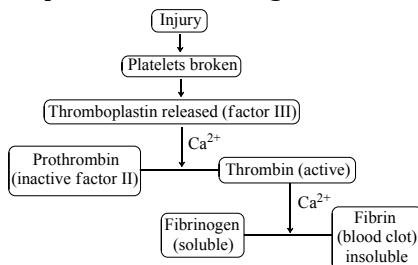


Topic :- Structural Organisation in Animals

- 1 (c)
Each thoracic segment in cockroach is surrounded by four chitinous plate—a tergal plate, a sternal plate and two plurae. The tergal plate of the thorax are pronotum, mesonotum and metanotum. Pronotum is the largest tergal plate which covers the neck and a part of head
- 2 (b)
The columnar epithelium is composed of single layer of tall of slender cells. Their nuclei are located at the base and microvilli are present on free surfaces
- 3 (d)
A - Stratum germinativum, B - Sebaceous gland, C - Stratum lucidum, D - Sweat gland, E - Stratum corneum
- 4 (b)
The **blood group-AB** is called universal recipient due to presence of both antigens (A and B) but no antibody, whereas blood group-O is called universal donor due to presence of no antigen but both antibodies (a and b).
- 5 (c)
Epithelial tissue lining of uriniferous tubules in the kidneys eliminates the nitrogenous waste and performs the function of excretion
Reproduction Germinal epithelium of the seminiferous tubules and ovaries produces spermatozoa and ova respectively
Absorption Epithelial lining of the intestine absorbs digested food
Secretion Epithelial lining the cavities gives rise to the glands that provide valuable secretions such as, mucous, gastric juice, etc.
- 6 (c)
Adipose tissue is fibrous connective tissue packed with masses of fat cells. These form a thick layer under the skin and occurs around kidneys. The blubber is also formed by these tissues.
- 7 (b)
Steps of blood clotting are



- 8 **(a)**
A frog heart is solid muscular organ situated in the upper half of body cavity. It is three chambered with two auricles and one ventricle. The ventricle is incompletely divided by an interventricular septum, while auricles are completely divided by interauricular septum. Heart is covered by a membrane called pericardium. The potential space between heart and pericardium is called pericardial space. This space is fluid filled and the fluid here is called pericardial fluid. The heart of frog pumps mixed blood as lungs are not much functional is than and most of the oxygenation of blood takes place through skin
- 9 **(a)**
The dorsal surface of the body is marked by a dark median mid dorsal line, *i.e.*, dorsal blood vessels along the longitudinal axis of the body
- 10 **(b)**
Erythropoiesis is the formation of RBCs in blood. It starts in liver in the embryo and in the red bone marrow of adults.
- 11 **(d)**
Neutrophils and monocytes are phagocytic white blood cells.
- 12 **(c)**
An adult earthworm develops a belt like swelling called cingulum or clitellum, which covers the several segments towards the front part of the animal. This is a part of reproductive system that creates egg capsules (cocoons)
- 13 **(d)**
Tendons and ligaments are the dense, fibrous connective tissues. Tendon connects a skeletal muscle to a bone, while ligaments connect bones together.
- 14 **(d)**
Collagen is the major fibrous structural protein of connective tissue occurring as while fibres produced by fibroblasts. It provides high tensile strength. Collagen fibres are composed of masses of tropocollagen molecules, each a triple helix of collagen monomers.
- 15 **(b)**
Anterior end of earthworm's body consists of mouth and prostomium. The first body segment is called the peristomium (buccal segment) which contains the mouth
- 16 **(a)**
Clotting of collected blood can be prevented by coating the test tubes with silicon or adding chelating agents. Heparin is an anticoagulant and is not suitable for blood counts as it alters the shape of RBCs and WBCs, which affects blood testing.
- 17 **(c)**
Signet ring appearance is obtained with tissue preparation of adipose tissue. The thin peripheral ring of cytoplasm and the flattened peripheral nucleus, coupled with the large central vacuole result in the signet ring appearance of fat cells.
- 18 **(a)**
In multicellular organisms, a group of similar cells along with intercellular substances performs a specific functions. Such organisation is called tissue
- 19 **(b)**
The alimentary canal of frog is short because they are carnivores and hence the length of the

intestine is reduced

20 (a)

Frog exhibits sexual dimorphism. The sexes are separate and distinguishable externally

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

PE