

MCQ 2019-20

BIOLOGY

CLASS - XI (SCIENCE)

Important Instructions:

1. The Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars with blue/black pen only.
2. The test of 3.15 hours duration and Test Booklet, contain 160 questions. Each question carries 3 marks. For each correct response, the candidate will get 3 marks. For each incorrect response, 1 mark will be deducted from the total score. The maximum Marks are 480.
4. Use only blue/black ball point pen to write particulars on this page/ marking response.
5. Rough work to be done on the space provided for this purpose in the Test Booklet only.
6. On completion of test the candidates must handover the Answer Sheet to the invigilator before leaving the room. The candidate are allowed to carry away this Test Booklet with them.
7. The candidate should ensure that the Answer Sheet is not folded. Do not make any stray mark on Answer Sheet. Do not write your Roll No. Anywhere else except in the specified space in the Test Booklet/ Answer Sheet.
8. Use of White fluid for correction is Not permissible on the Answer Sheet.
9. Black Paper, clipboards, log tables, calculators, mobile or any electronics storage device is NOT permissible in the examination room.

Test Duration : 3.15 Hours

Date : _____

Name of Candidate (in Capitals) : _____

Roll Number (in Figures) : _____

Roll Number (in Words) : _____

Candidate's Signature : _____ **Invigilator's Signature** _____

1. Metagenesis refers to
 - (A) the presence of different morphic forms
 - (B) alternation of generation between asexual and sexual phases of an organism
 - (C) occurrence of a drastic change in form during post-embryonic development
 - (D) the presence of a segmented body and parthenogenetic mode of reproduction
2. Which one of the following group of animals is homeothermic?
 - (A) Reptiles (B) Amphibians
 - (C) Birds (D) Fishes
3. Which one of the following is a mismatch pair?
 - (A) Scales-Reptilia
 - (B) Comb plates-Mollusca
 - (C) Choanocytes-Porifera
 - (D) Parapodia-Annelida
4. Which of the following exhibits metagenesis?
 - (A) Hydra (B) Adamsia
 - (C) Aurelia (D) Obelia
5. Cellular organisation of body is present in
 - (A) Annelida (B) Platyhelminthes
 - (C) Porifera (D) Urochordata
6. Which of these is referred to as 'Venus flower basket'?
 - (A) Spongilla (B) Sycon
 - (C) Euplectella (D) Cliona
7. Pentaradial symmetry is found in
 - (A) Echinodermata (B) Annelida
 - (C) Porifera (D) Arthropoda
8. Flatworms excrete through
 - (A) Kidney (B) Nephridia
 - (C) protonephridia (D) Malpighian tubules
9. Which one of the following exhibits concentric 'tube within tube' plan?
 - (A) Cnidaria (B) Annelida
 - (C) Platyhelminthes (D) Nematoda
10. Which one of the following animals possesses high regeneration capacity?
 - (A) Planaria (B) Taenia
 - (C) Salpa (D) Periplaneta
11. Which of the following has biradial symmetry?
 - (A) Paramecium (B) Jellyfish
 - (C) Cockroach (D) Sea anemone
12. Coelom is found between
 - (A) ectoderm and endoderm
 - (B) mesoderm and ectoderm
 - (C) body wall and ectoderm
 - (D) mesoderm and endoderm
13. A bilaterally symmetrical deuterostome is classified in the phylum
 - (A) Annelida (B) Chordata
 - (C) Arthropoda (D) Echinodermata
14. The causative agent of filaria is
 - (A) Wucheria bancrofti
 - (B) Leishmania donovani
 - (C) Plasmodium vivax
 - (D) Trypanosoma gambiensi
15. Which shows polymorphism?
 - (A) Physalia (B) Trypanosoma
 - (C) Termite (D) All of these

