



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Sc. Honours Examinations 2021

(Under CBCS Pattern)

Semester - III

Subject : ZOOLOGY

Paper : C 6 - T & P

(Animal Physiology : Controlling & Coordinating Systems)

Full Marks : 60 (Theory-40 + Practical-20)

Time : 3 Hours

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

(Theory)

Group-A

Answer any **three** questions from the following :

12×3=36

1. (a) What is resting potential ? How action potential is developed ? What is saltatory conduction ? Write the comment on synaptic transmission ?
- (b) Write down the basic characters of muscle fiber. 2+3+2+2+3
2. (a) Describe the ultra-structure of skeletal muscle with labelled diagram.
- (b) Describe the different types of bones. 8+4

3. (a) Describe the ultrastructure of neuron with proper labels and sketch.
(b) What is Muler's law with reference to nerves ?
(c) Write the functions of Sertoli cell. 8+2+2
4. (a) Why are myelinated nerves faster than non-myelinated ones ?
(b) Describe the types of epithelial tissues.
(c) Define fixative and classify them with examples. 3+5+(1+3)
5. (a) Write down the basic mechanism of hormone action.
(b) Explain Addison's disease.
(c) Describe the ultra structure of Thyroid gland with its major functions. 4+2+2+4
6. (a) How can non-steroid hormones regulate signal processing ?
(b) Write the functions of connective tissues and corpus luteum.
(c) Write distinguishing features of diabetes mellitus & insipidus.
(d) Write the roles of troponin and tropomyocin in muscle contraction. 3+(2+2)+3+2

Group-B

Answer any *two* questions from the following : 2×2=4

1. Write the functions of HCG.
2. What is the role of Ca^{2+} on skeletal muscle contraction?
3. Write the function of epinephrine and norepinephrine.
4. What is reflex arc?

(Practical)
Paper - C-6P
(Animal Physiology : Controlling & Coordinating Systems)

Marks : 20

Group–A

Answer any **one** question from the following : 15×1=15

1. Identify with reasons of the following organs (any *three*) 5×3
 - (a) Testis
 - (b) Pituitary gland
 - (c) Adrenal gland
 - (d) Pancreas
2. Write down the sequential steps for the preparation of a permanent slide of Rat's ovary with proper diagram. 10+5
3. Draw the histological structure of spinal cord with labelled diagram. Distinguish between T₃ and T₄. 10+5

Group–B

Answer **one** question from the following : 5×1=5

1. State the difference between isotonic and isometric contraction.
 2. Distinguish between red and white muscle.
 3. Write short note on Haversian canal.
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