2013
M.Sc.
4th Semester Examination
BIOCHEMISTRY
PAPER—BIC-401
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.

Answer all questions.

1. Answer any five questions from the following : \(2\times5\)
   (a) What is Down's syndrome?
   (b) What is the role of Vit B12 in erythropoiesis?
   (c) What is hypernatremia?
   (d) What is sex dimorphism?
   (e) How haemoglobin contribute as a buffer system in blood?
   (f) Why goat is a metabolic disorder?
   (g) Why do many cancer cells rely on anaerobic glycolysis?
   (h) State the biological implication of Handerson-Hasselbalch equation.

(Turn Over)
2. Answer any two questions from the following: 5x2

(a) Describe the clinical manifestation of G6PD deficiency. "G6PD deficient patients are resistant to malaria". Explain. 3+2

(b) Describe the role of Vitamin E in antioxidative mechanism. 5

(c) What is metabolic acidosis? Why does it happen in a patient with severe and uncontrolled diabetes?

(d) Describe how sex dimorphism is related to vitamin metabolism.

3. Answer any two questions from the following: 10x2

(a) Describe the roles of lung and kidney in maintaining blood buffer system. 5+5

(b) (i) Name the hormones secreted from Posterior and intermediate Pituitary and mention their target organ and metabolic function.

(ii) What do you know about 'estrogen induced carcinogenesis'? 5+5

(c) What is resting membrane Potential and action Potential? What do you mean by "all or none law"? Graphically show the Polarisation and depolarisation of membrane of nerve cell. (2+2)+3+3

(d) (i) Write the metabolic role of T3 and T4.

(ii) Describe how insulin and epinephrine regulating cause obesity. 5+5