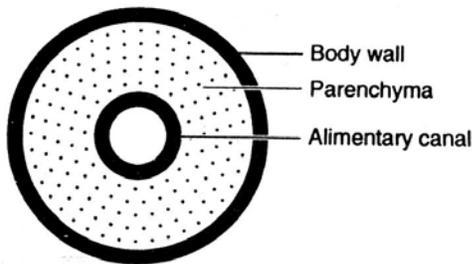


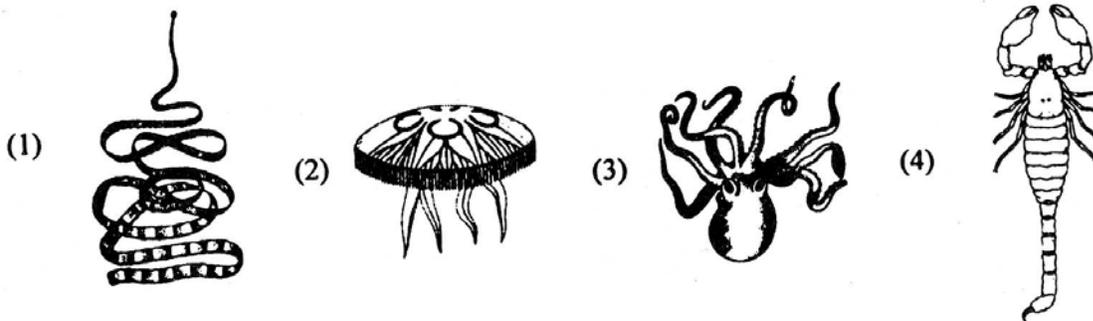
10. **The blind sac body plan is shown by:**
 a) Sponges
 b) Cnidarians and flatworms
 c) Flatworms and roundworms
 d) Roundworms and earth worms
11. **Which of the following is a rare type of symmetry in animals?**
 a) Radial
 b) Bilateral
 c) Biradial
 d) Spherical
12. **Bilateral symmetry is accompanied by:**
 a) Neoteny
 b) Metamerism
 c) Metamorphosis
 d) Cephalization
13. **Germ layers in sponges are**
 a) One
 b) Two
 c) Three
 d) Absent
14. **Besides Annelida and Arthropoda, metamerism is found in:**
 a) Cestoda
 b) Mollusca
 c) Chordata
 d) Acanthocephala
15. **Development of mesoderm in the form of muscles in body wall, leaving alimentary canal non-muscular is the feature of:**
 a) Acoelomates
 b) Pseudocoelomates
 c) Enterocoelomates
 d) Schizocoelomates
16. **Which one of the following is not a deuterostome?**
 a) Cuttle fish
 b) Hag fish
 c) Star fish
 d) Cat fish
17. **In understanding different types of symmetry, the term used as principal axis means:**
 a) A flat area that runs through any axis
 b) An imaginary straight line joining two opposite points at the ends
 c) An imaginary straight line joining the midpoint at one end and the midpoint at the opposite end
 d) An imaginary line passing through focus.
18. **Which of the following option is correct?**
 A) If a bone is kept in HCl for some time, its inorganic part is dissolved and organic part is left behind
 B) If a bone is burnt, its inorganic matter is destroyed and organic part is left behind
 a) A is correct, B is incorrect
 b) B is correct, A is incorrect
 c) Both A & B are correct
 d) Both A & B are incorrect

19. Which of the following is not correct w.r.t cartilage?
- Intercellular material of cartilage is solid and pliable
 - It resists compression
 - All the cartilages in vertebrate embryo are replaced by bones in adult
 - Chondrocytes are cells of cartilage
20. Which of the following forms the inter nasal septum
- Fibrous cartilage
 - Hyaline cartilage
 - Elastic cartilage
 - Calcified cartilage

21. The cross section of the body of an invertebrate is given below. Identify the animal which has this body plan



- Planaria
 - Earthworm
 - Cockroach
 - Roundworm
22. The figure shows four animals (1), (2), (3) and (4). Select the correct answer with respect to common characteristics of two of these animals



