

**M. Sc. (Biotechnology) Sem-I / M. Sc. (Medical Biotechnology) Sem- I
(CBCS 2018 Course) : WINTER - 2018**

SUBJECT: BIOCHEMISTRY

Day: Thursday
Date: 25/10/2018

W-2018-1221

Time: 10.00 AM TO 12.00 Noon
Max Marks. 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

SECTION - I

Q.1 Attempt any **FIVE** of the following: **(10)**

- a) What do you understand by rancidity of fat? What are the causative agents?
- b) Define isoelectric pH and zwitterion.
- c) Which amino acids absorbed at 280 nm and why?
- d) What do you understand by enzyme inhibition and enzyme regulation?
- e) What are essential fatty acids?
- f) Name the final acceptor of electrons in oxidative phosphorylation and photophosphorylation.
- g) What do you understand by K_m and V_{max} ?

Q.2 Attempt any **TWO** of the following: **(10)**

- a) What are structural proteins? Describe with suitable examples.
- b) What is Chitosan? Describe briefly. Discuss its application.
- c) Describe omega series of fatty acids in brief with emphasis and its importance for health.

Q.3 Write shot notes on any **TWO** of the following: **(10)**

- a) Calvin Cycle
- b) Carnitine shuttled
- c) Regulation of Glycolysis

SECTION - II

Q.4 Attempt any **FIVE** of the following: **(10)**

- a) Name the organisms that are used for production of proteolytic enzymes on large scale.
- b) Name the enzymes important in fruit juice processing.
- c) Which components help in reducing pollution caused during de-hairing of skin?
- d) What are metalloproteins? Give two examples.
- e) What is the difference between reversible and irreversible inhibition of enzyme?
- f) Why is immobilization of enzyme preferred?
- g) What is HFCS? Which enzyme is used for its commercial preparation?

Q.5 Attempt any **TWO** of the following: **(10)**

- a) Which enzymes are of importance in bakery industry? Explain their role briefly
- b) Explain classification of enzymes in brief.
- c) Describe the application of enzymes for making dairy products.

Q.6 Write shot notes on any **TWO** of the following: **(10)**

- a) Gel filtration technique
- b) Molecular weight determination by electrophoresis techniques
- c) Ion exchange chromatography