Space for Rough Work

16. Portuguese man of war is
 (A) Pennatula (B) Coral
 (C) Physalia (D) Obelia
17. Taenia solium derives its energy from the breakdown of
 (A) nucleic acids (B) amino acids
 (C) glycogen (D) glycerol
18. After drying a bath sponge contains
 (A) hold fast (B) tentacles
 (C) spicules (D) spongin fibres
19. The term 'Polyadelphous' is related to
 (A) gynoecium (B) androecium
 (C) Corolla (D) calyx
20. The coconut water from tender coconut represents
 (A) fleshy mesocarp
 (B) free-nuclear proembryo
 (C) free-nuclear endosperm
 (D) endocarp
21. Stems modified into flat green organs performing the functions of leaves are known as
 (A) phyllodes (B) phylloclades
 (C) scales (D) cladodes
22. Monadelphous condition of stamens is found in
 (A) Pea (B) China rose
 (C) Citrus (D) None of these
23. Keel is the characteristic feature of flower of
 (A) tulip (B) Indigofera
 (C) Alone (D) tomato
24. ginger multiplies vegetatively by
 (A) bud (B) tuber
 (C) stem (D) rhizome
25. A fruit developed from a condensed inflorescence is
 (A) simple fruit (B) aggregate fruit
 (C) composite fruit (D) etaerio
26. In Nepenthes (pitcher plant), pitcher is the
 (A) Petiole (B) base
 (C) lamina (D) All of these
27. The mesocarp in coconut is
 (A) fleshy (B) stony
 (C) fibrous (D) milky
28. The cotyledons of monocots (grasses) is generally called
 (A) scutellum (B) radicle
 (C) plumule (D) endosperm
29. Drupes are called stony fruits because they have hard
 (A) epicarp and mesocarp
 (B) mesocarp
 (C) epicarp (D) endocarp
30. Aggregate fruit formed from
 (A) multicarpellary apocarpous ovary
 (B) multicarpellary syncarpous ovary
 (C) monocarpellary apocarpous ovary
 (D) monocarpellary syncarpous ovary
31. A flower which can be divided into two equal halves by only one plane is
 (A) zygomorphic (B) actinomorphic
 (C) regular (D) perfect
32. Bract is a modified
 (A) petal (B) sepal
 (C) leaf (D) involucre

Space for Rough Work

33. Sucking roots are present in the plant
 (A) Betal (B) Cuscuta
 (C) Mangifera (D) Solanum
34. Pneumatophores are present/common in
 (A) xerophytes (B) hygrophytes
 (C) mesophytes (D) halophytes
35. Vivipary is observed in
 (A) Banyan (B) Bryophyllum
 (C) Ipomoea (D) Rhizophora
36. Replum is present in the ovary of flower of
 (A) lemon (B) mustard
 (C) sunflower (D) pea
37. Stem is reduced in
 (A) rhizome (B) corm
 (C) bulb (D) tuber
38. Epigeal germination occurs
 (A) due to the growth and elongation of hypocotyl
 (B) in papaya and cotton
 (C) in maize and rice
 (D) due to elongation of epicotyl
39. Specialised epidermal cells surrounding the guard cells are called
 (A) subsidiary cells (B) bulliform cells
 (C) lenticels (D) complementary cells
40. Medullary rays are tissues made up of
 (A) phloem parenchyma (B) xylem parenchyma
 (C) sieve tubes (D) sclerenchyma
41. Hydrophytes are characterised by
 (A) presence of sclerenchyma
 (B) presence of aerenchyma
 (C) absence of aerenchyma
 (D) presence of root nodules
42. Which one of the following is dead, but works efficiently?
 (A) Sieve tube (B) Companion cells
 (C) Vessels (D) Both (b) and (c)
43. Which of the following plant tissues provides mechanical strength to plants?
 (A) parenchyma (B) Collenchyma
 (C) Sclerenchyma (D) Aerenchyma
44. Radial conduction of water takes place by
 (A) vessels (B) vessels and tracheids
 (C) phloem (D) ray parenchymatous cells
45. The stele is composed of
 (A) vascular bundle
 (B) pith and vascular bundle
 (C) cortex and endodermis
 (D) pith and cortex
46. Heartwood differs from sapwood in
 (A) presence of rays and fibres
 (B) absence of vessels and parenchyma
 (C) having dead and non-conducting elements
 (D) being susceptible to pests and pathogens
47. In woody trees, the exchange of gases between the outer atmosphere and the internal tissue of the stem takes place through
 (A) aerenchyma (B) stomata
 (C) pneumatophores (D) lenticels
48. Cork cambium gives rise to
 (A) phellogen and secondary cortex
 (B) phellogen, phelloderm and secondary cortex
 (C) cork and phellogen
 (D) cork and secondary cortex

