

U.G. 4th Semester Examination - 2020

ZOOLOGY

[PROGRAMME]

Course Code : ZOOLOG-G-CC-T-4

Full Marks : 40

Time : 2½ Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** of the following : $2 \times 5 = 10$
- Name the largest digestive gland and the artery which supplies it.
 - What are the proteins involved in contraction of muscles?
 - What is acidosis?
 - Write down the function of the loop of Henle.
 - What is the function of the A-V node and the S-A node?
 - Write down two differences between menstrual cycle and estrus cycle.
 - What do you mean by amphoteric amino acid? Give an example.
 - What are cofactors and coenzymes?

2. Answer any **two** of the following : $5 \times 2 = 10$
- Classify enzymes according to mode of action.
 - Explain briefly the structural differences between DNA and RNA.
 - Write briefly on the levels of organization of proteins.
 - Briefly elucidate the structure of the thyroid gland. Mention two functions of its secretion.
3. Answer any **two** of the following : $10 \times 2 = 20$
- Explain chloride shift. What is Bohr effect? Explain the structure of skeletal muscle with a diagram. $2\frac{1}{2} + 2\frac{1}{2} + (4 + 1)$
 - What are the principal enzymes involved in protein digestion? What are micelles? Where are villi found? Describe the histological structure of exocrine pancreas, mentioning major cell types, their secretions, and their functions. $2 + 1 + 1 + (4 + 2)$
 - Explain how acetyl-CoA is oxidized to release energy. How many molecules of ATP are produced in the TCA cycle? $8 + 2$
 - What do you mean by the cardiac cycle? What are the main components of an ECG? Explain the structure of a mammalian heart with appropriate diagram and indicate the direction of blood flow through it. $1 + 2 + (5 + 1 + 1)$