis are supported internally by long, short and black chitinous rods like structure called**  
1) Pygidium  
~~2) Aciculam~~  
3) Prostomium  
4) Peristomium
25. **In Nervis, excretion is brought about by means of special type of structure called**  
1) Kidney  
2) Parapodia  
3) Contractile vacuole  
~~4) Nephridia~~
26. **During 19th century when a person gets a "black age" or conspicuous black or blue spots on the body, the doctor used to apply a lean hungry leech to suck the impure blood, and the process is called**  
1) Phytectomy  
2) ~~Phlebotomy~~  
3) Tubifixin  
4) Phryngotomy
27. **Parasitic copepods are called**  
~~1) Fish lice~~  
2) Syngoga  
3) Gnathia  
4) Glochidium
28. **The first insect pheromone is called as**  
~~1) Bombykol~~  
2) Parapheromone  
3) Releases pheromone  
4) Semiochemicals
29. **The process in which host is not actually destroyed is**  
1) Predation  
~~2) parasitism~~  
3) Mutualism  
4) commensalism
30. **Chemicals produced by insects of one sex that elicit a behavioural response in members of the opposite sex are known as**  
~~1) Sexpheromones~~  
2) Pheromones  
3) Parapheromones  
4) Hormones
31. **A striking feature of crustacean parasites is**  
~~1) No complexity of life cycle~~  
2) Complexity of life cycle  
3) Meta genesis  
4) Neotency
32. **Semichemicals that mediate intraspecific interactions are**  
1) Hormones  
2) Allelochemicals  
3) Alarm pheromones  
~~4) Pheromones~~
33. **Which is a monoplacophoran molluse?**  
1) Patella  
~~2) Neoplina~~  
3) Chiton  
4) Aplysia
34. **Brachiolaria larva is seen in the developoment of**  
~~1) Starfish~~  
2) Silver fish  
3) Unio  
4) Tapeworm

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35. The auricularia larva soon changes into a barrel shaped form called doliolaria which resembles the doliolaria of
- 1) Ophiuroidea  
~~3) Crinoidea~~  
2) Holotheroidea  
4) Echinoidea
36. The slug that lives on the sea coasts in brackish marshes is
- 1) Limax  
3) Planorbis  
~~2) Onchidium~~  
4) Helix
37. Before metamorphoses into the adult the doliolaria larva attaches and forms a stalk and at this stage it is known as the
- 1) Ophiopluteus  
3) Tornaria larva  
2) Echinopluteus  
~~4) Pentaeroid larva~~
38. Which one of the following is the inner most layer of the shell in the pearl oyster
- ~~1) Nacreous layer~~  
3) Prismatic layer  
2) Periostracum  
4) Mantle
39. File-like rasping organ for feeding called as radula is present in all molluses, except
- 1) Pila (apple snail)  
3) Aplysia (Sea hare)  
2) Sepia (cuttle fish)  
~~4) Pinctada (Pearly oyster)~~
40. Ascidia belongs to
- 1) Cephalochordata  
3) Hemichordata  
~~2) Urochordata~~  
4) Invertebrata
41. Microscleres and megascleres are found in the body of
- 1) Amphioxus  
~~3) Ascidia~~  
2) Fishes  
4) Balanus
42. The first in the Ascidia increases in thickness and it may form
- 1) Mouth  
3) Shell  
2) Tentacle  
~~4) Foot~~
43. Dorsal lamina is a thin flap lying inside the mid dorsal of this pharynx, it bears a number of conical, ciliated projections called languets and it is present in
- 1) Echinoderms  
~~3) Ascidiaria~~  
2) Mollusca  
4) Fishes
44. The best quality of pearl is known as
- 1) Real moti  
3) Linga moti  
2) Sweta moti  
4) All the above
45. The earliest tetrapods that were the probable ancestors of amphibians were
- ~~1) Labyrinthodonts~~  
3) Devonian Fishes  
2) Cyclostomes  
4) Stegocephalia
46. The Indian fresh water fish which during monsoon migrates from north to south is
- 1) Salmon  
3) Tuna  
2) Eel  
~~4) Hilsa~~

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47. Well vascularized area of buccal cavity where most of its required oxygen is taken up is found in

