

2020

PHYSIOLOGY — HONOURS

Fifth Paper

Full Marks : 100

The figures in the margin indicate full marks.

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

1. (a) Discuss the role of hypothalamus in regulation of secretion of hormone from anterior pituitary.
(b) Discuss the role of DAG as 2nd messenger in hormone action . 10+10

Or,

- (a) Describe the source, chemistry and functions of calcitonin in calcium homeostasis.
(b) Why thyroxine is administered orally but insulin is administered through intramuscular injection?
(c) What is reverse T_3 (RT_3)? 10+6+4
2. (a) Describe the role of aldosterone in mineral metabolism and vascular system.
(b) Discuss the role of heart as an endocrine organ.
(c) What is adrenal virilism? 10+7+3

Or,

- (a) What is parturition? Discuss the neuroendocrine mechanism that control parturition.
(b) What is Braxton Hicks contraction? (4+10)+6
3. Discuss the physiological functions of following gastrointestinal and pancreatic hormones —
(a) gastrin (b) cholecystokinin (c) secretin (d) glucagon. 5×4

Or,

- (a) Discuss the different phases of spermatogenesis mentioning the role of different hormones in this process.
(b) What is Blood-testis barrier? 15+5
4. (a) What is circadian rhythm? Explain the role of suprachiasmatic nucleus in maintaining such rhythm.
(b) Discuss the different Zeitgebers in relation with circadian clock. (4+6)+10

Please Turn Over

Or,

- (a) Describe the changes in heart and circulation of foetus after birth.
- (b) Mention the important characteristics of stem cell.
- (c) What is the difference between adult stem cell and embryonic stem cells?
- (d) What is Fertilization?

8+6+4+2

- 5.**
- (a) Explain the term — Protein efficiency ratio.
 - (b) Write notes on specific dynamic action of food.
 - (c) Describe the physiological significance of taking dietary fibres in daily life.

4+8+8

Or,

- (a) What are the Assisted Reproductive Technologies?
- (b) Mention the causes and social implication of endemic goitre.
- (c) Mention the social implication of Marasmic Kwashiorkor?

5+10+5
