Reg.

No

## GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Third Semester Regular) Examinations, December - 2023

22BBTPC23001 – Fundamentals of Biotechnology

(Biotechnology)

(The figures in the right hand margin indicate marks)(2 x 5 = 10 Marks)Q.1. Answer ALL questions $C$ x 5 $C$ x 5 $C$ x 3 $C$ x 3a. Name three membrane-bound organelles and write down their functions. $C$ x 4 $C$ x 4b. What is lysosomes and explain its role in cellular waste disposal? $C$ x 4 $C$ x 4c. How is the information encoded in the structure of DNA? $C$ x 4 $C$ x 4d. What is the function of phosphatases in gene cloning? $C$ x 4 $K$ 2e. What is bioleaching? How do microorganisms play a role in this process? $C$ x 4 $K$ 2PART - B(15 x 4 = 60 Marks) $L^{2vel}$ $L^{2vel}$ Answer ALL questionsMarks $C$ x 8 $C$ 82. a. Discuss the dynamic nature of the cell membrane, emphasizing the fluid mosaic model and note on its function. $C$ x 1 $K$ 2 $Q$ .1 $Q$ x 1 $Q$ x 2 $K$ 2 $K$ 2b. Explain the structure of prokaryotic cell with reference to bacteria. Discuss the types of plasmids and their roles in bacterial adaptation. $L$ x 4 $C$ x 43.a. Describe the Hershey-Chase experimental using radio-labelled T2 bacteriophage in detail. Include the experimental design, observations, and the implications of the results. $C$ x 4 $K$ 3 $(QR)$ $K$ 4 $C$ x 4 $K$ 4 $C$ x 4 $K$ 4bacteriophage in detailed explanation of the principles underlying Southern blotting. $L$ x 4 $C$ x 4 $L_{V}$ x 4 $L_{V}$ x 5 $L_{V}$ x 4 $L_{V}$ x 4 $L_{V}$ x 5 $L$ x 4 $L$ x 4 $L$ x 4 </th <th>Tiı</th> <th>me: 3 hrs</th> <th>/laximur</th> <th>n: 70 M</th> <th>arks</th>	Tiı	me: 3 hrs	/laximur	n: 70 M	arks	
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bacteria play a role in this environmental clean-up process.						
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