

- (c) With example explain the long loop and short loop feedback regulatory mechanisms of hormone secretion. (6,5,4)

6. Write short notes on the following :

- (i) Biochemical action of thyroxine
- (ii) Renin-Angiotensin system
- (iii) Secretin family hormones (5×3)

(200)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 4090 **H**

Unique Paper Code : 2492012402

Name of the Paper : Hormones: Biochemistry and Function

Name of the Course : **B.Sc. (Hons.) Biochemistry**

Semester : IV

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. There are **six** questions.
3. Attempt any **4** questions.
4. **All** questions carry equal marks.
5. Question no. 1 is compulsory.

1. (a) Justify the following statements (**any 6**) :

(i) Thyroxine is called a permissive hormone.

(ii) POMC is a prohormone.

P.T.O.

- (iii) Somatomedins have a role in bone growth.
- (iv) Beta-blockers are administered to cardiac patients.
- (v) Cholecalciferol plays a dual role in physiology.
- (vi) Hyperglycemia is not a confirmatory symptom of diabetes mellitus.
- (vii) Oral contraceptive pills contain synthetic estrogen & progesterone like steroids.

(b) Define the following (any 3) :

- (i) Incretins
- (ii) Paracrine
- (iii) Synergistic effect
- (iv) Tropic hormone (12,3)

2. (a) Explain the role of oxytocin, estrogen & progesterone during parturition?
- (b) Draw a well labeled diagram of hypothalamic hypophyseal portal system.

- (c) What are the consequences of increased growth hormone secretion? (6,4,5)
3. (a) Describe the effect of epinephrine and cortisol in stress.
 - (b) Discuss the pathophysiology associated with hypersecretion of adrenocortical hormones.
 - (c) Differentiate between diabetes insipidus and diabetes mellitus. (6,4,5)
 4. (a) Describe the role of insulin in regulating the fuel metabolism.
 - (b) Discuss the role of calcitonin and PTH in maintaining calcium homeostasis.
 - (c) Explain why TSH levels are low in Grave's disease and high in Hashimoto's thyroiditis? (6,5,4)
 5. (a) Discuss the interplay of hormones in the follicular and luteal phases of the ovarian cycle.
 - (b) Explain the direct and indirect effects of growth hormone.