- (3) and (4) have a true coelom
 - (1) and (4) respire mainly through body wall
 - (2) and (3) show radial symmetry
 - (1) and (2) have cnidoblasts for self-defence
23. The percentage of total volume occupied by RBCs is
- Haematuria
 - Haemolysis
 - Hematocrit
 - Haemophilia

24. **Study the following and identify the set of correct statement(s) pertaining to mature mammalian RBCs.**
- They are circular, biconcave and enucleate in all mammals.
 - They are elliptical in shape in camels and Llamas.
 - The total RBCs count in a woman is more than that of a man.
 - Erythropoietin stimulates spleen to enhance the production of RBCs at very high altitudes.
- a) I & IV b) II & IV c) II only d) III only
25. **Identify the pair of vitamins which are essential for the maturation of RBC in man.**
- Pyridoxine & pantothenic acid
 - Cyanocobalamine & riboflavin
 - Pantothenic acid & ascorbic acid
 - Cyanocobalamine & folic acid.
26. **The WBCs that remove antigen and antibody complexes are those with**
- Fewer and irregular granules in cytoplasm.
 - A nucleus which is divided in to irregular lobes.
 - A nucleus which is distinctly bilobed
 - Specific, small and abundant granules.
27. **Arrange the following in the descending order based on their % in total leukocyte count:**
- I. Monocytes II. Neutrophils III. Basophils IV. Lymphocytes V. Eosinophils
- a. I-II-III-IV-V b. II-IV-I-V-III c. II-IV-III-V-I d. II-IV-I-III-V
28. **Identify the correct statements.**
- Lymph is blood without RBCs, large plasma proteins and platelets.
 - Lymph has more nutrients than blood.
 - Interstitial fluid is returned directly to blood due to hydrostatic pressure at the arteriolar end.
 - Most of the intestinal fluid is returned at the venule end directly due to Osmotic pressure.
- a. I&IV b. II&III c. I&III d. I&II

36. **Assertion (A):** Mammary gland is an example of apocrine gland
Reason (R): Mammary gland releases secretion by pinching the apical portions of the cells
- If both A & R are true and the reason is the correct explanation of the A
 - If both A & R are true, but the reason is not the correct explanation of the A
 - If A is true statement, Reason is false
 - If both A and R are false statements
37. **Assertion (A):** RBC of mammals are enucleated
Reason (R): The absence of nucleus in mammalian RBC helps to accommodate maximum amount of haemoglobin
- If both A & R are true and the reason is the correct explanation of the A
 - If both A & R are true, but the reason is not the correct explanation of the A
 - If A is true statement, Reason is false
 - If both A and R are false statements
38. **Assertion (A):** Visceral muscles are smooth muscles.
Reason(R): The myofibrils of smooth muscle fibres do not show cross bands due to regular arrangement of Thin and thick myofilaments.
- If both A & R are true and the reason is the correct explanation of the A
 - If both A & R are true, but the reason is not the correct explanation of the A
 - If A is true statement, Reason is false
 - If both A and R are false statements
39. **Smooth muscle fibres**
- Are fusiform & uninucleated cells
 - Are involuntary in function
 - Do not perform slow and sustained contractions
 - Do not show striations due to regular arrangement of actin and myosin filaments.
- Choose the incorrect set of statements.
- I & II
 - III & IV
 - II & III
 - I & IV
40. **The 3rd key transition in the evolution of animal body plan is**
- Cellular level
 - Tissues
 - Bilateral symmetry
 - *Body cavity.

