

**M. SC. (BIOTECHNOLOGY) SEM-I (2012
COURSE)(CHOICE BASED CREDIT SYSTEM) : SUMMER
2018**

SUBJECT: BIOLOGICAL CHEMISTRY

Day: **Friday**
Date: **06/04/2018**

Time: **10.00 am to 01.00 pm**
Max. Marks: 60

S-2018-1080

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** Attempt any **TWO** of the following: **(10)**
- a) Explain the properties of amino acids? Which amino acids are components of plant cell wall?
 - b) Describe galactose metabolism and explain in brief the physiological implications.
 - c) What is enzyme inhibition? Discuss in detail.
- Q.2** Attempt any **FOUR** of the following: **(10)**
- a) How are micelles formed? What are their applications?
 - b) What is the fate of amino acids after protein degradation?
 - c) What are waxes? Discuss their properties and applications.
 - d) Explain the physiological significance of enzymes with reference to ethanol sensitivity.
 - e) What is substrate level phosphorylation? How is it different from respiration linked phosphorylation?
- Q.3** Answer in brief or write short notes on any **THREE** of the following: **(10)**
- a) Write a note on structure of proteins with reference to its stability.
 - b) Write a note on genetic defects of Urea cycle.
 - c) What is β -oxidation of fatty acid? Explain briefly.
 - d) What is pernicious anemia? Describe briefly.

SECTION-II

- Q.4** Attempt any **TWO** of the following: **(10)**
- a) Describe the electron transport chain in detail.
 - b) Explain the Cori cycle in brief.
 - c) Discuss metabolism of glucose in detail.
- Q.5** Answer the following: **(10)**
- a) What is peroxisomal oxidation of fatty acids?
 - b) What happens to pyruvate under aerobic and anaerobic conditions?
 - c) What are T3 and T4 hormones? What is their significance?
 - d) Draw the structures of glutamic acid, tyrosine, fructose, maltose and any tripeptide.
- Q.6** Answer in **ONE** or **TWO** sentences (Any **FIVE**) **(10)**
- a) How does Penicillin exert its action?
 - b) What are the products of random hydrolysis of starch and glycogen?
 - c) Give four examples of biologically active peptides with their activity.
 - d) What are essential fatty acids? Give suitable examples.
 - e) What is the significance of phosphorylated intermediates in glycolysis?
 - f) Which amino acids absorb at 280nm and why?