

2024/FYUG/EVEN/SEM/  
BTCDCS-151T/106

FYUG Even Semester Exam., 2024

BIOTECHNOLOGY

( 2nd Semester )

Course No. : BTCDCS-151T

( Biochemistry )

Full Marks : 70

Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks  
for the questions*

SECTION—A

Answer any *ten* of the following questions :

2×10=20

1. What is amino acid? Write about peptide bond.
2. Write about fibrous and globular protein.
3. Write down the physical properties of proteins.

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4. Define monosaccharides. Draw the structure of glucose.
5. Write down the function of monosaccharides.
6. What is mucopolysaccharide?
7. Define fatty acid.
8. What is steroid?
9. Write a note on purines and pyrimidines.
10. Define active site of an enzyme.
11. What is cofactor?
12. Write a note on lock-and-key model.
13. What is the fate of pyruvate under aerobic and anaerobic condition?
14. What is TCA cycle?
15. Write a note on gluconeogenesis.

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( Continued )

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SECTION—B

Answer any *five* of the following questions :

10×5=50

16. Describe the different levels of structural organization of proteins. Add a note on forces stabilizing protein structure. 10
17. Briefly explain protein purification techniques. 10
18. Describe the structure of disaccharides. Add a note on functions of disaccharides and polysaccharides. 5+5=10
19. Write about homopolysaccharide and heteropolysaccharide. Add a note on glycoproteins and their biological functions. 4+6=10
20. What are essential and non-essential fatty acids? Add a note on phospholipid and glycolipid. 4+6=10
21. Describe the structure of DNA. Add a note on properties of nucleic acids. 6+4=10
22. Give a detailed account of nomenclature and classification of enzymes. Add a note on enzyme inhibition. 6+4=10

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( Turn Over )

( 4 )

23. Define activation energy. Write a note on factors affecting enzyme activity. 4+6=10
24. Describe the steps of glycolysis. Add a note on glycogenolysis. 6+4=10
25. Write about pentose phosphate pathway. Add a note on electron transport chain. 5+5=10

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