# Structural Organisation in Animals

## Level – I

1. (2)
2. (2)
   Cells are closely packed without any intercellular space.
3. (4)
   Function is of absorption and secretion.
4. (2)
5. (1)
6. (1)
7. (4)
   Non-keratinised stratified squamous epithelium lines Urethra, Vagina and Oesophagus.
8. (2)
9. (3)
   Made up of Keratin
10. (3) It looks like tiles of floor.
11. (2)
12. (2)
13. (1)
14. (4)
    Permits absorption and secretion.
15. (3) Protects from absrasion.
16. (4) Has high regeneration capacity.
17. (1)
    Keratinised epithelium provides protection.
18. (4)
19. (4)
20. (3)
21. (4)
22. (1)
23. (3)
24. (3)
25. (2)
26. (2)
27. (3)
28. (4)
    Stores fat
29. (1)

30. (1)
31. (3)
Clotting factors present in blood
32. (2)
Collagen holds structure together
33. (4)
34. (1)
35. (1)
36. (1)
37. (4)
38. (3)
39. (2)
40. (4)
Porphyrin is a pigment which gives brown colour to the skin.
41. (1)
42. (4)
43. (2)
44. (4)
45. (3)
46. (2)
47. (3)
48. (2)
Very tough and strongest cartilage.
49. (4)
50. (4)
51. (2)
52. (3)
53. (4)
Presence of non-visible collagen fibres make this cartilage transparent.
54. (4)
Sesmoid bone – Formed in tendon.
55. (1)
Scanty blood supply and join muscles to bone.
56. (2)
57. (1)
58. (4). Lymph is filtered out of blood.
59. (1) Sodium oxalate is an anticoagulant and it precipitates calcium ions.
60. (2)
Distilled water is hypotonic as compared to intracellular fluid of RBCs.
61. (3)
62. (4)
63. (4)
64. (2)
65. (1)
66. (1) Lymphocytes don't have enzyme rich specific lysosomal granules.
67. (2) In foetus these are formed in yolk sac.

68. (2) Nucleus is lost during reticulocyte stage.
69. (1) Prothrombin is formed in liver.
70. (3)

71. (2) Antibodies are glycoproteinceous in nature.
72. (2)
Spleen is the site for disposal of RBCs
73. (2)
74. (1) Fatigue is due to accumulation of lactic acid.
75. (4)
76. (3) Cardiac muscles are structurally similar to skeletal muscles and functionally similar to smooth muscles.

77. (2)
78. (3)
Muscle layer made up of cardiac muscles.
79. (1)
80. (1)
81. (1)
Muscle protein is myoglobin, it is red coloured iron containing oxygen storing protein which has very high affinity for oxygen.
82. (3)
83. (2)
84. (2)
85. (3)
86. (4) Wall of heart has cardiac muscles which use fatty acids as source of energy.
87. (3)
88. (2)
89. (1)
90. (3)
91. (2) Muscular hypertrophy is increase in muscle mass due to increase in number of myofilaments and sarcoplasm.
92. (2)
Energy currency of the cell.
93. (2) During muscle contraction H-band disappears, A-band shortens while I-band remains as it is.
94. (2) Skeletal muscle fibres are formed by fusion of many myoblasts so these are multinucleated.
95. (1)
96. (2)
97. (1) Shivering is involuntary contraction of voluntary muscles.
98. (4)
99. (3)
100. (2)
101. (2)
102. (3)

103. (2)
104. (3)
105. (2)
106. (4)
107. (1) The extensions of cyton are not present in the muscle cell.
108. (4)
109. (3)
110. (1) Nissls granules are ribonuclroproteins which are concerned with synthesis of enzymes required for the formation of neurotransmitters.
111. (4)
112. (4)
113. (4)
114. (2)
Unipolar, Bipolar, Multipolar
115. (2)
116. (1) Neuroglial cells provide protection to neurons and structural support also.
117. (4)
118. (3) Axon hillock is also called trigger zone and it is most sensitive part of a neuron
119. (4)
120. (1)
121. (4) Rods and cones of retina are modified bipolar neurons.

122. (3)
123. (1)
124. (1)
Schwann cells form myelin sheath.
125. (1)
126. (1)
127. (4)
128. (1)
129. (2)
130. (4)
Hemaphrodite and Protandrous
131. (1)
132. (2)
133. (1)
134. (3)
Wing cover/ Tegmina
135. (4)
136. (3)
Epicranial plates are sclerites
137. (2)
138. (3)
139. (3)
140. (3)

Mandibles 2 in number and help in mastication.

141. (3)
142. (3)
143. (1)
144. (3)

145. (2)
Arolium is used w.r.t. arthropoda leg. Helps in locomotion.

