

MASTER OF SCIENCE (MEDICAL BIOTECHNOLOGY) (CBCS-2018 COURSE)
M.Sc. (Medical Biotechnology) Sem-I : WINTER :- 2021
SUBJECT: BIOCHEMISTRY

Day : Thursday
Date 3/2/2022

W-20216-2021

Time : 02:00 PM-05:00 PM
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) Give examples of two basic amino acids with their structures.
 - b) Draw the structure of lactose and sucrose. Are these reducing or non-reducing sugars?
 - c) Distinguish between purines and pyrimidines.
 - d) Enlist the enzymes of urea cycle.
 - e) Write a note on membrane lipids.
 - f) What is malto-dextrin? Give two important uses.
 - g) What do you understand by photophosphorylation?
- Q.2** Attempt **ANY TWO** of the following: **(10)**
- a) Explain what happens to pyruvate in anaerobic conditions.
 - b) What is the fate of amino acids generated after protein digestion?
 - c) What is substrate level phosphorylation? Explain with suitable reaction.
- Q.3** Write short notes on **ANY TWO** of the following: **(10)**
- a) Calvin cycle
 - b) β -oxidation of unsaturated fatty acid
 - c) Gluconeogenesis

SECTION-II

- Q.4** Attempt **ANY FIVE** of the following: **(10)**
- a) What are apo-enzymes?
 - b) Enlist the key steps of meat tenderization
 - c) What is enzyme cross linking and what are its advantages?
 - d) Describe briefly-principle of 2D-PAGE technique.
 - e) Write a note on metal activated enzymes.
 - f) What are allosteric enzymes? Explain giving an example.
 - g) What is invert sugar? Give two applications.
- Q.5** Attempt **ANY TWO** of the following: **(10)**
- a) What is papain? What is its mode of action?
 - b) Discuss the application of amylase and cellulase.
 - c) Principle and method of paper chromatography.
- Q.6** Write short notes on **ANY TWO** of the following: **(10)**
- a) Environment friendly strategies for leather processing
 - b) Affinity chromatography
 - c) Proteases and Rennet as enzymes for dairy products

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