

This question paper contains 4 printed pages.]

Your Roll No.

1372

A

B.Sc. (Hons.)/II
BIOCHEMISTRY—Paper VIII
(Human Physiology and Endocrinology)
(Admissions of 2000 and onwards)

Time : 3 Hours

Maximum Marks : 60

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

*Attempt Five questions in all,
including Q. No. 1 which is compulsory.*

1. Comment on the following : 2 × 8 = 16
- (i) GH acts as a trophic hormone.
 - (ii) SA node is called the pace maker of the heart.
 - (iii) MAP kinase is a dual kinase.
 - (iv) Hypothyroid patients are cold sensitive.
 - (v) People living in high altitude suffer from polycythemia.

[P.T.O.]

- (vi) Calmodulin is a mediator of Ca^{+2} action.
- (vii) Dogs lick their wounds to facilitate healing.
- (viii) Hyper pigmentation is observed in patients suffering from Cushings' Disease.
2. (i) Describe the role of kidney in regulating acid base balance. 4
- (ii) Explain how the counter current multiplier system is involved in concentrating urine. 5
- (iii) What is the cause and symptoms associated with diabetes insepitus. 2
3. (i) Explain the events associated with Cardiac cycle in detail. 5
- (ii) Give the effect of the following on blood pressure : 3
- (a) Angiotensin
- (b) Aldosterone
- (c) Atrial Natriuretic factor.
- (iii) Give the mode of action of the following drugs in treating heart disease : 3
- (a) Digitalis
- (b) Streptokinase
- (c) Nitroglycerine

4. Give the mechanism of the following :
- (i) Glucagon activates glycogen breakdown. 3
 - (ii) Insulin activates glycogen synthase 3
 - (iii) Estrogen regulate gene expression. 3
 - (iv) Epinephrine causes vasoconstriction. 2
5. (i) Give the role of thrombin in procoagulation, Anti-coagulation and Fibrinolysis. 6
- (ii) Give the detailed mechanism of thyroid hormone biosynthesis 5
6. (i) Explain the role of the following in Ca^{+2} homeostasis : 4
- (a) PTH
 - (b) Vit. D.
- (ii) Detail out the hormonal regulation of the following processes :
- (i) Menstruation. (ii) Lactation (iii) Spermatogenesis. 3, 2, 2
7. (i) Explain the role of the liver in detoxification. 4
- (ii) Give the different factors/ hormones that regulate. 4
- (a) Acid secretion in stomach.
 - (b) Pancreatic juice secretion.
- (iii) Draw and explain the hypothalamic and hypophysial axis. 3

8. Differentiate between the following :

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| (i) Diabetes mellitus Type I and II. | 3 |
| (ii) Prehepatic and Post hepatic jaundice. | 3 |
| (iii) Acromepaly and Gigantism. | 2 |
| (iv) Acute and chronic stress response. | 3 |