146. (3)
147. (1)
148. (1)
Coelom filled with blood.

149. (4)
Visual pigments, 2000 in each eye

150. (1)
Anura is characterized by the absence of tail, also known as salientia, the leaping animals.

151. (3)
152. (1)
Hibernation is called winter sleep and aestivation is summer sleep. Being poikilothermal (cold blooded) they undergo dormancy.

153. (2)
154. (3)
155. (1)
Body divisible into head and trunk. Neck and tail absent.

156. (3)
157. (2)
A pair of internal nares, in the form of two small openings are present on the roof.

158. (1)
Buccal cavity lying outer to vomerine teeth. Skin provides an extensive surface for exchange of gases.

159. (4)
Homodont, acrodont and polyphodont. Small, sharp and backwardly directed not meant for mastication but for preventing escape of prey.

160. (1)
161. (3)
Muscular dome shaped diaphragm in mammals

162. (1)
The lungs are hollow, non-lobular and have positive pressure.

163. (2)
The lungs are delicate, elastic, pinkish, ovoid, thin walled hollow sacs lying on either side of oesophagus.

164. (1)
Cutaneous respiration is always carried out. During dormancy they respire through skin.

165. (2)

2 articles and 1 ventricle

166. (2)
167. (4) Heart of frog is myogenic.
168. (4)
169. (4)
170. (1)
Presence of pinna is characteristic of mammals.
171. (4)
172. (3)
Columella auris is homologous to stapes of vertebrate, a modified hyomandibular bone.
173. (3)
Deficiency of thyroxine retards metamorphosis and larval life continues.
174. (1)
Mesorchium is a thin mesentery that suspends testis from ventral anterior part of kidney.
175. (4)
Bidder's cannal is present in the kidney of male frog. It is helpful in the transfer of sperms from the vasa efferntia to water.
176. (2)
177. (1)
Frog exhibit sexual dimorphism. Male and female are distinguishable externally only during breeding season. When male develops nuptial pads on the bases of the thumb. Nuptial pads help in holding female.

178. (4)
179. (1)
Ciliated columnar epithelium comprises columnar cells which have cillia on free surface. Lines most of the respiratory tract and fallopian tubes.
180. (2)
Renal portal system of frog drains blood from hindlimbs and posterior part of the trunk and supplies to the kidneys.
181. (3)
Bidder's canal is present in the kidney of male frog. It is helpful in the transfer of sperms from the vasa efferntia to water.
182. (2)
183. (4)
Metamorphosis is defined as transformation of larva into adult during which many structural and physiological changes takes place. Changes occur in habits and habitat, in morphology and in physiology.

## Level – II

1. (4)
2. (3)
3. (3) Cells are compactly packed with little intercellular matrix.
4. (3)
5. (2)
6. (2)
7. (3)
8. (2)
   Stratified squamous non-keratinized epithelia.
9. (3)
10. (4)
11. (2)
12. (4) Its free surface, either faces body fluid, or the outside environment.
13. (1)
14. (3)
15. (2)
    Sweat gland, gastric gland
16. (3) Do not have microvilli at its free suface.
17. (3)
18. (2) Vital role is protection.
19. (2)
20. (3)
21. (3)
22. (2)
23. (1)
24. (3)
25. (4)
    Adipose is loose connective tissue
26. (4)
    Lamellae are present in bones.
27. (3)
28. (3)
29. (4)
30. (3)
    Mast cells present in aereolar tissue
31. (1)
32. (3)
33. (1)
34. (4)
35. (2)
36. (4)
37. (4)
38. (4)

39. (3)
Monocytes are agranulocytes
40. (4)
41. (3)
42. (1)
43. (2)
44. (3)
45. (3)
46. (2)
47. (1)
Cardiac muscles are involuntary and striated
48. (3)
49. (3)
50. (3)
Nephridia and flame cells are excretory organs.
51. (3)
Olfactory cells have bipolar neuron
52. (4)
53. (2)
54. (2)
Albumin maintains osmotic balance
55. (2)
56. (2)
Blood composed of 55% plasma and 45% corpuscles
57. (4)
58. (2)
59. (2)
Plasma-Clotting factor = Serum
60. (2) Decrease in platelets
61. (3)
Lymphocytes = 20– 25%
62. (4)
Vestibulum (oothecal chamber) present in cockroach.
63. (3)
One pair of ovaries in between $12^{th}$ and $13^{th}$ segment.
64. (3)
65. (4)
Female gential pore is in $14^{th}$ segment and Clitellar segments (14–16)
66. (1)
67. (1)
68. (3)
$17^{th}$ and $19^{th}$ segment
69. (2)
70. (1)
71. (4)
72. (2)