- ~~1) Electric eels~~
- 2) Lepidosiren
- 3) Propterus
- 4) Clarias

48. Some fishes like the Indian cat-fish and succo branches have

- ~~1) Long, tubular vascular air chamber~~
- 2) Labyrinthine organs
- 3) lung
- 4) Air bladder

49. Which of the following is not a true snake

- 1) Tree snake
- 2) Blind snake
- ~~3) Glass snake~~
- 4) Sea snake

50. The skeletons of various ornithischia reptiles have

- 1) crocodile live
- 2) Broad pelvis
- 3) No pelvis
- ~~4) Bird pelvis~~

51. The success of reptiles as truly land animals was not due to

- 1) Devolpment of internal fertilization
- 2) Devolpment of amnium and embroyomic membrates
- 3) Pulmonary respiration
- ~~4) They are big in size~~

52. The nocturnal group of Australian limbless reptiles are arboreal insectivorous are :

- 1) Snakes
- 2) Dawn reptiles
- 3) Fin lizards
- ~~4) Geckos~~

53. There are no arches or fossae in the temporal region of skull of reptiles is called

- ~~1) Anapside~~
- 2) Synapsid
- 3) Parapsida
- 4) Dcapsida

54. The small structure guarding the entrance of the trachea is called

- 1) Voice box
- 2) Trachea
- 3) Syrix
- ~~4) Larynx~~

55. Long distant migrates show great restlessness called as

- ~~1) Migratory restlessness~~
- 2) Hormonal restlessness
- 3) Stimulus
- 4) Display & calls

56. The importance of migration by orientation of sun in birds was first shown by

- 1) Wiltschko(1972)
- 2) Mathew(1955)
- ~~3) Kramer(1951)~~
- 4) Griffin(1955)

57. The marine largest flying bird is called as the

- 1) Kiwi
- 2) Penguins
- 3) Dodo
- ~~4) Albatross~~

58. The spoon full is characterized by a special beak called

- 1) Wood chiselling beak
- 2) Mud probing beak
- 3) Fish catching beak
- ~~4) Spatulate beak~~

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59. One of the conservation measures undertaken for wildlife in India includes

- 1) Destruction for commercial purposes    ~~2) Protection by law~~  
~~3) Deforestation~~    4) Afforestation

60. In-situ conservation include

- 1) NBAGR    2) IBWL  
~~3) Tiger reserves~~    4) CITES

61. One of the main management problems of the Idduki sanctuary was

- ~~1) lies in an ecosystem where there is highway disturbances~~    2) Local population (was inbetween)  
3) Too many monkey were present    4) Visitors were many

62. One of the significance of wild life is

- ~~1) Wildlife as a valuable genetic resource~~    2) Population explosion  
3) Environmental pollution    4) Natural calamities

63. The Zone where limited human activity is allowed is

- ~~1) Buffer Zone~~    2) Core Zone  
3) Manipulation Zone    4) Sanctuary

64. All India elephant preservation set was formulated in the years

- ~~1) 1879~~    2) 1873  
3) 1883    4) 1972

65. Vedanthangal bird sanctuary is known for its visiting season between

- ~~1) November to February~~    2) May to Dec  
3) June to July    4) Oct to May

66. The national animal of India declared in 1973 is

- ~~1) Panthera tigris~~    2) Panthera leo  
3) Pavo cristatus    4) Elephas indicus

67. Golden eagle represent an endangered species of

- 1) mammals    2) Himalayan tahr  
3) Serow    ~~4) Birds in India~~

68. In India, Asiatic water buffaloes are found only in

- ~~1) Assam, Madya pradesh and Nepal~~    2) Bengal  
3) Gir forest    4) Idduki reserve

69. The low lying paddy fields along the coastal area of Kerala serve as suitable grounds for prawn culture and are known as

- 1) Hatcheries    2) Bheries  
~~3) Pokkali fields~~    4) Oyster beds

70. Attempts made to achieve, maximum production of fish from a minimum quantity of water is known as

- 1) Extensive fish culture    ~~2) Intensive fish culture~~  
3) Semi-intensive fish culture    4) None of these

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71. Choose the incorrect match

1) Gragarious pest-Locust

~~2) Vector-Lucigen~~

3) Lining fossil-Limules

4) Economically important insect- Apis

72. Which of the following precautions should be taken during rearing of mulberry silkworm? (1) Dried leaves should be fed to the worms (2) Free ventilation but wind should not be directly over worms (3) Worms should never be kept over crowded in the tray (4) Worms should be handled with hands