Space for Rough Work

49. Vascular tissue in higher plants develops from which of the following?
 (A) Procambium (B) Protoderm
 (C) Phellogen (D) Cortex
50. Casparian strip is a characteristic feature of
 (A) pericycle (B) periblem
 (C) endodermis (D) hypodermis
51. Desert grasses often roll their leaves due to presence of
 (A) oily surface (B) bulliform cells
 (C) spines (D) None of these
52. In dicot stem, vascular bundle are
 (A) numerous scattered
 (B) arranged in a ring
 (C) without cambium
 (D) surrounded by bundle sheath
53. Which of the following tissues consist consist of living cells?
 (A) Vessels (B) Tracheids
 (C) Companion cell (D) Sclerenchyma
54. Sugarcane plant has
 (A) reticulate venation
 (B) capsular fruits
 (C) pentamerous flowers
 (D) dumb-bell-shaped guard cells
55. Collenchyma is
 (A) living and contains protoplasm
 (B) dead and hollow
 (C) dead and filled with reserve food
 (D) living and contains no reserve food
56. Endodermis mainly help in
 (A) preventing loss of water from stele
 (B) provides protection
 (C) maintains rigidity (D) All of the above
57. Polyarch condition is found in
 (A) monocot root (B) dicot root
 (C) monocot stem (D) dicot stem
58. Length of petiole increases due to the division of
 (A) apical meristem (B) lateral meristem
 (C) intercalary meristem (D) All of the above
59. Dense regular connective tissue is present is
 (A) ligament and tendon
 (B) joint capsule and Wharton's jelly
 (C) Periosteum and endosteum
 (D) pericardium and heart valves
60. The lining of intestine and kidneys in human is
 (A) Keratinised (B) brush border
 (C) ciliated (D) None of the above
61. Cardiac muscle is found in
 (A) pericardium (B) endocardium
 (C) myocardium (D) peritoneum
62. Keratinised dead layer of skin is made of
 (A) stratified squamous epithelium
 (B) simple cuboidal epithelium
 (C) simple columnar epithelium
 (D) stratified columnar epithelium
63. The cavities of alveoli of lungs are lined by
 (A) cuboidal epithelium
 (B) columnar epithelium
 (C) stratifiedc cuboidal epithelium
 (D) squamous epithelium

