2009

M.Sc.

4th Semester Examination

HUMAN PHYSIOLOGY

PAPER—XIX

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Write the answers to the questions of each Unit in separate books.

UNIT—37

Answer any *two* questions.

1. (a) State the Synergistic and dual control system of hypophysiotropic hormones.

(b) How TRH is Synthesized from TRH preprohormone?

(c) By suitable evidences describe the main effects of TRH on the pituitary gland. 2+3+5

2. (a) What do you mean by 'GH–IGF–I axis'?

(b) Mention the importance of GH binding protein.

(c) With suitable diagram state the hormone monomerinduced dimerization and signaling of GH.

(d) Describe the role of GH and IGF–I in prenatal and postnatal growth. $3+1\frac{1}{2}+2\frac{1}{2}+3$

3. (a) Comment on Ras-GDP-Ras-GTP on-off system.

(b) What is Clinical osteoporosis ? Mention the causes of osteoporosis. Why it is now considered as one of the major nutritional problem in India ? 5+(1+2+2)

4. (a) Diagramatically elaborate the thyroidal iodine transport with special reference to NIS.

(b) Describe the molecular mechanism of tyrosine iodination and iodotyrosine coupling. 5+5

UNIT—38

Answer any *two* questions.

1. (a) What is folliculogenesis in ovary ? Name its different stages.

(b) Add a note on the role of FSH in folliculogenesis.

(c) "Steroidogenesis in the ovary involves two cell two gonadotropin hypothesis"—Justify the statement. 2+1+3+4

2. (a) Describe the biochemical modification of sperm in testis.

(b) What is capacitation and acrosomal reaction. $5+(2\frac{1}{2}+2\frac{1}{2})$

3. (a) What are the primary and secondary binding of sperm and egg.

(b) Write the early and late events of egg activation. 5+5

4. Write with suitable reasons why pulmonary circulation in the foetus bypass through the ductus arteriosis. 10

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