1) 1 and 2

~~2) 2 and 3~~

3) 3 and 4

4) 1 and 4

73. Lac is produced by

~~1) Tachardia lacca~~

2) Bombyx moli

3) Pediculus humanis

4) Apis mellifica

74. The process of killing the cocoons of the silk worms is termed as

1) Reeling

2) Spinning

~~3) Stiffling~~

4) Splitting

75. Drone is a

~~1) Haploid fertile male~~

2) Diploid sterile female

3) Diploid fertile female

4) None of the above

76. Tsetse fly is a vector of -

1) Leishmania

2) Sehistosoma

~~3) Trypanosoma~~

4) Ancylostoma

77. What is the secondary host for the cestode paradise, Taemai saginata ?

~~1) Cattle~~

2) Dog

3) Cat

4) Snail

78. The kala-azar disease is caused by the species of -

~~1) Leishmania donovani~~

2) Leishmania tropica

3) Leishmania brasilliensis

4) None of these

79. The common name for the sugarcane pest, pyrilla per pusilla is called as -

1) Sugar cane Root borer

~~2) Sugarcane leaf hopper~~

3) Sugarcane top borer

4) Sugarcane shoot borer

80. The process of eliminating undesirable birds which do not possess the qualities for giving enough benefit in return for their culture is known as -

~~1) Culling~~

2) Brooding

3) Reaming

4) Incubation of egg

81. Which one of the following is not correctly matched ?

1) Albumin flakes - Product of poultry egg

2) Poultry manure - By product of poultry

3) Ranikhet - Disease of fowl

~~4) Polymouth Rock - Breed of poultry~~

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82. In India, Khan (1938) first succeeded in induced breeding by injecting mammalian pituitary hormone to spawn in the fish -

- 1) Labeo rohita
- 2) Clarias batrachus
- 3) Heteropneustes fossilis
- 4) Cirrhinus mrigala

83. Bi-pedal locomotion is advantageous because of -

- 1) Increases speed
- 2) Reduces body weight
- 3) Provides better support for body
- 4) Releases for limits for other purpose

84. If a sub-population becomes reproductively isolated in the midst of its parent population then the mode of speciation is called -

- 1) Sympatric speciation
- 2) Allopatric speciation
- 3) Sibling species
- 4) Mutation

85. A common ancestry of man and great apes has been deduced from similarities in -

- 1) Proteins and carbohydrates
- 2) Banding of chromosomes
- 3) DNA content and RNA
- 4) RNA content

86. Which of the following is not true of coacervates?

- 1) They are protein aggregates
- 2) They do not have lipid membrane and cannot reproduce
- 3) The work of coacervates is done by oparin
- 4) They are protobionts with polysaccharides, proteins and water

87. "Zooming" is related to -

- 1) Soil erosion
- 2) Desertification
- 3) Flood
- 4) Water

88. Solar cells are called as -

- 1) Photovoltaic cells
- 2) Magnetic cells
- 3) Electric cells
- 4) Photo magnetic cells

89. \_\_\_\_\_ are the efficient absorbers of noise with high frequency.

- 1) Plants
- 2) Higher Invertebrates
- 3) Higher vertebrates
- 4) Lower Vertebrates

90. The common greenhouse gases are -

- 1) Carbon-di-oxide, methane and chlorofluoro carbons
- 2) Methane, nitrous oxide and ozone
- 3) Chlorofluoro carbons, Nitrous oxide and ozone
- 4) Carbon di oxide, methane, chlorofluoro carbons, Nitrous oxide, ozone

91. Greenhouse effect is due to -

- 1) Impermeability of long wave length radiation through CO<sub>2</sub> of the atmosphere
- 2) Penetrability of long wave length radiations through O<sub>3</sub> layer
- 3) Penetrability of long wave length radiations through CO<sub>2</sub> layer
- 4) Impermeability of long wave length radiations through O<sub>3</sub> layer



