

**2010****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 genomic organisation, mRNA structure and post-translational processing of human GHRH prohormone.
- (b) Briefly mention some important chemical characteristics of GHRH.
- (c) With suitable evidence elaborate the role of GHRH and ghrelin on GH release. 4+2+4
2. (a) Discuss the role of oxytocin and estrogen in the process of parturition.
- (b) Give an idea about the superfamily where GH belongs. What is the GH-IGF-1 axis for skeletal growth? 5+(2+3)

(Turn Over)

3. (a) Discuss the origin, physiological stimulus for secretion and function of two major gastrointestinal hormones.  
 (b) Describe the role of glucagon in the regulation of glucose homeostasis via fructose-2, 6-bisphosphate. (3+3)+4
4. (a) How does hypothalamo-hypophyseal system control the thyroid hormone secretion?  
 (b) Discuss the different types of thyrotoxicosis.  
 (c) Comment on the effect of cholera toxin on adenylate cyclase activity. 4+4+2

### UNIT—38

Answer any *two* questions.

1. (a) In females how sex steroid production is achieved by the co-ordinated function of the granulosa and theca cells both before and after ovulation?  
 (b) What are the different 17  $\beta$ HSD isozymes, Elaborate their expression, tissue distribution and functions regarding steroidogenesis. 5+5
2. (a) Spermatogenesis is a Sertoli Cell-supported process — justify it.  
 (b) State the role of locally acting humoral factors in the process of spermatogenesis. 5+5
3. (a) Attachment process is the prime mechanism in the physiology of implantation — Explain.  
 (b) Write the endocrine and autocrine regulation of implantation 5+5
4. (a) Describe the molecular mechanism of lactogenesis in milk secreting alveolar cells.  
 (b) How afferent and efferent path ways regulate the galactopoiesis and let-down of milk. 5+5