Space for Rough Work

64. Agranulocytes are
 (A) lymphocytes and monocytes
 (B) eosinophils and basophils
 (C) lymphocyte and eosinophils
 (D) basophils and monocytes
65. The type of epithelium seen in the walls of blood vessels is
 (A) squamous epithelium
 (B) columnar epithelium
 (C) ciliated epithelium (D) cuboidal epithelium
66. Blood clotting corpuscle is
 (A) thrombocyte (B) monocyte
 (C) lymphocyte (D) erythrocyte
67. Which of the following serve as the anchoring junctions between the cells?
 (A) Tight junctions (B) Gap junctions
 (C) Desmosomes (D) Nexuses
68. Epimysium, perimysium and endomysium are found in
 (A) nerve (B) blood vessel
 (C) striated muscle (D) uterus
69. Bipolar neurons occur in
 (A) vertebrate embryos
 (B) retina of eye
 (C) brain and spinal cord
 (D) skeletal muscles
70. Both RBCs and WBCs are formed in the
 (A) spleen (B) liver
 (C) bone marrow (D) kidney
71. Ligament is mainly made up of
 (A) reticulin (B) elastin
 (C) myosin (D) collagen
72. Nerve cells do not divide because they do not have
 (A) nucleus (B) centrosome
 (C) Golgi body (D) mitochondria
73. Which are the longest cells in human body?
 (A) Muscles cells of legs
 (B) Bone cells
 (C) Nerve cells (D) None of these
74. In male cockroaches, sperms are stored in which part of the reproductive system?
 (A) Seminal vesicles (B) Mushroom glands
 (C) Testes (D) Vas deferens
75. The terga, sterna and pleura of cockroach body are joined by
 (A) cementing (B) muscular tissue
 (C) arthroal (D) cartilage
76. Type of respiration in cockroach is
 (A) cutaneous (B) tracheal
 (C) pulmonary (D) brahcheal
77. Flow of haemolymph in cockroach is
 (A) Heart → Ostia → Perivisceral sinus → Pericardial sinus → Head → Heart
 (B) Heart → Pericardial sinus → Head → Perivisceral sinus → Ostia → Heart
 (C) Heart → Head → Perivisceral sinus → Pericardial sinus → Ostia → Heart
 (D) Heart → Head → Perivisceral sinus → Ostia → Pericardial sinus → Heart

Space for Rough Work

78. Which part of the cockroach leg is attached to thorax ventrally?
 (A) Trochanter (B) Claw
 (C) Femur (D) Coxa
79. Frogs differ from humans in possessing
 (A) Paired cerebral hemisphere
 (B) hepatic portal system
 (C) nucleated RBCs (D) All of the above
80. The tympanic cavity in frog communicates with pharynx ventrally through
 (A) Bidder's canal (B) horizontal canal
 (C) Eustachian tube (D) semicircular canal
81. If a live earthworm is pricked with a needle in its outer surface without damaging its guts, the fluid that comes out is
 (A) excretory fluid (B) coelomic fluid
 (C) haemolymph fluid (D) slimy mucus
82. In which of the following animals, respiration occurs without any respiratory organ?
 (A) Frog (B) Fish
 (C) Cockroach (D) Earthworm
83. Blood of earthworm is
 (A) red in colour, due to dissolved haemoglobin corpuscle
 (B) red in colour, due to dissolved haemoglobin in plasma
 (C) blue in colour, due to dissolved haemocyanin in plasma
 (D) blue in colour, due to dissolved haemocyanin in corpuscles
84. Number of ovarioles in each ovary of cockroach is
 (A) 32 (B) 16
 (C) 8 (D) 4
85. Earthworms have no special sense organs still they are sensitive to
 (A) touch and sound (B) light and sound
 (C) touch taste and sound
 (D) touch taste and light
86. Role of typhlosole in earthworm is to
 (A) emulsify food (B) kill bacteria
 (C) increase absorptive area
 (D) secrete saliva
87. Male cockroach has
 (A) anal cerci (B) long wing
 (C) Both (A) and (B) (D) anal style
88. Efferent salivary ducts in periplaneta open into
 (A) stomach (B) base of pharynx
 (C) base of oesophagus
 (D) base of hypopharynx
89. Cockroach has a stomodeal valve between
 (A) ileum and colon (B) crop and gizzard
 (C) mesenteron and ileum
 (D) gizzard and mesenteron
90. A cell organelle containing hydrolytic enzymes is
 (A) lysosomes (B) microsome
 (C) ribosome (D) mesosomes
91. Protoplast lacks
 (A) cytoplasm (B) nucleus
 (C) mitochondria (D) cell wall

