

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BTECH
BRANCH: BIOTECHNOLOGY**

**SEMESTER: III
SESSION: MO/2022**

SUBJECT: BE203 MICROBIOLOGY

TIME: 2 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 25.
 2. Candidates attempt for all 25 marks.
 3. Before attempting the question paper, be sure that you have got the correct question paper.
 4. The missing data, if any, may be assumed suitably.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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			CO	BL
Q1	(a) Give a brief history of microbiology.	[2]	A1	1
Q1	(b) Name the different parts of microscope and give their functions. Differentiate between light microscope and electron microscope.	[3]	A1	1
Q2	(a) What do you mean by pure culture?	[2]	A2	2
Q2	(b) Discuss the different types of media and their uses along with some examples.	[3]	A1	2
Q3	(a) Why do we stain the microorganisms before visualizing them under microscope? Give examples of stains used in microbiology	[2]	A2	2
Q3	(b) Discuss the rationale and procedure of Grams Staining.	[3]	A2	2
Q4	(a) Write a short note on archaebacteria.	[2]	B2	1
Q4	(b) Discuss the growth curve of bacteria giving the formula for generation time.	[3]	B2	2
Q5	(a) What is sterilization? Classify the different types of sterilization.	[2]	B2	2
Q5	(b) A researcher inoculated 10 cells of <i>E. coli</i> into the nutrient broth. How many cells would there be after 5 hours if <i>E. coli</i> has a generation time of 20 minutes.	[3]	B2	2

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