

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION MO/2025)

CLASS: BTECH
BRANCH: BIOTECHNOLOGY

SEMESTER : III/ADD
SESSION : MO/2025

SUBJECT: BE24242 MICROBIOLOGY

TIME: 03 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

		CO	BL
Q.1(a)	What do you understand by culture media for microbes? Discuss the different types of culture media giving example of each type of media and their uses.	[5] 1,2	1
Q.1(b)	Define the term sterilization. Classify the different types of sterilization process their used along with examples.	[5] 1,2	1
Q.2(a)	Discuss the growth curve of bacteria with a suitable graph. 10 <i>Staphylococcus aureus</i> are inoculated into a Korean dish by the hands of a pastry chef. The generation time of <i>S. aureus</i> in the dish at room temperature is 30 minutes. a) How many <i>S. aureus</i> are in the pie after 6 hours at RT? b) After 36 hours?	[5] 2,3	1
Q.2(b)	Classify the microbes based on the Nutritional and physical requirements giving examples.	[5] 2,3	2
Q.3(a)	With the help of neat and labelled diagram explain the process of waste water treatment.	[5] 2,3	3
Q.3(b)	Write a short note on industrial microbiology. Discuss the properties of a useful industrial microbe. Give the names of the microbes and the industrial products produced by them in a tabular form.	[[5] 3,4	4
Q.4(a)	Write a short note on microbial interactions with plants and animals with examples.	[5] 3,4	1
Q.4(b)	What do you mean by deterioration of agricultural products? Discuss the ways and means to protect the agricultural products from the microns and their safe storage.	[5] 1,4	3
Q.5(a)	What do you understand by natural resistance and nonspecific defence mechanisms in our body?	[5] 4,5	1
Q.5(b)	Discuss any two diseases caused by bacteria and virus giving a detailed description of cause, source, treatment and prevention.	[5] 1,5	5

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