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92. "Saving the ozone layer" conference was held at \_\_\_\_\_ in the year \_\_\_\_ .  
~~1) London, 1989~~ 2) Rio-de-janeiro, 1992  
3) Copenhagen, 1992 4) Kyoto, 1997
93. For astronauts algae is used as diet supplement because it is :  
1) Rich in proteins and low in lipids 2) Low proteins and rich carbohydrate  
3) Rich in proteins carbohydrates and lipids ~~4) Rich in protein and low in carbohydrates~~
94. The following are the radio nuclides entering the environment through fall out except -  
1) Strontium 2) Cesium  
3) Cerium ~~4) Thorium~~
95. Domestic sewage effluent contains more \_\_\_\_\_ and \_\_\_\_\_.  
~~1) Phosphorus and Nitrogen~~ 2) Phosphorus and Sulphur  
3) Nitrogen and Sulphur 4) Nitrogen and Carbon di oxide
96. PAN is formed by the interactions of oxides of nitrogen and \_\_\_\_\_ in the presence of sun light.  
1) Hydrogen 2) Nitride  
3) Ozone ~~4) Sulphur~~
97. The study of the environmental condition and the life activities existed in the remote past ages is called -  
~~1) Palaeo ecology~~ 2) Space ecology  
3) Urban ecology 4) Habitat ecology
98. Exploration of extra terrestrial environment, \_\_\_\_\_ is required for the life support of man in space ship  
~~1) Regenerating eco system~~ 2) Partial ecosystem  
3) Terrestrial ecosystem 4) Complete ecosystem
99. Hyponatremia is :  
~~1) Loss of sodium~~ 2) High sodium  
3) Loss of potassium 4) High potassium
100. Lipogenesis occurs in the adipose tissue when -  
~~1) Blood sugar is more~~ 2) Blood sugar is low  
3) Lipid is more 4) Lipid is low
101. Progesterone from corpus luctum predominates-  
~~1) During the first trimester of the pregnancy~~ 2) During the second trimester of the pregnancy  
3) During the third trimester of the pregnancy 4) During the period of delivery

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102. Lutinizing hormone is secreted when

- 1) Follicle stimulating hormone increases    2) Follicle stimulating hormone decreases  
3) Estrogen level increases    ~~4) Both FSH and estrogen increases.~~

103. AID's speard due to

- 1) Homosexuality    2) Infected mother to foetus  
3) Infected needles and syringes    ~~4) All the above~~

104. Parthenogenetic devolpment can be activated by certain compounds called-

- 1) Sulphuric acid    ~~2) Calcium ionophores~~  
3) Formalin    4) Fructose

105. A portion of stomach which secrets gastrin and churns the food into smaller particles is-

- 1) Fundus    2) Corpus  
~~3) Antrum~~    4) Pylorus

106. Muscle contraction without change in the muscle length-

- 1) Istonic    ~~2) Isometric~~  
3) Concentric    4) Excentric

107. Pheromones that are adaptive to both the sender and reciever are-

- ~~1) Synomones~~    2) Kairomones  
3) Allomones    4) Hormones

108. Sperms are produced in the-

- 1) Leydig cells    2) Nurse cells  
~~3) Seminiferous tubules~~    4) Epididymis

109. Memory cells are \_\_\_\_\_ produced during immune response-

- 1) Mast cells    2) Platelets  
~~3) Lymphocytes~~    4) Macrophages

110. Which of the following organ is not induced in elicitation of immune response?

- 1) Thymus    2) Spleen  
3) Lymph nodes    ~~4) Cloaca~~

111. Mesodrum induction was first demonstrated by Nieuwkoop in-

- ~~1) Urodele embroyos~~    2) Reptile embryo  
3) Ascidian embryo    4) Bird embryo

112. Only parthenogenetic females are produced in

- 1) Arrhenotoky    2) Autofertilization  
~~3) Thelytoky~~    4) Amphitoky

113. Mesotrophic organisms are-

- 1) Organisms feeding on dead organic material    2) Organisms feeding on predigested food by diffusion  
~~3) Organisms that need at least one amino acid to fullfill their nitrogen requirement~~    4) Organisms that need more animo acids

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114. The most common form of energy encountered with biochemical reaction is-

- 1) Heat Energy
- 2) Kinetic Energy
- 3) Radiant Energy
- 4) Electrical Energy

115. Absence of cilia from all parts of the body is a unique characteristic of the phylum

- 1) Mollusca
- 2) Echinodermata
- 3) Annalida
- 4) Arthropoda

116. Gastrin, a pepticle hormone which stimulates the gastric mucosa to produce gastric juice is secreted by-

- 1) PP cells of pancreas
- 2) Delta cells of pancreas
- 3) Beta cells of pancreas
- 4) Alpha cells of pancreas

