

**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.

(2)

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.

(3)

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

(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
