

B.Sc. Semester - 3 (CBCS) Examination
Oct/Nov - 2025 [New Course]
BioChemistry-BC301(Core)

Time: 2:30 Hours**Marks:70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1(A)	Answer the following. (Any One)	(07)
	1. Write in detail about Peptidoglycan. 2. A detailed note on biological importance of mono and disaccharides.	
Que.1(B)	Answer the following. (Any One)	(04)
	1. Short note on: Cellulose. 2. Glycoprotein.	
Que.1(C)	Answer the following (Any Three)	(03)
	1. Define: Stereoisomers. 2. What is mutarotation? 3. Glucose and galactose both are aldose sugar. (True/False). 4. Blood group polysaccharides. 5. Enlist any two examples of glycoproteins.	
Que.2(A)	Answer the following. (Any One)	(07)
	1. Short note on: different classes of fat. 2. Triacylglycerols.	
Que.2(B)	Answer the following. (Any One)	(04)
	1. Saponification. 2. Biologically fats play significant role – justify.	
Que.2(C)	Answer the following (Any Three)	(03)
	1. Define: Rancidity. 2. State the role of phospholipids. 3. Write one characteristic of steroids. 4. Give any two names of glycerophospholipids. 5. What are sphingomyelins?	
Que.3(A)	Answer the following. (Any One)	(07)
	1. Detailed note on: Classification of standard amino acids. 2. Short note on: Determination of amino acid sequence.	
Que.3(B)	Answer the following. (Any One)	(04)
	1. Write on secondary structure of proteins. 2. Globular proteins.	
Que.3(C)	Answer the following (Any Three)	(03)
	1. Define: optical isomerization. 2. What is salting in and out of proteins? 3. Name any two fibrous proteins. 4. Draw the structure of peptide bond formation. 5. All lipoproteins and glycoproteins are metalloproteins. (True/False)	
Que.4(A)	Answer the following. (Any One)	(07)
	1. Write short note on structure and roles of different types of RNA. 2. Explain on structure of gene.	

- Que.4(B) Answer the following. (Any One) (04)
1. Features of DNA double helix.
 2. Structure of RNA.
- Que.4(C) Answer the following (Any Three) (03)
1. What is central dogma?
 2. Define: Genome.
 3. How DNA can be denatured?
 4. Write the name of purines.
 5. What is annealing of DNA?
- Que.5(A) Answer the following. (Any One) (07)
1. Give detailed note on detection of porphyrins.
 2. Write about biological significance of vitamins.
- Que.5(B) Answer the following. (Any One) (04)
1. Bile pigments.
 2. Write in brief about types of porphyrins.
- Que.5(C) Answer the following (Any Three) (03)
1. What is porphyrin nucleus?
 2. Give name of fat-soluble vitamins.
 3. Scurvy is caused by a deficiency of vitamin _____.
 4. Deficiency of vitamin B12 cause beriberi. (True/ False)
 5. Name any two important metalloporphyrin occurs in nature.
