B.Sc. 6th Semester (Honours) Examination, 2021

Subject: ZOOLOGY

Course ID: 62617 **Course Code: SH/ZOO/604/DSE-4**

Course Title: Endocrinology

Full Marks: 25 **Time: 1 Hr 15 Min.**

The figures in the right hand margin indicate full marks.
Candidates are required to give their answers in their own words as for as practical

UNIT-I

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

a) Name the receptors of insulin and growth hormone.

b) Why the endocrine glands are called ductless gland?

c) What is endogenous circadian clock?

d) What do you understand by menarche?

e) Name two hormones that act through cAMP second messenger system.

f) State the role of thyrocalcitonin on bone.

g) Why Steroid hormones easily pass through the plasma membrane by simple diffusion?

h) Which disease/condition is caused by the Iodine deficiency in our body?

UNIT-II

1. Answer *any two* of the following questions: (**5×2 = 10**)

a) Comment on the role of parathormone in Ca^{+2} homeostasis. 5

b) State the name and function of hormone secreted from zona glomerulosa. How renin-angiotensin system control the function of zona glomerulosa? (2+3)= 5

c) Name four major hormones involved in the onset and maintenance of human parturition. Explain the hormonal control of the menstrual cycle in human. 2+3= 5

d) Describe the molecular structure of steroid hormone receptor. What are non-genomic effects of thyroid hormone? $(2\frac{1}{2} + 2\frac{1}{2})$

UNIT-III

3. Answer *any one* of the following questions: (10×1 = 10)

a) Describe the process of melatonin biosynthesis in pineal oyte. How does photoperiod effect on melatonin biosynthesis? Add a note on the role of melatonin on reproduction and circadian rhythm? (4+2+4= 10)

b) Almost absence of Iodine in food causes nodular goiter and hypothyroidism, while excess amount of iodine in food also causes hypothyroidism' – Explain with reason(s). Schematically represent the sequential events of a non-steroidal hormone action in a flowchart. 5+5=10