

Date: 09.10.2019

Time: (3 Hours)

Total Marks: 100

- N.B. (1) All questions are compulsory.
(2) Figures to the right indicate marks for respective sub questions.
(3) Draw **neat labeled diagrams** wherever **necessary**.

- Q.1. A) Fill in the blanks by choosing appropriate option from the following. (05)
- a) The ruminants are
(herbivorous, omnivorous, parasitic, saprophytes)
 - b) Respiration with the help of lungs is termedrespiration.
(pulmonary, systemic, aquatic, cutaneous)
 - c) is a connective tissue made up of two components, fluid matrix plasma and formed elements or cells suspended in it.
(blood, water, coelomic fluid, haemolymph)
 - d) Neuron with two cytoplasmic process are
(Apolar, Bipolar, Unipolar, Multipolar)
 - e) exhibit a fast running or cursorial type of adaptation
(Amoeba, Cockroach, Sea-star, Fish)
- B) Match the following (05)
- | Column 'A' | Column 'B' |
|-------------------|--------------------------|
| a) <i>Hydra</i> | a) Pseudopodia |
| b) <i>Clarius</i> | b) Gastrovascular cavity |
| c) <i>Amoeba</i> | c) Mammals |
| d) Autogamy | d) Arborescent organ |
| e) Viviparity | e) Self-fertilization |
- C) Write whether **True** or **False**. (05)
- a) Heterotrophs obtain nutrients from another living organism which is host.
 - b) Animals that excrete uric acid as the main end products of nitrogen metabolism are termed ureotelic.
 - c) The proximal end of the neuron forms a blind enlarged double-walled cup called Bowman's capsule.
 - d) Erythrocytes are absent in most invertebrates.
 - e) Fusion of sperm and ovum takes place inside the female body is termed internal fertilization.
- D) Define the following. (05)
- a) Holozoic nutrition
 - b) Ammonotelic
 - c) Open circulation
 - d) Bipolar neuron
 - e) Ovoviviparity

- Q.2. A) Describe physiology of digestion in man. (10)
OR
A) Give a detailed account of process of urine formation in man. (10)
B) Answer any two of the four. (05 marks each) (10)
a) Write a note on nutritional apparatus in amoeba.
b) Describe briefly gastrovascular cavity in hydra.
c) Flame cells in *Planaria*
d) Structure of ruminant stomach.
- Q.3. A) Describe briefly air sacs in pigeon. (10)
OR
A) Describe crocodile heart and its working. (10)
B) Answer any two of the four. (05 marks each) (10)
a) Structure of frog lung.
b) Explain the structure of gills of bony fish.
c) Heart of cockroach
d) Heart of Pigeon
- Q.4. A) Describe in detail the synaptic transmission. (10)
OR
A) Describe Oogenesis. (10)
B) Answer any two of the four. (05 marks each) (10)
a) Irritability in *Paramecium*.
b) Structure of cilia.
c) Structure on mammalian sperm.
d) Oviparity.
- Q.5. Write Short notes on **Any Four** of the following. (20)
a) Amphioxus- filter feeding.
b) Contractile vacuoles in protozoa.
c) Cutaneous respiration.
d) Heart of earthworm.
e) Structure of mammalian egg.
f) Viviparity.
