

# CBCS SCHEME



BBT303

Third Semester B.E./B.Tech. Degree Examination, June/July 2024

## Biochemistry + Lab

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.*

*2. M : Marks, L: Bloom's level, C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	Enumerate structure, properties and functions of carbohydrates.	10	L1	CO1
	b.	Derive Henderson-Hasselbalch equation. Explain mechanism of action of buffer with an example.	10	L2	CO1
<b>OR</b>					
Q.2	a.	Classify different levels of protein structure and explain relationship between them.	10	L2	CO1
	b.	Discuss various types of chemical reactions. Explain any two of them in detail with an example.	10	L1	CO1
<b>Module – 2</b>					
Q.3	a.	What is ATP? Explain structure, properties and applications of ATP.	10	L1	CO2
	b.	With a neat sketch, explain Z-scheme of photosynthesis.	10	L2	CO2
<b>OR</b>					
Q.4	a.	Give a detailed note on Electron Transport Chain and Oxidative Phosphorylation.	10	L1	CO2
	b.	Describe various thermodynamic laws used in bio-chemistry.	10	L2	CO2
<b>Module – 3</b>					
Q.5	a.	With a neat sketch, explain Glycolysis pathway.	10	L2	CO3
	b.	Build a condition of Galactosemia.	10	L3	CO3
<b>OR</b>					
Q.6	a.	Explain various disorders of carbohydrates.	10	L2	CO3
	b.	Demonstrate that TCA cycle is amphibolic in nature.	10	L3	CO3
<b>Module – 4</b>					
Q.7	a.	Classify lipoproteins and discuss in detail.	10	L2	CO3
	b.	Develop $\beta$ -oxidation of fatty acid taking palmitic acid as an example.	10	L3	CO4
<b>OR</b>					
Q.8	a.	Discuss various disorders of lipid metabolism.	10	L2	CO3
	b.	Describe about digestion, mobilization and transport of fats.	10	L3	CO4
<b>Module – 5</b>					
Q.9	a.	With a neat sketch, explain denovo synthesis of pyrimidine.	10	L4	CO4
	b.	Infer the clinical disorder, cause and treatment of gout.	10	L3	CO3

OR					
Q.10	a.	With a neat sketch, explain urea cycle that removes toxic $\text{NH}_3$ from human body with its regulation.	10	L3	CO3
	b.	Analyse phenylketonuria under, (i) Enzyme defects (ii) Manifestation (iii) Symptoms (iv) Diagnostic tests	10	L4	CO4

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