KEY FOR MOCK TEST PAPER ON ANIMAL ORGANISATION

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1) c | 2) b | 3) b | 4) c | 5) a | 6) a | 7) a | 8) d | 9) a | 10) b |
| 11) d | 12) d | 13) d | 14) c | 15) b | 16) a | 17) c | 18) a | 19) c | 20) b |
| 21) a | 22) a | 23) c | 24) c | 25) d | 26) c | 27) b | 28) a | 29) b | 30) d |
| 31) c | 32) c | 33) d | 34) d | 35) c | 36) a | 37) a | 38) c | 39) b | 40) d |
| 41) d | 42) c | 43) b | 44) b | 45) b | | | | | |

Animal Organization

QUESTION BANK EXERCISE—3

31. Identify the group in the following having all animals belonging to the same class
- Dog fish, silver fish, crayfish, and flatfish
 - Glowworm, silkworm, housefly, bedbug
 - Sea urchin, sea cucumber, sea fan, sea lion
 - Centipede, earthworm, caterpillar, ship worm
32. In which of the following groups, all animals are hermaphrodites?
- Tapeworm, Toad, Starfish
 - Hydra, Leech, Tapeworm
 - Hydra, Ascaris, Pheretima
 - Hydra, Homo sapiens, Leech
33. Gorilla, chimpanzee, monkey and man belong to the same
- Family
 - Species
 - Genus
 - Order
34. Venus's girdle belongs to the phylum
- Cnidaria
 - Porifera
 - Ctenophora
 - Chordate
35. Schizocoelomates and enterocoelomates are
- Acoelomates
 - Invertebrates
 - True coelomates
 - Echinoderms only
36. Haversian systems are characteristic of the long bones of?
- Reptiles
 - Birds
 - Mammals
 - Amniotes
37. Deuterostome condition and indeterminate, radial cleavage are characteristics of
- Chordates, arthropods and annelids
 - Arthropods and echinoderms
 - Chordates and echinoderms
 - Chordates and arthropods
38. The plane that divides the body into right and left halves
- Sagittal
 - Radial
 - Transverse
 - Frontal
39. The weakest of all cartilages is:
- Hyaline
 - Fibrous
 - Calcified
 - Elastic
40. Irregular dense fibrous tissue is found in;
- Perichondrium
 - Periosteum
 - Periodontal membrane
 - a,b,&c

59. Study the following statements and choose the correct statements pertaining to WBCs
- i. A slight increase in WBC count and fall in WBC count respectively are referred to as leukaemia and leukocytopenia.
 - ii. WBCs perform diapedesis to reach extra cellular areas.
 - iii. The total leukocyte count under normal conditions in a human being is 60,000 – 1, 00,000/Cmm.
 - iv. WBC exhibit leukocytosis during parasitic infections and allergy
- A. i & iii B. ii & iii C. ii & iv D. iv only
60. The blood cells that supplement the function of mast cells by producing heparin and histamine whenever they are required.
- A. Neutrophils B. Monocytes C. Basophils D. Acidophils
61. Which of the following are described as microscopic police men?
- A. Monocytes B. Neutrophils C. Eosinophils D. Basophils
62. In female mammals which of the following WBCs have a drumstick body attached to their nucleus.
- A. Cells in which the nucleus is divided into 2 to 5 lobes.
 B. Cells which play a role in allergic reactions.
 C. Cells that play a role in immunological reactions.
 D. Cells that differentiate into macrophages in connective tissues.
63. The largest, motile phagocytes are WBC with a
- A. Large spherical nucleus B. Reniform nucleus
 C. Multi lobed nucleus D. Irregularly lobed nucleus
64. The WBCs that perform 'reverse diapedesis and reach blood vessels are
- A. Monocytes B. Neutrophils C. Lymphocytes D. Eosinophils
65. A clotting factor secreted by platelets of blood is:
- A. Thrombin B. Thrombokinase C. Thromboplastin D. Fibrinogen
66. Platelets are formed by the fragmentation of which cells in red bone marrow
- A. Megakaryoblasts B. Megakaryocytes
 C. Thromboblats D. Thrombocytes

