

**Topic :- Structural Organisation in Animals**

- 1 **(b)**  
Numerous minute pores called nephridiopores open on the surface of the earthworm's body. They are scattered, occur irregularly in all the segments, except the first two.
- 2 **(b)**  
The hormones in frogs act as chemical messengers which control and coordinate the functioning of various organs of the body.
- 3 **(c)**  
Blood is a living, vascular, fluid connective tissue, which is made of 60% plasma, 40% blood cells and platelets.
- 4 **(b)**  
The shape of RBCs varies in different vertebrate classes. In mammals, they are circular, biconcave and enucleated discs. Their central part is thinner than the margins. This shape provides flexibility and results in 20-30% increased surface area.
- 5 **(b)**  
**Vitamin-K** (phylloquinone) is the anti-haemorrhagic vitamin or factor, reported and named by a Danish scientist, **Dam** as **coagulation factor** (Danish term), who got the **Nobel Prize** for it in 1943. It is necessary for the **synthesis of prothrombin** (the precursor of thrombin) in the liver for normal clotting of blood. Thus, vitamin-K helps in blood clotting, prevention of haemorrhage and excessive bleeding in wounds.
- 6 **(b)**  
Calcium ions play an important role in blood clotting. Platelet thromboplastin and tissue thromboplastin combine to form prothrombinase in presence of  $Ca^{2+}$ . Then prothrombinase inactivates heparin and catalyzes the conversion of prothrombin into thrombin.
- 7 **(c)**  
Four pairs of spermathecae are located in 6th to 9th segments (one pair in each segment) of the earthworm. They receive and store spermatazoa during copulation.
- 8 **(a)**  
Adipose tissue is a type of loose connective tissue located mainly beneath the skin. The cells of this tissue are specialised to store fats.
- 9 **(c)**  
**Platelets** are irregularly shaped membrane bound cell fragments. These are found only in the blood of **mammals**, they usually lack nuclei and are formed from special bone marrow. They are responsible for blood clotting. They survive for 5 to 9 days before being destroyed by the spleen and liver.

- 10 **(c)**  
Fibroblasts, macrophages, mast cells, lymphocyte and plasma cells are cells of areolar tissue.
- 11 **(a)**  
Petrohyal muscles raise the hyoid and floor of buccal cavity of frog during respiration.
- 12 **(c)**  
Bones have hard and non-pliable ground substances, rich in calcium salts and collagen fibres which gives strength to bones
- 13 **(a)**  
In frog, microvilli is present in the intestine and it helps in the absorption of digested food
- 14 **(a)**  
Stratified squamous epithelium consists of two to many layers of cells. This type of epithelium lines the oral cavity, oesophagus and the vagina of mammals.
- 15 **(d)**  
Scleroproteins are the proteins of supportive tissue and occur in hard parts of animal body. These are insoluble in water, absolute alcohol, dilute acid or alkali or other neutral solvents. Examples of scleroproteins are keratin, collagen, elastin, fibroin, chondrin, ossein, etc.
- 16 **(c)**  
*Glandular epithelium is mainly of two types*  
(i) **Unicellular** Consisting of isolated glandular cells, *i.e.*, in goblet cells of alimentary canal  
(ii) **Multicellular** Consisting of clusters of cells, *i.e.*, salivary glands
- 17 **(b)**  
A-Salivary glands, B-Crop, C-Gizzard, D-Malpighian tubules, E-Ileum
- 18 **(a)**  
Urinary bladder is bilobed in frogs
- 19 **(d)**  
There are no teeth in the lower jaws of the frog and they usually swallow their food completely. Pedicellate teeth are present on upper jaw which is used to grip the prey and keep it in place till it swallowed
- 20 **(b)**  
**Pseudostratified epithelium** consists of single layer of irregularly shaped columnar cells touching the basement membrane. Mucous secreting goblet cells are numerous and cilia are present. Pseudostratified columnar epithelium is found in lining of trachea and bronchi (both ciliated), parotid salivary gland, vasa deferentia and epididymis.

<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>B</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>	<b>A</b>	<b>C</b>	<b>C</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>A</b>	<b>C</b>	<b>A</b>	<b>A</b>	<b>D</b>	<b>C</b>	<b>B</b>	<b>A</b>	<b>D</b>	<b>B</b>

**PE**