



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours 5th Semester Examination, 2021-22

**PHYACOR12T-PHYSIOLOGY (CC12)**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

**Answer any five questions from the following**

8×5 = 40

1. (a) Define Ultradian and Infradian Rhythm with examples. 2+2  
(b) Discuss the neural mechanism by which SCN controls the day and night cycle in humans. 4
2. (a) Describe the histological structure of thyroid gland. 3  
(b) Discuss the role of thyroid gland in growth and development. 3  
(c) What is Hashimoto's Thyroiditis? 2
3. (a) What are the posterior pituitary hormones and their functions? 3  
(b) Name the hormone involved in causing alterations in skin pigmentation in humans. 2  
(c) How is human growth hormone (hGH) related to human chorionic somatomammotropin (HCS)? 3
4. Write short notes on any *two* of the following: 4+4  
(a) Hypophysectomy  
(b) Acromegaly  
(c) Hepatic gluconeogenesis  
(d) Renin-Angiotensin system  
(e) Endocrine function of heart.
5. (a) Describe the role of Parathyroid hormone and Calcitonin in the maintenance of calcium and phosphate homeostasis. 5  
(b) What is epiphyseal closure? 3

6. (a) Explain the structure of Islets of Langerhans. 2  
(b) What are the factors stimulating insulin secretion? 2  
(c) Write the role of insulin and glucagon in control of blood glucose homeostasis. 4
7. (a) Mention the source of glucocorticoids and mineralocorticoids. 2  
(b) State the symptoms of Addison's disease. 2  
(c) What are the functions of the human fetal adrenal cortex? 2  
(d) What is the current view of the mechanism of aldosterone action? 2
8. (a) What is gout? How is it produced? 1+1  
(b) What changes in carbohydrate metabolism occur during exercise? 3  
(c) What is thrifty gene hypothesis and how is it related to obesity? 3

**N.B.:** Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.

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