67. The formed elements of blood that play an important role in the process of clotting of blood are
 A. RBCs B. Granulocytes C. Agranulocytes D. Platelets
68. Lymph finally reaches blood through:
 A. Jugular veins B. Subclavian veins
 C. Carotid veins D. Hepatic veins
69. Which one of the following is considered as the most important function of lymph?
 A. Transport of oxygen to tissues B. Transport of nutrients to tissues
 C. To return interstitial fluid to blood D. To return CO₂ to lungs
70. Lymphoid tissue is found in:
 A. Tonsils B. Thymus
 C. Lymph nodes D. Tonsils, thymus & lymph nodes
71. Which of the following is a tissue?
 A. Liver B. Pancreas C. Gut D. Lymph
72. Identify the main difference between blood and lymph.
 A. Blood has RBCs while lymph has WBCs.
 B. Blood has less nutrients while lymph has relatively more nutrients.
 C. Blood has all formed elements while lymph has all except RBCs
 D. Blood has less fibrinogen while lymph has more fibrinogen.
73. The most important centre for the production of lymph is:
 A. Liver B. Spleen C. Interstitial space D. Kidney

MUSCULAR TISSUES

74. I. All muscular tissues are derived from mesoderm.
 II. Muscles of iris and ciliary body are derived from ectoderm.
 III. Excitability, conductivity and contractility are the essential properties of muscles.
 IV. All striated muscles undergo fatigue. Choose the incorrect statements.
 A. II & III B. II & IV C. I & IV D. I & III]

75. muscle fibers are called
- A. Sarcocytes B. Myocytes C. A & B D. Sarcosomes
76. Study the statements pertaining to a skeletal muscle fibre and choose the correct statements.
- I. The power houses of a sarcocyte are called sarcosomes
- II. A skeletal muscle fibre has many myofibrils.
- III. A myofibril has thick and thin filaments.
- IV. The thick and thin filaments of a myofibril in a skeletal muscle fibre show irregular arrangement.
- A. Except IV B. Only I & II C. Only III & IV D. II & III
77. The outermost connective tissue sheath enclosing a group of fascicles is .
- A. Endomysium B. Epimysium C. Perimysium D. Sarcolemma
78. A sheet like connective tissue layer formed by the extension of connective tissue beyond the muscle is called
- A. Tendon B. Aponeurosis C. Ligament D. Syndesmosis
79. Study the following and identify the false statement.
- A. A skeletal muscle fibre is a long cylindrical multinucleate cell.
- B. Skeletal muscle contracts quickly and Undergoes fatigue slowly.
- C. Satellite cells help in the regeneration of skeletal muscle fibre.
- D. All striated muscles are voluntary muscles.
80. Assertion (A): Visceral muscles are smooth muscles.
- Reason(R): The myofibrils of smooth muscle fibres do not show cross bands due to regular arrangement of Thin and thick myofilaments.
- Answer _____
- I. Are fusiform, uninucleated cells
- II. Are involuntary in function
- III. Do not perform slow and sustained contractions
- IV. Do not show striations due to regular arrangement of actin and myosin filaments.
- Choose the incorrect set of statements.
- A. I & II B. III & IV C. II & III D. I & IV

81. Which of the following are not smooth muscles?
- A. Muscles of ciliary body of an eye B. Muscles of iris
 C. Arrector pili muscles D. Intrinsic muscles of human tongue.
82. Smooth muscle fibres
- I. Are fusiform, uninucleated cells
 II. Are involuntary in function
 III. Do not perform slow and sustained contractions
 IV. Do not show striations due to regular arrangement of actin and myosin filaments.
- Choose the incorrect set of statements.
- A. I & II B. III & IV C. II & III D. I & IV
83. Assertion: Cardiac muscle is highly resistant to fatigue.
 Reason: In a cardiac muscle continuous aerobic respiration is facilitated by a relatively large number of sarcosomes, myoglobin molecules and copious supply of blood.
- I. Are fusiform, uninucleated cells
 II. Are involuntary in function
 III. Do not perform slow and sustained contractions
 IV. Do not show striations due to regular arrangement of actin and myosin filaments.
- Choose the incorrect set of statements.
- A. I & II B. III & IV C. II & III D. I & IV
- 84. Assertion: Cardiac muscle acts as a functional syncytium.
 Reason: The gap junctions facilitate the conduction of electrical impulses all along the cardiac muscle fibres so that a whole hearted contraction of the entire muscle as a single unit occurs.
- I. Are fusiform, uninucleated cells
 II. Are involuntary in function
 III. Do not perform slow and sustained contractions
 IV. Do not show striations due to regular arrangement of actin and myosin filaments.
- Choose the incorrect set of statements.
- A. I & II B. III & IV C. II & III D. I & IV

