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End Semester Examination of Semester–III, 2015
Subject : ZOOLOGY (PG)
Paper : ZPGT–304 (Gr A + Gr B)
(Elective : Endocrinology)
Full Marks : 40
Time : 2 Hrs

The figures in the margin indicate the marks corresponding to the question

Candidates are requested to give their answers in their own word as far as practicable.

Illustrate the answers whenever necessary

Use separate Answer scripts for Group A and Group B

Group A (Full Marks : 20)

Answer **Question No. 1** and
any one out of **Question No. 2** and **Question No. 3**

1. Answer **any five** question: 2X5=10

   i) Name the hormones synthesized from *pars distalis* region of adenohypophysis.

   ii) Write histological features of pancreatic α-cells.

   iii) Briefly write the functions of Leydig cell.

   iv) Name two hormones having contrasting action in calcium balance.

v) Briefly compare the functions of GH and IGF-I.

vi) Name two placental hormones along with their hallmark function.

vii) What do you understand by panhypopituitarism?

viii) Mention the granular features of endocrine β-cells from ultrastructure.

2. a) Define endocrine gland.

b) Name the three zonation of adrenal cortex along with their secretory products.

c) Briefly describe the role played by ADH during dehydration in animals. 1+4+5

3. a) Enlist the target organs of androgens.

b) Briefly describe the gonadotropin regulation of ovarian function.

c) Add a note on vascular control of erection in human male. 2+5+3

Group B (Full Marks : 20)

Answer **Question No. 1** and
any one out of **Question No. 2** and **Question No. 3**

1. Answer **any five** question: 2X5=10

i) What do you mean by antihormones?

ii) Name two amino acid derivative hormones.

iii) What is product of F-cells? Name its target organ.

iv) Name four enzymes/proteins regulated by PKA.

v) 'Calmodulin regulates the intracellular Ca^{2+} concentration' – justify whether the statement true of false.

vi) Trace the role of heat shock proteins in steroid-mediated intracellular signaling.

vii) Characterize Ras protein.

viii) What is the importance of RTK signaling pathway?

2. a) Classify hormones based on their chemical nature citing examples.

b) What do you mean by gonadal steroidogenesis?

c) Briefly describe the steps involved in the biosynthetic pathway of T_3 and T_4. 4+2+4

3. a) Cite an example where same signal molecule can induce different responses in different target cells.

b) Differentiate between apoptosis and necrosis.

c) 'Apoptosis is an essential phenomenon of life process'- justify. 3+2+5