Space for Rough Work

92. GERL system is formed of
 (A) Golgi body, endoplasmic reticulum, ribosome and lysosome
 (B) Gogi body, endoplasmic reticulum and lybosome
 (C) Golgi body, endoplasmic reticulum and ri-bosome
 (D) Golgi body, ribosome and lysosome
93. Smallest unit in the plant cell wall is
 (A) Micelle (B) Microfibril
 (C) Fibril (D) None of these
94. 70S ribosomes are found in
 (A) Eukaryotic cell (B) prokaryotic cell
 (C) mitochondria (D) Both (B) and (C)
95. Cellular organelles with membrances are
 (A) nucleri, ribosomes and mitochondria
 (B) chromosomes, ribosomes and endoplasmic reticulum
 (C) endoplasmic reticulum, ribosomes and nuclei
 (D) lysosomes, Golgi apparatus and mitochondria
96. A major site for synthesis of lipid is
 (A) RER (B) SER
 (C) symplast (D) nucleoplast
97. The Golgi complex plays a major role
 (A) in trapping the light and transforming it into chemical energy
 (B) in digesting proteins and carbohydrates
 (C) as energy transferring organelles
 (D) in post-translational modification of proteins and glycosidations of lipids
98. Protein synthesis takes place in
 (A) ribosomes (B) chloroplasts
 (C) mitrochondria (D) Golgi bodies
99. Which of the cell organelle lacks membrane?
 (A) Mesosome (B) Mitochondria
 (C) Ribosome (D) Liposome
100. Extranuclear chromosome occurs in
 (A) peroxisome and ribosome
 (B) chloroplast and mitochondria
 (C) mitochondria and ribosome
 (D) chloroplast and lysosome
101. Plant cells normally lack
 (A) ribosomes (B) Golgi bodies
 (C) centrioles (D) cell membrane
102. The nucleus is separated from surrounding cytoplasm by a nuclear membrane, which is
 (A) single layered with pores
 (B) single layered without pores
 (C) double layered with proes
 (D) double layered without pores
103. Which one of the following organisms is not an example of eukaryotic cells?
 (A) Excherichia choli (B) Euglena viridis
 (C) Amoeba proteus (D) Paramecium caudatum
104. Middle lamella is present
 (A) inside the secondary wall
 (B) inside the primary cell wall
 (C) outside the primary cell wall
 (D) in between secondary and tertiary walls
105. Middle lamella is composed of
 (A) carbohydrate (B) calcium pectate
 (C) protein (D) peptidoglycan

Space for Rough Work

106. Middle lamella is composed of
 (A) carbohydrate (B) calcium pectate
 (C) protein (D) peptidoglycan
107. What is a genophore?
 (A) DNA in prokaryotes
 (B) DNA and RNA in prokaryotes
 (C) DNA and protein in prokaryotes
 (D) RNA in prokaryotes
108. Membrane that covers the vacuole in a plant cell is called
 (A) tonoplast (B) tonoplasm
 (C) jacket (D) cell membrane
109. Which of the following is responsible for the origin of lysosome?
 (A) Chloroplast (B) Mitochondrion
 (C) Golgi body (D) Ribosome
110. Polysome is formed by
 (A) several ribosomes attached to a single mRNA
 (B) many ribosomes attached to a strand of endoplasmic reticulum
 (C) a ribosome with several subunits
 (D) ribosomes attached to each other in a linear arrangement
111. What is common between chloroplasts, chromoplasts and leucoplasts?
 (A) The presence of pigments
 (B) The possession of thylakoids and grana
 (C) Storage of starch, proteins and lipids
 (D) Ability to multiply by a fission-like process
112. Golgi apparatus is absent in
 (A) higher plant (B) yeast
 (C) bacteria and blue-green algae
 (D) liver cells
113. Which one of the following is not a plastid?
 (A) Mitoplast (B) chromoplast
 (C) Chloroplast (D) Leucoplast
114. Highest number of enzymes are found in
 (A) lysosome (B) chloroplast
 (C) mitochondria (D) peroxisome
115. Which organelle is present in higher number in secretory cells?
 (A) Dictyosome (B) ER
 (C) Lysosome (D) Vacuole
116. The nucleolus is the site of formation of
 (A) spindle fibres (B) chromosomes
 (C) ribosomes (D) peroxisomes
117. Body having meshwork of cells, internal cavities lined with food filtering flagelleted cells and indirect development are the characteristics of phylum
 (A) Coelenterata (B) Porifera
 (C) Mollusca (D) Protozoa
118. Which one of the following statements is incorrect?
 (A) Insects have one pair of antenna
 (B) Millipendes possess two pairs of appendages in each segment of the body
 (C) Prawns have two pairs of antenna
 (D) Animals belonging to the phylum-Porifera have nematocyst

