

**S. Y. B. SC. (BIOTECHNOLOGY) SEM – III (CBCS - 2015
COURSE) : SUMMER - 2018
SUBJECT : BIOCHEMISTRY – II**

Day : **Tuesday**
Date : **03/04/2018**

Time : **02.00 PM TO 05.00 PM**
Max. Marks : 60

S-2018-1051

N.B.

- 1) Q.1 and Q.5 are **COMPULSORY**.
- 2) Answer any **TWO** questions from Q. 2, 3, & 4 in Section – I
- 3) Answer any **TWO** questions from Q. 6, 7, & 8 in Section – II
- 4) Figures to the right indicate **FULL** marks.
- 5) Both the sections should be written in **SEPARATE** answer book.

SECTION – I

- Q.1** Attempt any **FIVE** of the following: **(10)**
- a) Explain coenzymes and cofactors with suitable example.
 - b) What are endergonic and exergonic reactions?
 - c) Write Michaelis – Menten equation. Define Km.
 - d) What are coupled reactions?
 - e) What are the various ways of electron transfer in biological system?
 - f) Give industrial applications of any two enzymes.
- Q.2** Answer the following: **(10)**
- a) Describe the two laws of thermodynamics. Explain how they are obeyed in biological system.
 - b) Discuss – allosteric enzymes.
- Q.3** Differentiate between: **(10)**
- a) Competitive and non-competitive inhibition.
 - b) NAD and FAD
- Q.4** Write short notes on: **(10)**
- a) High energy compounds
 - b) Feedback inhibition of enzyme

SECTION – II

- Q.5** Attempt the following questions: **(10)**
- a) Describe urea cycle, its location and its importance.
 - b) Describe how solar energy is converted to chemical energy during photosynthesis.
- Q.6** Answer the following: **(10)**
- a) Write a note on the fate of pyruvate.
 - b) What is meant by glucogenic and ketogenic amino acids? Give names of two ketogenic and two glucogenic amino acids.
- Q.7** Answer the following: **(10)**
- a) Describe electron transport chain.
 - b) Explain fatty acid synthase complex.
- Q.8** Explain the following: **(10)**
- a) β -oxidation of any saturated fatty acid.
 - b) Photorespiration

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