117. After the penetration of egg cells by the sperm, their nuclei do not unite and only the nucleus of egg cell participates in subsequent development. This form of virgin reproduction is called-

- 1) Thelykoty
- 2) Gynogenesis
- 3) Androgenesis
- 4) Auto fertilization

118. Cells of immune system that cause pore formation in the antigen are-

- 1) Helper T-cells
- 2) Killer T-cells
- 3) Suppressor T-cells
- 4) B-cells

119. The body of hydroids is characterised by an axial gradient of levels of metabolism and mitotic activity, the highest level being the-

- 1) Peduncular region
- 2) Gastric region
- 3) Bud region
- 4) Hypostome region

120. A Hormone that contains less amino acid-

- 1) Insulin
- 2) Glucogon
- 3) Gastrin
- 4) Secretin

121. Sickle cell anaemia is-

- 1) Intermediate inheritance
- 2) Recessive inheritance
- 3) Dominant inheritance
- 4) Incomplete dominance

122. Chitin is made up of-

- 1) Hetero polysaccharide
- 2) Homo polysaccharide
- 3) Oligo polysaccharide
- 4) Dipoly polysaccharide

123. Stenohaline animals are-

- 1) Animals living in a wide range of salinity fluctuation
- 2) Animals living only within a narrow range of salinity fluctuation
- 3) Animals that live only in a narrow range of temperature fluctuation
- 4) Animals living in a wide range of temperature fluctuation

124. Phosphatase is used in the diagnosis of-

- 1) Muscle disorder
- 2) Rone disorder
- 3) Acute pancreatitis
- 4) Myocordial infraction

125. Corpus luteum lasts for-

- 1) 1 Day
- 2) 14 Days
- 3) 20 Days
- 4) 30 Days

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126. Bitter taste is felt at-

- 1) Taste buds present in the tip of the tongue
- 2) Taste buds present in the lateral sides of the tongue
- 3) Taste buds present at the base of the tongue
- 4) Taste buds present at the ventral side of the tongue

127. Pulse rate of adult is-

- 1) 50-60
- 2) 70-75
- 3) 80-85
- 4) 60-70

128. The term Kinesis refers to-

- 1) Movement of animal towards the source of stimulation
- 2) Movement of a particular part of the body towards the source of stimulation
- 3) Decrease in the speed of movement towards the source of stimulation
- 4) Increase in the speed of movement towards the source of stimulation

129. Circadian rhythm follows-

- 1) 10 hours cycle
- 2) 17 hours cycle
- 3) 24 hours cycle
- 4) 48 hours cycle

130. Monozygotic twins are formed at which stage of cell division-

- 1) First division at 2 cell stage
- 2) Second division at 4 cell stage
- 3) Third division at 8 cell stage
- 4) Fourth division at 16 cell stage

131. Progesterone secretion starts on the which day of menstrual cycle?

- 1) 14th day
- 2) 16th day
- 3) 20th day
- 4) 28th day

132. Amino acid from which ammonia is formed during ornithine cycle is-

- 1) Asparagine
- 2) Glutamine
- 3) Glutamate
- 4) Aspartate

133. Induced breeding in fish is done by

- 1) Hypophysation
- 2) Anesthesia
- 3) Sterilization
- 4) Isolation

134. Which of the following statements are correct?

- 1) Elvers are normal adults of Leptocephali.
- 2) Elvers are normal larvae of Leptocephali.
- 3) Elvers are normal females of Leptocephali.
- 4) Elvers are Leptocephalic animals that has stopped feeding and thinned before migration.