Space for Rough Work

119. Choanocytes from the lining of paragastral cavity in
 (A) jellyfish (B) sponges
 (C) helminthes (D) echinoderms
120. Infection of Ascaris usually occurs by
 (A) eating imperfectly looked pork
 (B) tse-tse fly
 (C) mosquito bite
 (D) drinking water containing eggs of Ascaris
121. Choanocytes are present in
 (A) Coelenterata (B) Porifera
 (C) Echinodermata (D) Mollusca
122. Which one of the following statements about certain given animals is correct?
 (A) Roundworms (Aschelminthes) are pseudocoelomates
 (B) Molluscs are acoelomates
 (C) Insects are pseudocoelomates
 (D) Flatworms (Platyhelminthes) are coelomates
123. Biradial symmetry and lack of cnidoblasts are the characteristics of
 (A) Starfish and sea anemone
 (B) Ctenoplana and Beroe
 (C) Aurelia and Paramecium
 (D) Hydra and starfish
124. Jellyfish belongs to class
 (A) Hydrozoa (B) Scyphozoa
 (C) Anthozoa (D) None of these
125. Nematoblasts are found in
 (A) ectoderm (B) endoderm
 (C) Both (A) and (B) (D) mesoderm
126. Flatworms excrete through
 (A) kidney (B) nephridia
 (C) protonephridia (D) Malpighian tubules
127. Identify the plant with multicellular ovary
 (A) cucumber (B) cashew
 (C) China rose (D) chilli
128. Flowers are unisexual in
 (A) pea (B) cucumber
 (C) China rose (D) onion
129. Leaves become modified into spines in
 (A) Opuntia (B) pea
 (C) onion (D) silk cotton
130. Leaf tendrils are found in
 (A) peas (B) cucumber
 (C) grapevine (D) All of these
131. Perianth is represented by
 (A) glumes (B) lemma
 (C) lodicules (D) palea
132. Which of the following is a wheat fruit?
 (A) Achene (B) cypsela
 (C) Caryopsis (D) Endosperm
133. Placentation in tomato and lemon is
 (A) parietal (B) free-central
 (C) marginal (D) axile
134. The coconut water and the edible part of coconut are equivalent to
 (A) endosperm (B) endocarp
 (C) mesosperm (D) embryo
135. vexillary aestivation is characteristic of the family
 (A) Fabaceae (B) Asteraceae
 (C) Solanaceae (D) Brassicaceae

