



School of Bio Sciences and Technology

Fall Semester 2023-2024

Continuous Assessment Test – I

Programme Name & Branch B. Tech Biotechnology
Course Name & code: Biochemistry BBIT202L
Class Number (s): VL2023240101978
Faculty Name (s) Dr. V. Subhashree & Dr. T. Kalaivani

Exam Duration: 90 Min.

Maximum Marks: 50

General instruction(s): Answer all the questions

Draw diagrams and structures wherever necessary

| Q. No. | Question | Max Marks | CO | BL |
|--------|--|-----------|-----|-----|
| 1. | a) Are biosynthetic reactions thermodynamically spontaneous? Justify? <i>No, they are endothermic</i> | 5 | | |
| | b) Differentiate enantiomers and diastereoisomers with examples. | 5 | CO1 | BL4 |
| 2. | a) Explain the origin of mitochondria and chloroplast in eukaryotes. | 5 | | |
| | b) Which biomolecule might have been the first gene or catalyst? Explain. <i>RNA & talk about RNA world hypothesis</i> | 5 | CO1 | BL2 |
| 3. | a) Discuss the importance of osmosis in biological system. | 6 | | |
| | b) Calculate the pH of a solution of 5×10^{-4} M NaOH | 4 | CO2 | BL1 |
| 4. | a) Draw the titration curve of acetic acid and explain. <i>3 reac's along with pKa & pH values</i> | 5 | | |
| | b) How bicarbonate buffer is important for physiological function of a cell? | 5 | CO2 | BL3 |
| 5. | a) Sketch the pyranose and furanose forms of anomers of glucose and fructose. | 6 | | |
| | b) Compare non-reducing and reducing sugars with examples. | 4 | CO3 | BL6 |

draw the diagram for kinds of cells in diff. solns, p_H 10 MB