



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Fourth Semester – 2020

Roll No. in Fig.

Roll No. in Words.

Paper: Zoology-IV (Physiology)

Course Code: ZOOL-203 / ZOL-22302 Part – I (Compulsory) Time: 15 Min. Marks: 10

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Signature of Supdt.:

Q.1. Encircle the correct choice.

(10x1=10)

I. Secretion from a neurosecretory cell is called a:

- | | |
|---------------------|-----------------|
| a) Neuromodulator | c) Neuropeptide |
| b) Neurotransmitter | d) Hormone |

II. Organ system level of organization exists in:

- | | |
|-------------|--------------------|
| a) Porifera | c) Cnidaria |
| b) Protozoa | d) Platyhelminthes |

III. The receptors that respond to sound induced vibrations of the substratum.

- | | |
|-------------------|-------------------|
| a) Georeceptors | c) Phonoreceptors |
| b) Proprioceptors | d) Baroreceptors |

IV. The structure in mammalian ear that vibrates in response to incoming sound waves:

- | | |
|-----------------------|-----------------------------|
| a) Cochlea | c) Tympanum |
| b) Semicircular canal | d) External auditory meatus |

V. In crustaceans, the hormone that inhibits the production of ecdysone by Y-organ:

- | | |
|----------------------------|---------------------|
| a) Molt inhibiting hormone | c) Juvenile hormone |
| b) Gonadotrophin | d) Ecdysone |

VI. The hormone that inhibits the release of growth hormone by adenohipophysis:

- | | |
|------------------------|-----------------|
| a) Parathyroid hormone | c) Somatostatin |
| b) Thyroxin | d) Calcitonin |

VII. In mammals, the hormone that is responsible for sodium retention by kidneys:

- | | |
|----------------|----------------|
| a) Cortisol | c) Aldosterone |
| b) Epinephrine | d) Glucagon |

VIII. The organ where bile performs its action:

- | | |
|-----------------|-------------|
| a) Gall bladder | c) Pancreas |
| b) Liver | d) Duodenum |

IX. The preassembly point for ribosomes in a eukaryotic cell:

- | | |
|--------------------------|--------------|
| a) Mitochondria | c) Nucleolus |
| b) Endoplasmic reticulum | d) Nucleus |

X. The organelle with double, folded membranes:

- | | |
|----------------|-----------------|
| a) Ribosomes | c) Mitochondria |
| b) Peroxisomes | d) Lysosomes |



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Shortly answer the following questions. (2x10=20)

- I. Make a flow chart to show that the basic organization of nervous system is similar in all groups of vertebrates.**
- II. Describe the location and function of proprioceptors in arthropods?**
- III. What do you know about sonar, a form of echolocation?**
- IV. Describe the endocrine system of molluscs.**
- V. Describe the structure and function of ribosomes and lysosomes.**
- VI. With the help of labeled figures only, compare the heart and circulatory system of reptiles and mammals. Indicate the direction of blood flow as well.**
- VII. Give four basic physiological principles that apply to lung ventilation.**
- VIII. What are the characteristics of hemolymph in invertebrates.**
- IX. Give a comparison of continuous and discontinuous feeders.**
- X. Describe, briefly, the role of pancreas in digestion of mammals.**

Q.3. Briefly answer the following questions. All questions carry equal marks. (10x3=30)

- I. Give an account of structure and function of cytoskeleton in a eukaryotic cell.**
- II. Discuss, very briefly, five general evolutionary trends in nervous system development of invertebrates**
- III. Account, briefly, the sites of synthesis, target cells and main functions, of the hormones of pituitary gland.**