Space for Rough Work

136. Which type of placentation is seen in sweet pea?
 (A) fleshy (B) Axile
 (C) Free-central (D) Marginal
137. In which of the following plants, leaf apex changes into tendril?
 (A) *Gloriosa* (B) *Smilax*
 (C) *Pisum sativum* (D) *Australian Acacia*
138. Cortex is the region found between
 (A) epidermis and stele
 (B) pericycle and endodermis
 (C) endodermis and pith
 (D) endodermis and vascular and vascular bundle
139. The function of a vessel is
 (A) conduction of food
 (B) conduction of water and minerals
 (C) conduction of hormones
 (D) All of the above
140. Casparian strips are present in the of the root.
 (A) epiblema (B) cortex
 (C) pericycle (D) endodermis
141. Lateral roots develop from primordia originated by the division of
 (A) pericycle cells lying opposite to protoxylem points
 (B) pericycle cell lying between two protoxylem points
 (C) endodermal cell lying between two protoxylem points
 (D) endodermal cells lying opposite to protoxylem points
142. The age of tree by counting annual rings is called
 (A) dendrochronology (B) ageing
 (C) chronology (D) countrology
143. Which of the following is not a part of epidermal tissue system?
 (A) Companion (B) Trichomes
 (C) Root hairs (D) Guard cells
144. At maturity, the sieve plates become impregnated with
 (A) cellulose (B) pectin
 (C) suberin (D) callose
145. Plant length is increased by
 (A) apical meristem (B) lateral meristem
 (C) dermatogen (D) periblem
146. Which type of tissue correctly matches with its location?
- | Tissue | Location |
|-----------------------------|-------------------|
| (A) Areolar tissue | Tendons |
| (B) Transitional epithelium | Tip of nose |
| (C) Cuboidal epithelium | Lining of stomach |
| (D) Smooth muscle | Wall of intestine |
147. Wharton's jelly present in umbilical cord is an example of
 (A) adipose tissue (B) mucus connective tissue
 (C) areolar tissue (D) elastic connective tissue
148. Skeletal muscle fibre is a 'syncytium' which means it is
 (A) made up of many fibres
 (B) made up of many proteins
 (C) long and slender (D) multinucleated

Space for Rough Work

149. Which one is a specialised connective tissue among these?
 (A) Adipose tissue (B) Bone
 (C) Areolar tissue (D) Fibroblasts
150. Choose the correctly matched pair.
 (A) Adipose tissue - Dense connective tissue
 (B) Areolar tissue - Loose connective tissue
 (C) Cartilage - Loose connective tissue
 (D) Tendon - Specialised connective tissue
151. The inner lining of ducts of sweat glands and pancreatic duct is formed of epithelium
 (A) pseudostratified (B) transitional
 (C) stratified cuboidal
 (D) stratified non-keratinised squamous
152. The structure in earthworm serves as a wedge to force open cracks in the soil is
 (A) peristomium (B) setae
 (C) clitellum (D) splanchnopleur
153. Which among these is not involved in excretion in cockroaches?
 (A) Malpighian tubules (B) Nephrocytes
 (C) Uricose glands (D) Maxillary palps
154. Frogs
 (A) are uricotelic
 (B) have olfactory lobes in midbrain
 (C) do not have renal portal system
 (D) have gall bladder which secretes bile
155. In cockroach, the common duct of salivary reservoir opens at the base of
 (A) pharynx (B) maxilla
 (C) mandible (D) hypopharynx
156. In Periplaneta, ductus ejaculatorius of male reproductive system lies in
 (A) 7th segment (B) 8th segment
 (C) 5th segment (D) 6th segment
157. What external changes are visible after the last moulting of a cockroach nymph?
 (A) anal cerci develop
 (B) Both forewings and hindwings
 (C) Labium develops
 (D) Mandibles become harder
158. In a copulating pair of earthworms, which of the two processes take place?
 (A) Reciprocal fertilisation and internal fertilisation
 (B) Cross-fertilisation and reciprocal fertilisation
 (C) Internal fertilisation and cross-fertilisation
 (D) External fertilisation and internal fertilisation
159. Which of the following is the correct statement about the circulating system of cockroach?
 (A) It has 13th chambered heart and in each segment one pair of ostia are present
 (B) It is closed type of circulatory system
 (C) It is a complicated type of circulatory system
 (D) It takes place without the participation of tissue
160. Salivary gland in earthworm is found in
 (A) dorsal wall of buccal cavity
 (B) ventral wall of buccal cavity
 (C) pharyngeal well
 (D) None of the above

Space for Rough Work