

**Topic :- Structural Organisation in Animals**

- 1 **(d)**  
In the digestive system of cockroach, a ring of 6-8 blind tubules called gastric caecae is present at the junction of foregut and midgut, which secrete digestive juices
- 2 **(b)**  
Adipose (connective) tissue - Storage of fats.  
Areolar connective tissue - Joins integument with muscles.  
Tendons - Connect skeletal muscle with bone.  
Ligaments - Connect bone to bone
- 3 **(a)**  
Emulsification of fats.  
Liver is the largest gland of frog's body, which secretes bile that is stored in the gall bladder. The bile emulsifies fats, changes pH of food from acidic to alkaline and check the growth of bacteria
- 4 **(a)**  
In mammals, RBCs are roughly circular, biconcave, disc like, non-nucleated corpuscles. In human, the RBCs are 6.5  $\mu$  to 8  $\mu$  in diameter (average diameter 7.2  $\mu$ ) and 1 – 2  $\mu$  thick.
- 5 **(c)**  
A-Dorsal vessel, B-Commissural vessel, C-Sub neural vessel, D-Ventral vessel
- 6 **(b)**  
Loose connective tissue contains fibroblasts (cells that produce and secrete fibres), macrophages (phagocytic in nature) and mast cells (which secretes heparin, serotonin and histamine).
- 7 **(a)**  
The female reproductive system of cockroach consists of two large ovaries, which are present laterally in the 2<sup>nd</sup>-6<sup>th</sup> abdominal segments
- 9 **(d)**  
Pharyngeal nephridia in earthworm are present as three paired tufts in the segments 4 to 6. They discharge excretory matter into the gut by these paired ducts. Therefore, they are called as enteronephric nephridia. Septal nephridia also open into alimentary canal
- 10 **(d)**  
The nymphs grows by moulting about 13 times to reach the adult forms
- 11 **(c)**  
The respiratory system of the cockroach comprises a network of white, shining tubes called trachea, that opens out by 10 pairs of small holes called spiracles which are present on the lateral sides of the body
- 12 **(d)**

- Body of frog is divisible into head and trunks. Neck and tail are absent in frog
- 13 **(c)**  
Mast cells of connective tissues continuously release in blood plasma, a conjugated polysaccharide, named heparin. The later serves to prevent coagulation of blood, white it is flowing in intact blood vessels.
- 14 **(b)**  
*Pheretima* exhibits closed type of vascular system, consisting of blood vessels, capillaries and heart. Due to the closed circulatory system, blood is confined to the heart and blood vessels
- 15 **(b)**  
Osteoblasts cells helps in the formation of bones and are present in the spaces called lecnuae
- 16 **(a)**  
The cockroaches are omnivorous in diet. They take all the types of animals and vegetable foods
- 17 **(a)**  
Epithelial tissue has free surfaces, which faces either a body fluid or the outside environment and thus, provides a covering or a lining for some part of body. It is found on a lining of small intestine and helps in secretion and absorption
- 18 **(d)**  
Both white and red muscle fibres have **myoglobin**. Myoglobin contains heme group which is responsible for carrying of oxygen molecules to muscle tissues.
- 19 **(c)**  
Plasma cells of connective tissue produce antibodies.  
Mast cells are modified basophil cells of blood and present in connective tissue. These cells secrete histamine (vasodilator), serotonin (vasoconstrictor), heparin (anticoagulant). White and yellow fibres are present in matrix of connective tissue. White fibres are present in matrix of connective tissue. White fibres are made up of collagen protein and yellow fibres are made up of elastin protein.
- 20 **(a)**  
In the head region of cockroach, brain is represented by supra-oesophageal ganglion, which supplies the nerves to antennae and compound eyes

<b>ANSWER-KEY</b>										
<b>Q.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>A.</b>	<b>D</b>	<b>B</b>	<b>A</b>	<b>A</b>	<b>C</b>	<b>B</b>	<b>A</b>	<b>C</b>	<b>D</b>	<b>D</b>
<b>Q.</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>A.</b>	<b>C</b>	<b>D</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>A</b>	<b>A</b>	<b>D</b>	<b>C</b>	<b>A</b>

**PE**