135. Acclimatization is different from acclimation in one of the following aspect.

- 1) Acclimatization is a complex situation in nature while acclimation is the compensatory changes by the animal in the laboratory
- 2) Acclimatization is the change in the laboratory while the other is in the nature
- 3) Both are exhibited by the animals in nature
- 4) Both are exhibited by the animals in laboratory

136. Kidney secretes-

- 1) Erythropoietin & Renin
- 2) Miracle hormone & Melatonin
- 3) Emergency hormones and ATCH
- 4) Thyroxine & thyrotropin

137. Net yield of ATP per glucose molecule oxidised after 2NADH are transported by glycerophosphate-dihydroxy acetone phosphate shuttle. It will be-

- 1) 36
- 2) 38
- 3) 32
- 4) 30

138. A population of lymphocytes and other white blood cells that defends vertebrates against infection is called-

- 1) Immune parasis
- 2) Immune response
- 3) Immune surveillance
- 4) Immune system

139. Fat soluble vitamin which is essential for vision epithelial integrity, formation of bone and connection tissue is-

- 1) Vitamin A
- 2) Vitamin K
- 3) Vitamin B
- 4) Vitamin C

140. Chymotrypsin contains 28 seryl residues but only one of it is a strong nucleophile-

- 1) (Ser<sup>135</sup>)
- 2) (Ser<sup>195</sup>)
- 3) (Ser<sup>125</sup>)
- 4) (Ser<sup>165</sup>)

141. Sugars on hydrolysis yield no further lower sugars and are termed as-

- 1) Oligosaccharides
- 2) Monosaccharides
- 3) Disaccharides
- 4) Polysaccharides

142. The trade name of a pseudomonas derived refined polysaccharide that is used as a gelling agent and agar substitute is called

- 1) Agarose 20
- 2) Gelrite TM
- 3) Gelatin
- 4) gelsolin

143. A disease characterized by an abnormally low metabolic rate, deposition of a semi fluid under skin, with increase in subcutaneous fat and sluggishness is called-

- 1) Myxedema
- 2) Myeloma
- 3) Muscle fatigue
- 4) Leukemia

144. Absence of immunoglobulin due to lack of mature B - cells is known as -

- 1) Thrombocytopenia
- 2) Agammaglobulinemia
- 3) Anaphylatoxin
- 4) Apoptosis

145. The main source of cholesterol is-

- 1) Fish liver oil, brain and spinal cord of cattle
- 2) Fish blood, muscle and eyes
- 3) Fish skin, ovary and kidneys
- 4) Fish eyes, liver and fish fins

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146. For scientific research work, the collected data is referred as-

- 1) Primary data
- 2) Secondary data
- 3) Tertiary data
- 4) Primary and secondary data

147. If the Chi-square value \_\_\_\_\_, the degrees of freedom \_\_\_\_\_.

- 1) Increases, Decreases
- 2) Decreases, Increases
- 3) Increases, Increases
- 4) Decreases, Decreases

148. The data is collected from all the individual items that are connected with the enquiry is called

- 1) Sampling method
- 2) Census Method
- 3) Random sampling
- 4) Non-Random sampling

149. The median formula for continuous series

$$\text{is Median} = l_1 + \frac{\left(\frac{N}{2} - C\right)}{f_m} \times h$$

Here:  $f_m$  and  $h$  denotes

- A. Frequency of the median class and width of the class intervals
- B. Frequency preceding the median class and width of the class intervals
- C. Frequency of the median class and no of class intervals
- D. Cumulative frequency of median class and width of the median class

150. With this graphical diagram one can estimate the line of best fit.

- 1) Scattered diagram
- 2) Skewness
- 3) Kurtosis
- 4) Semi-Inter quartile range

151. In a scatter diagram, the dependent and independent variables are represented by \_\_\_\_\_ and \_\_\_\_\_ axis.

- 1) Y and X
- 2) X and Y
- 3) Both vertical
- 4) Both Horizontal

152. Assertion[A]: Standard deviation is called as root mean square deviation. Reason [R]: The square root of the variance of the sampling distribution is called standard error.

- 1) Both A and R are true and R is the correct explanation of A
- 2) Both A and R are true and R is not a correct explanation of A
- 3) A is true but R is false
- 4) A is False but R is true

153. Assertion[A]: There are two kinds of frequency distribution table, ie. Overlapping and Non-overlapping. Reason[R]: A frequency distribution should have a minimum of 5 classes and maximum of 20.

