

Topic :- Structural Organisation in Animals

- 1 (c)
The mouthparts are movable articulated appendages around the mouth. They include labrum (upper lip), a pair of mandibles, a pair of maxillae and a labium (lower lip). A median flexible lobe acting as tongue lies within the cavity enclosed by mouthparts
- 2 (b)
Intercalated discs occur between the cardiac muscle fibres of the heart
- 3 (c)
In cockroaches, a ring of 6-8 blind tubules called hepatic/gastric caecae is present, which secrete digestive juices
- 4 (d)
I – True, because hindlimb ends in five digits and they are larger and muscular than forelimbs that end in four digits
II – True, because frogs are carnivorous. Due to this, alimentary canal is short and hence length of intestine is reduced
III – False, because on land, the buccal cavity, skin and the lungs act as respiratory organs
IV – False, heart of frog is three-chambered and it contains two atria and one ventricle
- 5 (b)
The inflammatory process begins with a chemical 'alarm' as a flood of inflammatory chemicals are released into the extra cellular fluid. Injured and stressed tissue cells, phagocytes, lymphocytes, mast cells and blood proteins are all sources of inflammatory mediators, the most important of which are **histamine, kinins, prostaglandins** and **complement**.
- 6 (b)
I- Proventriculus II-Gastric caecae III-Malpighian tubule.
Gizzard helps in grinding the food particles in cockroaches.
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
- 7 (b)
200 hexagonal ommatidia.
Ommatidia of cockroach is the visual unit. Each eye consists of about 2000 hexagonal ommatidia with the help of which, a cockroach can receive several images of an object
- 8 (c)
Digestion of the food takes place by the action of HCl and gastric juices secreted from the walls of stomach. Then the partially digested food is passed from stomach to the first part of intestine

- 9 **(c)**
In all connective tissues, except blood, the cells secrete fibres of structural proteins called collagen. These fibres provide strength, elasticity and flexibility to the tissue
- 10 **(a)**
Earthworm have long cylindrical body. The body is divided into 100-120 small parts called metamers
- 11 **(b)**
Frog contains thyroid gland liver, pancreas but salivary gland not found in frog's body. It is present in humans
- 12 **(b)**
Simple squamous epithelium is composed of plate-like or flat-disc like cells. The edges of these cells fit closely together just like the tiles in a floor. This is present at pericardial, perineural and peritoneal cavities, terminal bronchioles, air sacs, etc. In cavities of blood vessels and lymph vessels, it is called **endothelium**.
- 13 **(a)**
Ciliated epithelium lines the inside of the oviducts, ventricles of the brain, the spinal canal as well as the respiratory passages like trachea, bronchi and bronchioles.
- 14 **(c)**
The main function of the frog's skin is diffusion of the respiratory gases
- 15 **(d)**
All the above.
Animal tissues are broadly classified into four types; (i) Epithelial (ii) Connective (iii) Muscular and (iv) Neural
- 16 **(a)**
A-Setae, B-Female genital aperture, C-Male genital aperture, D-Genital papillae, E-Clitellum, F-Anus
- 17 **(a)**
A-Unicellular gland
B-Multicellular gland
C-Multilayered cells
- 18 **(c)**
Bile emulsifies the fats and pancreatic juices it does digest carbohydrates and proteins. Final digestion takes place in intestine. Inner wall of the intestine contains finger-like folds called microvilli, which absorbs digested food
- 19 **(c)**
In epithelial tissue, the adjacent cells form ion-rich gap or cell junctions for intercellular communication and chemical exchange. These junctions probably do not provide physical support.
- 20 **(c)**
The principal role of setae is in locomotion. They aids the earthworm in climbing out of the burrows

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

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