

Day: Friday
Date: 26/10/2018

W-2018-1192

Time: 02.00 PM TO 05.00 PM
Max. Marks: 80

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

- Q.1** A) Attempt any **ONE** of the following: (06)
- i) Describe the cellular location of glycolysis and various reactions involved in it.
 - ii) What are the two laws of thermodynamics? Explain how they are obeyed during biological energy transformation.
- B) Attempt any **TWO** of the following: (10)
- i) Describe the classification of enzymes giving one example from each class.
 - ii) Explain in detail different enzyme inhibitors.
- Q.2** Write short notes on any **FOUR** of the following: (16)
- a) Factors affecting enzyme activity
 - b) High energy compounds
 - c) Feedback inhibition
 - d) Glycogen storage diseases
 - e) Gluconeogenesis

SECTION-II

- Q.3** A) Attempt any **ONE** of the following: (06)
- i) Explain in detail electron transport chain.
 - ii) What are lipoproteins? Explain different types of lipoproteins and their clinical significance.
- B) Answer any **TWO** of the following: (10)
- i) Discuss in brief urea cycle.
 - ii) Describe internal structure of mitochondria with a neat labelled diagram.
 - iii) Explain briefly the photosynthesis in plants.
- Q.4** Write short notes on any **FOUR** of the following: (16)
- a) Ketone bodies
 - b) β - oxidation of fatty acids
 - c) Nitrogen cycle
 - d) ATP synthase
 - e) C₄ plants
- Q.5** Attempt any **EIGHT** of the following: (16)
- a) Give two examples of C₃, C₄ and CAM plants.
 - b) What is glycogenolysis?
 - c) Define – catabolism, enthalpy.
 - d) What are cofactors? Give two examples.
 - e) Name a two essentials and non-essential amino acids?
 - f) Explain –Activation energy.
 - g) What are coenzymes? Give two examples.
 - h) How much energy is available from 1gm of carbohydrate, protein and lipid molecule?
 - i) Write Michalis- Menten rate equation.