

Multi-Concept Questions

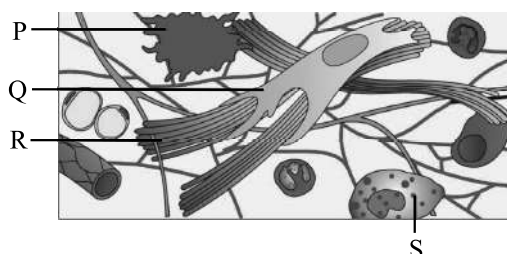


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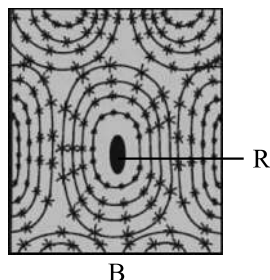
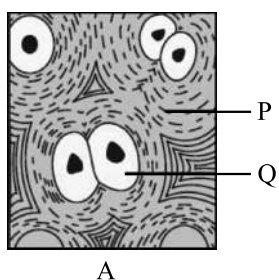
- With the help of several ommatidia, a cockroach can receive several images of an object. This kind of vision is called
 - Nocturnal vision, being common during daytime
 - Mosaic vision, with more sensitivity but less resolution
 - Mosaic vision, with more resolution but less sensitivity
 - Nocturnal vision, with more sensitivity and more resolution

- Location of epiphyseal plate in growing bones is
 - Epiphysis
 - Metaphysis
 - Diaphysis
 - Symphysis

- Select the option with correct labelling?

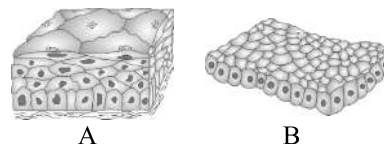


- P – Bone, R – Collagen fibres
 - R – Collagen fibres, S – Macrophages
 - Q – Fibroblast, S – Mast cell
 - P – Macrophage, S – Fibroblast
- Identify the correct matching:



- A - Cartilage, P - Elastic fibres
 - A - Bone, Q - Osteocyte
 - B - Cartilage, R - Chondrocyte
 - B - Bone, R - Haversian canal
- Transverse canals that connect haversian canals are
 - Lacunae
 - Lamellae
 - Volkman's canals
 - Neural canal
 - Which of the following epithelium covers the inner linings of trachea, large bronchi and helps to remove mucus?
 - Ciliated columnar
 - Pseudo-stratified epithelium
 - Compound epithelium
 - Cuboidal epithelium

- Identify the correct option with respect to the figures (A & B) given below.



- A: provide protection against chemical and mechanical stresses: Stomach
- A: secrete mucus, saliva, earwax, oil, milk, digestive enzymes: Stomach
- B: found in ducts of glands: Secretion and absorption
- B: mainly present in the inner surface of hollow organs: Secretion and absorption

- Match the columns and find out the correct combination:

Cell	Function
A. Mast cells	1. Storage of fats
B. Macrophages	2. Scavengers
C. Plasma cells	3. Vasodilation
D. Adipocytes	4. Antibodies

- A-3 B-2 C-1 D-4
- A-1 B-2 C-3 D-4
- A-3 B-2 C-4 D-1
- A-3 B-4 C-2 D-1

- Epithelial tissue with thin flat cells appearing like packed tiles occurs on
 - Inner lining of cheeks
 - Inner lining of stomach
 - Inner lining of fallopian tubes
 - Outer surface of ovary

- Choose correct statement with respect to cardiac muscles.
 - These muscles are structurally and functionally similar to smooth muscles.
 - These muscles are structurally similar to smooth muscles and functionally similar to skeletal muscles
 - The entire heart is made of cardiac muscles
 - Cardiac muscles are present in heart and in the cardiac region of stomach
- Select the correct statement from the ones given below with respect to *Periplaneta americana*.
 - Nervous system located dorsally, consists of segmentally arranged ganglia joined by a pair of longitudinal connectives
 - Males bear a pair of short thread like anal styles
 - There are 16 very long Malpighian tubules present at the junctions of midgut and hindgut
 - Grinding of food is carried out only by the mouth parts

12. Match the columns and find out the correct combination:

A. Mast cells	1. Tissue fixed
B. Histiocytes	2. Antibodies
C. Plasma cells	3. Heparin
D. Adipocytes	4. Fat storage
	5. Vasoconstriction

- a. A-3 B-5 C-2 D-4
 b. A-3 B-2 C-1 D-4
 c. A-3 B-2 C-4 D-1
 d. A-3 B-1 C-2 D-4

13. Match the columns and find out the correct combination:

A. Heparin	1. Vasoconstrictor
B. Histamine	2. Macrophages
C. Serotonin	3. Anticoagulant
D. B lymphocytes	4. Vasodilators
E. Internal scavengers	5. Plasma cells

- a. A-3 B-4 C-1 D-5 E-2
 b. A-1 B-2 C-3 D-4 E-5
 c. A-4 B-3 C-1 D-5 E-2
 d. A-5 B-4 C-3 D-2 E-1

14. Read the following statements and choose the incorrect one.

- a. The structural modification of cells in different tissues is due to their different functions
 b. In our hollow visceral organ, ciliated epithelium helps in the movement of substances
 c. Blood is the only connective tissue in which structural fibres, called collagen, are secreted by liver
 d. Compound epithelium covers the dry surface of skin and moist surface of buccal cavity.

