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GIET MAIN CAMPUS AUTONOMOUS GUNUPUR – 765022
B. Tech Degree Examinations, December – 2020
(Fifth Semester)
BBTOE 5053 – Fundamentals of Biotechnology
(Chemical Engineering)

Time: 2 hrs

Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)**(1 x 10 =10 Marks)**Q.1. Answer ALL questions

[CO#] [PO#]

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|---|---|---|-----|-----|
| a. Type strain is used for referring to? | (i) Species
(ii) Family | (ii) Genus
(iv) Division | CO1 | PO1 |
| b. Peptidoglycan layer is present in large quantity in? | (i) Gram-positive bacteria
(iii) Fungi | (ii) Gram-negative bacteria
(iv) Algae | CO1 | PO1 |
| c. How many methods are there for obtaining the plasmid DNA from the bacteria? | (i) 1
(iii) 3 | (ii) 2
(iv) 4 | CO2 | PO1 |
| d. Which of the following instrument is used for the bacterial count? | (i) Counting chamber
(iii) Chemostat | (ii) Microscope
(iv) Turbidostat | CO2 | PO1 |
| e. Genetically different population with the same physical features is known as _____ | (i) Ecosystem
(iii) Community | (ii) Ecads
(iv) Ecotype | CO3 | PO1 |
| f. Which of the following is NOT a plant growth regulator? | (i) Auxin
(iii) Abcistic acid | (ii) Cytokinin
(iv) Polyphenols | CO3 | PO1 |
| g. Which of the following deals with how food is adjudged by the consumer? | (i) Food microbiology
(iii) Sensory analysis | (ii) Product development
(iv) Food physics | CO4 | PO1 |
| h. Hardness of water is due to the presence of salts of _____ | (i) Potassium
(iii) Magnesium | (ii) Chlorine
(iv) Boron | CO4 | PO1 |
| i. The association which involves the exchange of nutrients between two species is referred to as _____ | (i) Mutualism
(iii) Commensalism | (ii) Syntrophism
(iv) Antagonism | CO3 | PO1 |
| j. Which of the following does not occur during binary fission in bacteria? | (i) Cell elongation
(iii) DNA duplication | (ii) Cytokinesis
(iv) Spindle formation | CO2 | PO1 |

PART – B: (Short Answer Questions)**(2 x 5 = 10 Marks)**Q.2. Answer ALL questions

	[CO#]	[PO#]
a. How are bacteria structure are made up of?	CO1	PO1,02
b. Define a growth curve.	CO2	PO1,02
c. What are the applications of microbes in agriculture?	CO3	PO1,02
d. What are the microbes present in sewage water?	CO4	PO1,02
e. What are restriction enzymes?	CO4	PO1,02

PART – C: (Long Answer Questions)**(6 x 5 = 30 Marks)**Answer ANY FIVE questions

	Marks	[CO#]	[PO#]
3. Write a note on lipid bilayer membrane?	6	CO1	PO1,02, 03
4. What are the Nutritional requirements of bacteria under laboratory conditions?	6	CO1	PO1,02, 03
5. Describe in detail construction of recombinant DNA and its brief application?	6	CO2	PO1,02, 03
6. What are the methods of pure culture isolation and techniques involved	6	CO2	PO1,02, 03
7. Write in detail the Micropropagation and its application?	6	CO3	PO1,02, 03
8. What is ecosystem? Write a note on ecosystem and its importance	6	CO3	PO1,02, 03
9. Write in detail the production of Single Cell Protein (SCP)?	6	CO4	PO1,02, 03
10. What are the applications of microbiology?	6	CO4	PO1,02, 03

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