85. The oxygen dissociation curve of oxyhaemoglobin is
 A. Linear B. Sigmoid C. Parabolic D. Hyperbolic
86. The fine connective tissue layer enveloping an individual muscle fibre is:
 A. Epimysium B. Perimysium C. Endomysium D. Sarcolemma
87. A muscle is relatively rich in:
 A. Glycogen B. Proteins C. Lipids D. Vitamins
88. Contractile tissues have the following features:
I. They are mesodermal in origin.
II. They contain stretch receptors.
III. They perform rhythmic contractions.
IV. They do not undergo fatigue.
 Which of the above are characteristics of sphincters?
 A. I, II, III & IV B. only I, II & IV C. only I, III & IV D. I, II & III
89. The repeating unit of a skeletal myofibril is :
 A. Sarcomere B. Myomere C. Actomyosin D. Motor unit
90. Myofibrils are made up of:
 A. Actin and myosin B. Troponin and tropomyosin
 C. Both A & B D. Myosin only
91. Identify the set of proteins that are present in the thin filaments of a myofibril.
 A. Actin, troponin & tropomyosin B. Trypsin & actin
 C. Troponin & myosin D. Myosin & tropomyosin
92. Skeletal muscles are attached to bones except in:
 A. Pinna & nose B. Jaw & nose
 C. Tongue & oesophagus D. Pinna & skull
93. Smooth muscles are not found in:
 A. Fallopian tube B. Blood vessel C. Wall of intestine D. Eyeball muscle
94. Smooth muscles occur in the wall of:
 A. An artery B. Vein C. Uterus D. An artery, vein & uterus

95. Which one of the following is a feature of cardiac muscle?
- They are branched and enucleate.
 - They contract quickly and do not get fatigued quickly.
 - They contract slowly and do not get fatigued.
 - They contract quickly and soon get fatigued.
96. Cardiac muscles are:
- Striated and voluntary
 - Striated and involuntary
 - Smooth and involuntary
 - Smooth and voluntary
97. The muscles surrounding the pupil of the eye of a man are:
- Striated and voluntary
 - Striated and Involuntary
 - Smooth and involuntary
 - Smooth and voluntary
98. In the wall of stomach the layer of muscles nearest to peritoneum is
- Circular
 - Oblique
 - Longitudinal
 - Dorsoventral
99. Ciliary muscles are found in:
- Diaphragm of man
 - Vertebrate eye
 - Uterus
 - Trachea of man

NERVOUS TISSUE

100. The functional unit of nervous system is:
- Axon
 - Cyton
 - Dendrite
 - Neuron
101. Neurons
- Divide by amitosis
 - Divide by mitosis
 - Divides by meiosis
 - Do not divide
102. The longest cell in the human body is :
- Myocyte
 - Neuron
 - Osteocyte
 - Fibrocytes
103. Which one of the following is absent in a neuron:
- Nucleus
 - Centrosome
 - Golgi complex
 - Mitochondrion
104. The areas where the medullary sheath is absent in the nerve fibre are called
- Schwann cells
 - Nodes of Ranvier
 - Schwann node
 - Nissl bodies
105. The afferent and efferent processes of a neuron are respectively called:
- Axon & cyton
 - Cyton & dendrite
 - Dendrite & axon
 - Axon & dendrite