15. Read the following statements and find out the incorrect statements.

- a. The entire heart is made up of cardiac muscles
 b. A specialised cardiac musculature called the nodal tissue is also distributed in the heart.
 c. The walls of ventricles are much thicker than that of the atria
 d. Left ventricle gives rise to right systemic aorta which gives supply of oxygenated blood to whole body

16. Loose connective tissue is

- a. Areolar
 b. Bone
 c. Blood
 d. Cartilage

17. Match the columns and find out the correct combination:

A. Simple squamous epithelium	1. Ureters
B. Simple cuboidal epithelium	2. Epididymis
C. Non-ciliated simple columnar epithelium	3. Lining of alveoli of lungs
D. Transitional epithelium	4. Lining of Thyroid vesicles
E. Pseudostratified non-ciliated columnar epithelium	5. Mucosa of stomach & intestine

- a. A-2 B-4 C-3 D-5 E-1
 b. A-3 B-4 C-5 D-1 E-2
 c. A-1 B-2 C-4 D-3 E-5
 d. A-5 B-3 C-2 D-4 E-1

18. Read the following statements and find out the incorrect statement.

- A. About 45-50% of the body weight of a human adult is contributed by muscles
 B. Muscles have special properties like excitability, contractility, extensibility and elasticity
 C. Based on their location, three types of muscles are identified: skeletal, smooth and cardiac.
 D. Based on appearance, cardiac muscles are striated. They are involuntary in nature as the nervous system does not control their activity directly.
 a. B & C
 b. A & C
 c. Only A
 d. A & D

19. Read the given statements about blood vascular system of cockroach.

- A. Circulatory system of cockroach is of closed type
 B. It contains no blood vessels except aorta of heart.
 C. Heart is six chambered
 D. The haemolymph is composed of colourless plasma and haemocytes

Which of the statement (s) given above is/are incorrect?

- a. Only A
 b. A, B and C
 c. A and C
 d. Only D

20. Read the following statements and find out the incorrect statement.
- Mosaic vision is common during night hence called nocturnal vision
 - In cockroach, brain supplies nerves to antennae and compound eyes
 - Fat body, nephrocytes and urecose glands also helps in excretion in cockroach
 - Male cockroach bears one pair of collateral glands which functions as accessory reproductive glands.

21. Choose correct option which have all right statement for bones.
- Bones have a hard and non-pliable ground substance
 - Matrix of bone is rich in calcium salt and free from collagen fibres
 - The bone marrow in some bones is the site of production of blood cells
 - Bone is a type of specialised connective tissue
- A, B and C
 - A, C and D
 - A and D only
 - All of these

22. Match the columns and find out the correct combination:

A. Basophils	1. Phagocytosis
B. Neutrophils	2. Inflammation
C. Plasma cells	3. Blood clotting
D. Thrombocytes	4. Antibodies

- A-2 B-1 C-4 D-3
- A-2 B-1 C-3 D-4
- A-1 B-2 C-4 D-3
- A-4 B-1 C-2 D-3

23. Read the following statements and choose how many statements are correct?
- In the case of earthworm, malpighian tubules are present at the junction on midgut and hindgut.
 - Adipose tissue is a dense irregular connective tissue and it is a reservoir of stored food.
 - In animals like earthworm, cells, tissues, organs and organ system split up the work in a way that ensures the survival of body.
 - Epithelia have two free surfaces one facing a body fluid and one faces the outside environment.
 - Smooth muscles are the component of internal organs.
- 3
 - 4
 - 1
 - 5

24. All the following statements are correct, except
- Hyaline cartilage is lacking fibres and is present in sternum, hyoid and ribs.
 - White fibrous cartilage is strongest and is present in the intervertebral disc.
 - Elastic cartilage is present in the tip of nose and ear pinna.
 - Calcified cartilage is not present in the pubis of pelvic girdle of frog.
25. In frog, peripheral nervous system is divided to
- Brain and spinal
 - Cranial and spinal nerves
 - Sympathetic and parasympathetic
 - Forebrain, midbrain and hindbrain