

MICROBIAL BIOCHEMISTRY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	In Prokaryotes, the hair like outgrowths which attach to the surface of other bacterial cells are? (i) Flagella (ii) Pilli (iii) Capsule (iv) Plasmid	K1	CO1
	2	Infer the class in which Blue green algae are included? (i) Prokaryotes (ii) Protista (iii) Fungi (iv) Bryophytes	K2	CO1
2	3	During the catabolism of glucose, which of the following is produced only in the Kreb's cycle? (i) ATP (ii) NADH (iii) NADPH (iv) FADH ₂	K1	CO2
	4	What is the primary purpose of fermentation in bacteria? (i) Produce Oxygen (ii) Regenerate NAD ⁺ from NADP (iii) Produces 38 ATP (iv) Convert Pyruvate to Glucose	K1	CO2
3	5	Which of the following instrument is used for sterilising the media cells after it has been prepared? (i) Autoclave (ii) Laminar Air flow (iii) Inoculum needle (iv) Incubator	K1	CO3
	6	Interpret the metal ion that is commonly required to stabilize bacterial alpha amylase and enhance its catalytic activity (i) Calcium (ii) Mercury (iii) Lead (iv) Copper	K2	CO3
4	7	Which of the following is the key regulatory enzyme of fatty acid biosynthesis in both prokaryotes and eukaryotes? (i) Acetyl co A Carboxylase (ii) Fatty acid synthase (iii) Thiolase (iv) Malonyl co A decarboxylase	K1	CO4
	8	Bacteria can synthesize odd chain fatty acids by using which starter molecule? (i) Acetyl co A (ii) Propionyl Co A (iii) Malonyl Co A (iv) Butyryl Co A	K1	CO4
5	9	Show the component of naturally occurring protein (i) D amino acids (ii) L amino acids (iii) both a and b (iv) None of the above	K2	CO5
	10	Infer to the component NOT required for hydroxylation of proline (i) Fe ²⁺ (ii) Oxygen (iii) Ascorbic acid (iv) Succinate	K2	CO5

Cont...

Module No.	Question No.	Question	K Level	CO
1	11.a.	Recall the structure of bacterial cell wall polysaccharide.	K1	CO1
		(OR)		
	11.b.	Label the important photosynthetic apparatus in bacteria.		
2	12.a.	Construct the Glyoxalate pathway in detail.	K3	CO2
		(OR)		
	12.b.	Make use of the phosphotransferase system in Ecoli.		
3	13.a.	Organize how strain improvement used in protoplast fusion technology?	K3	CO3
		(OR)		
	13.b.	Construct the synthesis of Microbial polysaccharides.		
4	14.a.	Interpret the linear pathway of β oxidation of fatty acids.	K5	CO4
		(OR)		
	14.b.	Explain the biosynthesis of hydroxyl fatty acids.		
5	15.a.	Compile the degradation pathway of pyrimidines.	K6	CO5
		(OR)		
	15.b.	Elaborate the Serine glycine pathway and comment on it.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Summarize the mechanism of Photosynthesis.	K2	CO1
2	17	Construct the Entner –Doudorff pathway.	K3	CO2
3	18	Examine the methods, challenges, advantages and applications of SSF.	K4	CO3
4	19	Evaluate the biosynthesis of straight chain fatty acids.	K5	CO4
5	20	Design the Purine biosynthesis.	K6	CO5

Z-Z-Z

END