

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION MO/2022)

CLASS: BTECH
BRANCH: BIOTECHNOLOGY

SEMESTER : III
SESSION : MO/2024

SUBJECT: BE203 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 is sterilization? Explain different types of sterilization process along with examples.	[5] 1	1
Q.1(b)	Why do we stain the microbes? Discuss the different types of staining giving example of each type of stain.	[5] 1	1
Q.2(a)	With suitable graph, discuss the phases of growth curve of bacteria. A bacteria culture initially contains 1500 bacteria and doubles in every half an hour, Find the size of the bacterial population after every 2 hours.	[5] 2	1
Q.2(b)	Draw a diagram of typical virus and label it. What do you mean by archaebacteria? Discuss about the different classes of archaebacteria giving examples.	[5] 2	2
Q.3(a)	Explain the process involved in the treatment of waste water with the help of a diagram.	[5] 1	3
Q.3(b)	Explain the role of bacteria in cleaning the environment by bioremediation and bioleaching of the metals? Give examples	[5] 2	4
Q.4(a)	Discuss about microbial interactions of microbes with plants and animals with examples.	[5] 2	1
Q.4(b)	What is biodeterioration? What are the methods to control the microbes infecting the agricultural products and discuss about the strategies for their safe storage.	[5] 1	3
Q.5(a)	Write a short note on the microbial flora of healthy human host along with examples of microbes. State any two natural resistance and nonspecific defense mechanism in our body	[5] 1	1
Q.5(b)	Describe any two diseases caused by any bacteria, fungi or viruses.	[5] 2	5

:21/11/2024:E