



Sessional I (Even) Semester Examination March 2025

Roll no.....

Name of the Course: B.Pharma

Semester: 2nd

Name of the Paper: Biochemistry

Paper Code: BP-203T

Time: 1.5 hour

Maximum Marks: 30

Note:

- (i) This question paper contains three sections
- (ii) All the sections are compulsory
- (iii) All questions should cover COs of the course as per syllabus coverage.

Section-A

MULTIPLE CHOICE QUESTION

10 X 1 = 10 MARKS

S.N	CONTENTS	Cos
1.	Which of the following is NOT a characteristic of lipids? a) Insoluble in water b) Store energy c) Contain nitrogen d) Play a role in cell signaling	CO1
2.	Which of the following best describes the structure of a nucleotide? a) A sugar and a phosphate group only b) A sugar, a phosphate group, and a nitrogenous base c) A sugar and an amino acid d) A fatty acid and a glycerol	
3.	Which of the following is an example of a disaccharide? a) Glucose b) Fructose c) Sucrose d) Starch	
4.	The hydrolysis of triacylglycerols by alkali to produce glycerol and soaps is known as: a) Rancidity b) Saponification c) Decarboxylation d) Oxidative deamination	
5.	Measures the degree of disorder or randomness in a system: a) Enthalpy b) Gibbs free energy c) Entropy d) Redox potential	
6.	In the Citric Acid Cycle, acetyl-CoA combines with which molecule to form citrate? a) Pyruvate b) Oxaloacetate c) Glucose d) Succinate	CO2
7.	Which of the following enzymes is involved in the conversion of glucose-6-phosphate to glucose in the process of gluconeogenesis? a) Glucokinase b) Glucose-6-phosphatase	



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	c) Hexokinase d) Phosphofructokinase	
8.	Which of the following is true regarding the electron transport chain? a) It occurs in the cytoplasm. b) It generates ATP through oxidative phosphorylation. c) It produces NADH and FADH ₂ directly. d) It does not require oxygen.	
9.	In the electron transport chain, what is the role of ATP synthase? a) Pump protons across the membrane b) Accept electrons from NADH and FADH ₂ c) Synthesize ATP from ADP and inorganic phosphate d) Convert oxygen to water	
10.	Which of the following is a consequence of a defect in the enzyme glucose-6-phosphatase? a) Reduced blood glucose levels b) Increased gluconeogenesis c) Glycogen storage disease d) Increased pyruvate production	

Section B

Short Questions: Attempt any two

2x5 = 10

SN	QUESTIONS	CO's
1.	Write in detail about exergonic and endergonic reactions with examples.	CO1
2.	Describe the pathway and energetics involved in glycolysis.	CO2
3.	Describe the pathway involved in glycogen metabolism.	CO2

Section C

Long questions: Attempt any one

1x10 = 10

SN	QUESTIONS	CO's
1	What are amino acids? Write in detail about the chemical nature of amino acids and classify along with structures.	CO1
2	Differentiate between oxidative phosphorylation and substrate level phosphorylation. Write in detail about Electron transport chain along with its mechanism.	CO2