



UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 3rd Semester Examination, 2020

SEC1 (P1)-MICROBIOLOGY

Full Marks: 60

ASSIGNMENT

The figures in the margin indicate full marks.

The question paper contains Paper-I and Paper-II. Candidates are required to answer any *one* from the *two* papers and they should mention it clearly on the Answer Book.

Paper-I

Answer any six questions of the following

10×6 = 60

1. Describe construction and working principle of a laboratory autoclave. How can functioning of an autoclave be validated? 7+3
2. What does most probable number (MPN) mean and why is it considered a qualitative test? Describe its principle with advantages and disadvantages. 3+7
3. Discuss about biochemical principle of LAL test for detecting bacterial endotoxins. Why is endotoxin testing important and how is endotoxin MVD calculated in this test? 6+4
4. Discuss the principles of HACCP. How is HACCP relevant in food sanitation? 7+3
5. Describe different types of biosafety cabinets. 10
6. Explain the beneficial role of microorganism and microbiology trained personnel in pharmaceutical industry. 10
7. Write a note on microbial standard of food and water. Enlist the name and role of agencies involved in developing microbial standard in world. 10
8. Discuss in details the importance of Good Laboratory Practices (GLP). 10

Paper-II

Answer any six questions of the following

10×6 = 60

1. Write a note on the characteristics and role of *Frankia* in agriculture. 10
2. How bioinsecticides advantageous over chemical pesticides? 10
3. Write down the isolation process of phosphate solubilizing microbes with reference to culture medium composition. 10
4. Viruses are used in pest control. Justify it with examples. 10
5. Discuss about VAM and write its role in agriculture. 10
6. How can mass inoculum production of biofertilizers be done? 10
7. Write down the role of *Azotobacter* in rice cultivation. 10
8. Explain the factors affecting the efficiency of biofertilizers. 10

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