

UNDERGRADUATE SEMESTER-III EXAMINATIONS, 2021

Subject: Zoology

Course ID:32612

Course Code: SH/ZOO/302/C-6

Course Title: Animal Physiology: Controlling and Co-ordinating systems

Full Marks: 25

Time: 1 Hr 15 min

The figures in the margin indicate full marks
Answer all the questions.

UNIT I

1. Answer *any five* of the following questions: (1X5=5)

- a. What are myotubes?
- b. Name the highest molecular weight carrying protein.
- c. What is osteoclast?
- d. State one important function of tendon.
- e. What is polyspermy?
- f. What is uterine milk?
- g. State the function of GDNF regarding spermatogenesis.
- h. Define resting membrane potential.

UNIT II

2. Answer *any two* of the following questions: (5X2=10)
- a) What is saltatory conduction? Briefly discuss the process in myelinated nerve. (2+3)
 - b) Briefly describe the role of Ca²⁺ in muscle contraction. (5)
 - c) Discuss the signaling pathway of epinephrine hormone. (5)
 - d) What is LH surge? How corpus luteum is formed? State the function of prostaglandins regarding menstrual cycle. (2+2+1)

UNIT III

3. Answer any one from the following: (10X1=10)
- a. "Spermatids are genotypically haploid but functionally diploid"- decode the statement with suitable explanation and diagram. Discuss on the effect of cortical granule exocytosis in relation to mammalian fertilization. (5+5)
 - b. Briefly discuss the role of hormones secreted from adenohipophysis. Differentiate between T3 and T4 hormones. State the function of mineralocorticoids. (6+2+2)