- 1) Both A and R are true and R is the correct explanation of A
- 2) Both A and R are true and R is not a correct explanation of A
- 3) A is true but R is false
- 4) A is False but R is true

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154. the catabolic repression of the lac operon is to mediate via positive control by a regulatory protein called-
- 1) CRP
  - 3) CAP
  - 2) allolactose
  - 4) Catabolic repression
155. A gene that specifies the amino acid sequence of a polypeptide chain is termed as-
- 1) structural gene
  - 3) Operator gene
  - 2) regulator gene
  - 4) Split gene
156. One of the controlling elements which is a regulator gene for a protein called as
- 1) Inducer
  - 3) Co-Repressor
  - 2) Repressor
  - 4) RNA Polymerase
157. Base to base replacement in a mutation purine-purine, pyrimidine to pyrimidine is called as-
- 1) Transitions
  - 3) Translocations
  - 2) Transversions
  - 4) Deletions
158. UV radiation in absence of photolyase gene produces
- 1) Pyrimidine dimers
  - 3) Base replacement
  - 2) breakage of double strand
  - 4) Breakage of backbone of DNA
159. Different types of chromosomes can be recognized by the position of the following separating the two arms-
- 1) Genes
  - 3) Nucleus
  - 2) Spindle
  - 4) Centromere
160. A mutation that has no phenotypic effect is called-
- 1) Silent mutation
  - 3) Missense mutation
  - 2) Cryptic mutation
  - 4) Non sense mutation
161. In the case of the lac operon the effector molecules are called as
- 1) Co-repressor
  - 3) Inducers
  - 2) Repressor
  - 4) Inhibitors
162. The operon concept of regulated gene expression was first put forth by
- 1) Watson & Crick, 1953
  - 3) Messelson & Stahl, 1951
  - 2) Jacob & Monod, 1961
  - 4) Mirsky & Ris, 1952
163. Lac operon can be activated only in the presence of-
- 1) Lactose in the medium
  - 3) Glucose in the medium
  - 2) Lactose and glucose
  - 4) Galactose in the medium
164. A plasmid in the soil bacterium is a causative agent for crown gall formation is
- 1) Cosmid
  - 3) Bacteriophages
  - 2) YAC
  - 4) Ti plasmid
165. Plasmids found in the cells of bacteria are molecules of-
- 1) DNA
  - 3) Proteins
  - 2) RNA
  - 4) Both DNA & RNA

166. The first hormone artificially synthesized by culturing bacteria is

- 1) Insulin
- 2) Adrenalin
- 3) Thyrosine
- 4) testosterone

167. In 'Z' DNA one complete helix can accommodate atleast

- 1) 12 base pairs
- 2) 10 base pairs
- 3) 11 base pairs
- 4) 9 base pairs

168. Intercalating agent causing mutation is

- 1) Hydroxylamine
- 2) Nitrous acid
- 3) Acridine organe and preflavins
- 4) EMS

169. Down's syndrome is caused due to-

- 1) Autosomal aneuploidy
- 2) Set chromose- aneuploid
- 3) Sex linked
- 4) Non sex linked

170. The distance of each base pair from one another in double helix DNA is

- 1) 3.4nm
- 2) 2.0nm
- 3) 0.34nm
- 4) 34nm

171. DNA Fengin Punling was first designed by the scientist-

- 1) Kary Mullis
- 2) Alec Jeffreys
- 3) H.O.Smith
- 4) T.H.Morgon

172. One of the following material is used for freeze drying

- 1) Fresh tissue
- 2) Stained tissue
- 3) Fixed tissue
- 4) Dehydrated tissue

173. The ability of a microscope to differentiate two objects is called

- 1) Magnification
- 2) Resolving power
- 3) Refractive index
- 4) Phase change

174. Cryostate is a

- 1) Temperature controlled spectro photometer
- 2) Temperature controlled storage unit
- 3) Cooled chamber with rotary microtone
- 4) Cooled chamber for enzyme analysis

175. Interference microscope is useful to determine the

- 1) Thickness of the object
- 2) Nature of the cell
- 3) Area of the object
- 4) Chemical nature of the object

176. One of the reasons for not getting a continuous ribbon in microtechnique is

- 1) Material selection is not correct
- 2) Intensity of light is not enough
- 3) Proper infiltration of the material is not achived
- 4) Tissue is not stained enough



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177. The crystalline semi conductor material used in a photo cell is

- 1) Selenium
- 2) Aluminium
- 3) Sodium
- 4) Potassium

178. Three enzymes involved in RNA capping of about 25 RNA molecules are

- 1) Phosphatase, glycosylase and transferase
- 2) Methyl transferase, Phosphatase, guanyl transferase
- 3) Methylases, Phosphatase, and acylase
- 4) Phosphate, glycosylase & transferase