73. (3)
74. (1)
75. (3)
Each cocoon beans two to twenty baby worms
76. (2)
77. (3)
78. (3)
79. (1)
80. (2)
Three pairs in $4^{th}$, $5^{th}$ and $6^{th}$ segment.
81. (3)
82. (2)
Buccal cavity extends from $1^{st}$ to $3^{rd}$ segment
83. (2)
84. (1)
85. (2)
86. (2)
Setae not present in first, last and Clitellar segment.
87. (1)
88. (4)
Earthworm lacks RBCs and Hemoglobin is present in plasma.
89. (2)
90. (2)
Males develop earlier than females.
91. (3)
92. (4)
93. (2)
94. (4)
95. (4)
96. (4)
97. (4)
Ostia are related to circulatory system
98. (1)
99. (3)
Metathoracic wings are known as tegmina and phallomeres present in male.
100. (2)
101. (2)
Present in pleura
102. (4)
Anal style is paired, unjointed appendages on $9^{th}$ stema
103. (3)
Each ootheca contains 14-16 eggs.
104. (1)
105. (2)
Vestibulum is oothecal chamber.
106. (2)

107. (4)
108. (4)
109. (3)
110. (3) Uric acid is their excretory product.
111. (2)
112. (4)
113. (4)
Heart is present dorsally in pericardial sinus.
114. (1)
115. (4)
Typhlosole is to increase the surface area for absorption.
116. (4)
117. (2)
9 ganglia in thorax and abdomen.
118. (3)
Clitellum helps in cocoon formation.
119. (4)
120. (3)
121. (1)
122. (1)
123. (4)
124. (3)
125. (3)
126. (4)
100 – 150 malphigian tubules
127. (3)
SA node lie in sinus vensous
128. (3)
129. (2)
Mesorchium is a fold of peritoneum to connect testis with kidneys in males.
130. (3)
Mammals have negative breathing potential; allows them to eat and breathe at same time.
131. (2)
132. (3)
Frog shows indirect development, Larva is Tadpole.
133. (4)
Taste buds absent
134. (2)
Male frogs have vocal sacs which help in resonance.
135. (2)
136. (3)
137. (3)
Bidder's canal communicate with vasa efferntia.
138. (4)
139. (2)

140. (1)
Forelimits – 4 digits (02233)
Hindlimbs – 5 digits (22343)
141. (2)
142. (1)
143. (1)
144. (3)
145. (2)
146. (2)
They have lagena – a fore runner of the cochlear duct of higher vertebrates.
147. (4)
148. (4)
149. (3)
150. (1)
151. (3)

## Assertion & Reason

**1.** (3)
Reason : Tight junction only performs such functions.
2. (4)
Free surface either a body fluid or the outside environment.
3. (2)
Reason : Compound epithelium is made up of many layers.
4. (1)
5. (1)
6. (2)
Cartilage is solid, pliable and resist compression due to presence of chondritin sulphate.
7. (1)
8. (1)
9. (4)
Assertion : Neuron are the unit of neural system and they are sensitive to various stimuli.
Reason : Neurons have ability to respond to stimuli and convert them into nerve impulses.
10. (1)
11. (4)
Assertion : Except first, last and clitellai segments, setae embedded in epidermal pits in the middle of each segment.
Reason : Setae can be hold substratum and along with circular and longitudinal muscles help in locomotion.
12. (2)
Blood flows in closed blood vessesls.
13. (1)

14. (3)
Nephridia are main excretory organs which perform function of excretion and osmoregulation.
15. (2)
Male sex organs mature earlier than female (protandrous)
16. (1)
17. (1)
18. (3)
Fertlization occurs in genital chamber where sperms fertilize with ova.
19. (1)
20. (3)
Frogs have positive breathing potential. Air enters buccopharyngeal cavity through external nares.
21. (2)
22. (1)
23. (4)
24. (1)
25. (3)
Mosaic vision
26. (3)
Chitin is a homopolymer of N-acetyl-glucosamine.
27. (2)
Functions are between epithelial cells like tight junctions, gap junctions, adhering junctions.
28. (2)
Have more fibres and less matrix.
29. (2)
Composed of plasma 55% and 45% corpuscles.
30. (1)
31. (3)
Fertilization occurs inside cocoon.
32. (1)
33. (2)
34. (1)
35. (4)
Stratified epithelium covers exposed surfaces and protects underlying tissue.
36. (3)
Transitional epithelium.
37. (4)
Endocrine glands are ductless; thyroid gland is endocrine gland which pours thyroxine in blood which reach target site.
38. (1)
39. (4)
Keratin is present in outer layers. Keratin is impermeable to water.
40. (2)
Histamines are produced by mast cells which cause allergic response.

41. (2)

Due to presence of inorganic and organic substances and collagen fibres they get firm.