115. **multipolar neurons have:**
- One axon and two or more dendrites
 - Many axons and one afferent process
 - A single efferent process and only two afferent processes
 - Many efferent processes.
116. **Bipolar neurons are found in:**
- Sensory cells of the internal ear
 - Retina of eye
 - Olfactory sensory epithelium
 - All the above
117. **Study and identify the set of true statements pertaining to myelinated axons.**
- Internodes contain Schwann cells.
 - The outermost layer of Schwann cell contains only lipids.
 - In CNS a single oligodendrocytes can myelinate many axons.
 - The portions of a myelinated axon without myelin sheath are internodes.
- A. I & ii B. i, ii& iii C. I & Iii D. iii & iv
118. **Identify the set of mismatches**
- | <u>Type of axon</u> | <u>Occurrence</u> |
|---------------------------|--|
| I. Myelinated axons | Grey matter of CNS and ANS |
| II. Myelinated axons | White matter of CNS and most peripheral nerves |
| III. Non-myelinated axons | Grey matter of CNS and ANS |
| IV. Non-myelinated axons | White matter of CNS and most peripheral nerves |
- A. ii & iii B. I & ii C.iii & iv D. I & iv
119. **Arrange the following in the correct sequence from the myelinated part of an axon to the nerve.**
- Fascicle
 - Endoneurium
 - Axolemma
 - Epineurium
 - Neurilemma
 - Perineurium
 - Myelin sheath
- A.C-G-E-B-A-F-D B. C-G-B-E-A-F-D C.C-G-F-B-A-D D. C.G-E-F-B-A-D

120. The cells that provide microenvironment suitable for neuronal activity are:
- Neuroglia
 - Non-conducting cells of nervous tissue
 - Cytons
 - A& B
121. Study and identify wrong statement from those given below.
- Neuroglia are cells that continue to divide throughout life.
 - Astrocytes help in providing blood brain barrier.
 - Ependymal cells are non-ciliated cells that line the ventricles of brain and central canal of spinal cord.
 - Satellite cells and Schwann cells are Neuroglial cells of PNS.
122. Neuroglial cells derived from mesoderm are:
- Oligodendroglia
 - Astrocytes
 - Microglia
 - Ependymal cells
123. The cells that surround the cytons in ganglia are:
- Schwann cells
 - Astrocytes
 - Satellite cells
 - Ependymal cells.
124. Identify the correct statement with regard to the node of Ranvier
- It is covered by myelin sheath
 - Axolemma is discontinuous at nodes of Ranvier.
 - Myelin sheath is discontinuous at the nodes of Ranvier.
 - Both neurilemma and myelin sheath are discontinuous at nodes of Ranvier
125. Phagocytic cells present in brain are:
- Astrocytes
 - Ependymal cells.
 - Microglia
 - Oligodendroglia

EXERCISE – 3

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1) a | 2) a | 3) a | 4) d | 5) a | 6) c | 7) c | 8) a | 9) c | 10) b |
| 11) d | 12) c | 13) b | 14) b | 15) a | 16) b | 17) c | 18) b | 19) c | 20) d |
| 21) a | 22) c | 23) b | 24) d | 25) d | 26) b | 27) c | 28) a | 29) d | 30) a |
| 31) b | 32) b | 33) d | 34) c | 35) c | 36) c | 37) c | 38) a | 39) a | 40) d |
| 41) C | 42) B | 43) A | 44) B | 45) B | 46) B | 47) D | 48) D | 49) B | 50) A |
| 51) C | 52) D | 53) C | 54) C | 55) C | 56) A | 57) B | 58) B | 59) C | 60) C |
| 61) A | 62) A | 63) B | 64) C | 65) C | 66) B | 67) D | 68) B | 69) C | 70) D |
| 71) D | 72) A | 73) C | 74) C | 75) C | 76) B | 77) D | 78) B | 79) C | 80) D |
| 81) D | 82) B | 83) A | 84) A | 85) B | 86) C | 87) B | 88) D | 89) A | 90) C |
| 91) A | 92) C | 93) D | 94) D | 95) C | 96) B | 97) C | 98) C | 99) B | 100) D |
| 101) D | 102) B | 103) B | 104) B | 105) C | 106) A | 107) D | 108) D | 109) B | 110) C |
| 111) B | 112) A | 113) C | 114) B | 115) A | 116) D | 117) C | 118) D | 119) A | 120) A |
| 121) C | 122) C | 123) C | 124) C | 125) C | | | | | |
| | | | | | | | | | |