179. In some bacteria termination of protein synthesis needs the presence of a factor called-

- 1) R- factor
- 2) Rho-factor
- 3) F-factor
- 4) 'O' factor

180. The nucleosomal structure of DNA is seen only in

- 1) Eukaryotes
- 2) Prokaryotes
- 3) Viruses
- 4) In prokaryotes and eukaryotes

181. The promoter sequence found in the mRNA after transcription is the sequence that guides the enzyme-

- 1) Aminoacyl synthetase
- 2) DNA dependent RNA polymerase
- 3) Reverse transcriptase
- 4) DNA Polymerase

182. The transgenic animals are those which have

- 1) Foreign DNA in some of their cells
- 2) Foreign DNA in all of their cells
- 3) Foreign RNA in all of their cells
- 4) Both A and C

183. In the 'A' form of DNA the diameter of the DNA is larger than 20 Å and it also accommodates

- 1) More than 10 base pair per helix
- 2) Less than 10 bp per helix
- 3) More than 50 bp per helix
- 4) Only 10 bp per helix

184. The nucleotides of one strand going in one direction are the same as the nucleotides of the other strand going in the reverse direction is called-

- 1) Restriction enzymes
- 2) Palindromic Sequences
- 3) Selective amplification
- 4) B-DNA form

185. Enzyme that starts a new strand of DNA by making RNA primer during replication is termed as-

- 1) PriA
- 2) Primase
- 3) Primosome
- 4) Permease

186. Replication of DNA in the cell cycle takes place during

- 1) G1 phase
- 2) G2 phase
- 3) S phase
- 4) Interphase

187. Which one of the following organelles contains extra chromosomal DNA

- 1) Golgi body
- 2) Ribosomes
- 3) Mitochondria
- 4) Phagosome

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188. Assertion (A) : The systematic sampling method is used when a complete list of population is available. Reason (R) : The first item is selected by lottery method.

- 1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- 2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
- 3) (A) is true but (R) is false
- 4) (A) is false but (R) is true

189. Altered base in DNA is detected by

- 1) DNA Polymerase
- 2) DNA ligase
- 3) DNA glycosylase
- 4) DNA photolyase

190. DNA POL I of prokaryotes is involved in

- 1) Repair
- 2) Polymerization
- 3) Gap-filling
- 4) Breaking

191. One of the specificity of protein synthesis in bacteria is

- 1) Coupled transcription- translation
- 2) Co-translational export
- 3) Translational activators
- 4) Translational repressor

192. Degeneracy of the genetic code refers to the

- 1) More than one set of codon for one amino acid
- 2) Two bases signify one amino acid
- 3) The codons overlap
- 4) The codons have three reading frames

193. Short fragments of DNA observed in newly replicated DNA are referred to as

- 1) Premers
- 2) Primosome
- 3) Okazaki fragments
- 4) SSB proteins

194. One of the codons for phenylalanine is-

- 1) AAA
- 2) GGU
- 3) UUU
- 4) GAA

195. The first person who isolated DNA polymerases from E-coli, around 1960 was

- 1) Good enough Levine 1974
- 2) Tamarin 2002
- 3) Arthur Kornberg
- 4) Watson & Crick

196. Cell organelles can be separated by the method of-

- 1) Auto radiography
- 2) Microtomy
- 3) Centrifugation
- 4) Chromatography

197. The 't'RNA in protein synthesis is charged when

- 1) When it moves to the 'A' site
- 2) When it is pushed off from 'p' site
- 3) Activated amino acid are attached to its 3' end
- 4) When it carries antecodon

198. 40s subunit is the part of

- 1) 80s ribosome
- 2) 70s ribosome
- 3) 60s ribosome
- 4) 50s ribosome

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199. Antisense RNA plays a role in-

- 1) Regulating gene expression by base pairing to mRNA
- 2) Regulating gene expression by binding to proteins or DNA
- 3) Involved in the recognition of short DNA sequence
- 4) Involved in the processing of mRNA

200. If the fishes are being imprisoned in a metal or bamboo structure for culture, then it is-

- 1) Cage culture
- 2) Pen culture
- 3) Salt pan culture
- 4) Coastal fish culture