

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

CLASS: BTECH  
BRANCH: BIOTECHNOLOGY

SEMESTER : III  
SESSION : MO/19

SUBJECT: BE203 MICROBIOLOGY

TIME: 3 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. Before attempting the question paper, be sure that you have got the correct question paper.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Summarize the historical perspectives of microbiology and enumerate the applications of microbiology. [5]  
Q.1(b) Define sterilization and classify sterilization along with description and examples. [5]
- Q.2(a) Why viruses are called connecting link between living and non living? Describe a virus with a help of neat diagram. [5]  
Q.2(b) Discuss the generation time of bacteria. Give a descriptive account of the growth curve of bacteria. [5]
- Q.3(a) Describe the different steps involved in the water treatment. [5]  
Q.3(b) What are the secondary metabolites produced by the microbes? Enumerate any five economically important microbes and their products. [5]
- Q.4(a) Discuss the different types of host-pathogen interactions in plants along with examples. [5]  
Q.4(b) What are rhizoplane, rhizosphere and biofertilizers? Give applications of a biofertilizers. [5]
- Q.5(a) Discuss about the different types of microbial flora of healthy human host. [5]  
Q.5(b) Discuss any two diseases in detail caused by protozoa. [5]

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