



UNIVERSITY OF NORTH BENGAL

B.Sc. Honours Part-II Examination, 2021

MICROBIOLOGY

PAPER-IV

Full Marks: 70

ASSIGNMENT

The figures in the margin indicate full marks.

1. Answer the following questions (any **four**): 15×4 = 60
 - (a) What are the different parameters for measuring microbial growth? Discuss about one device with its function, working principle and usefulness which can maintaining continuous culture. 7+8
 - (b) Describe the biochemical pathway of ethanol fermentation starting from glucose. Explain why enzymes are sensitive to pH and temperature. 9+6
 - (c) Give a concise account of the classification of antibiotics on the basis of their mode of action. Draw the structure of penicillin antibiotic and indicate the site of beta lactamase activity. 12+3
 - (d) Give a detailed comparative account of different types of enzyme inhibition. 15
 - (e) Discuss about sterilization using chemicals. While growing on Triple sugar Iron agar *Shigella* gives black colony. Explain. 10+5
 - (f) Discuss in detail about assimilatory and dissimilatory sulphate reduction. 15

2. Answer the following questions (any **one**): 10×1 = 10
 - (a) Give a detailed account of oxygenic photosynthesis. 10
 - (b) A bacterium is grown in a batch culture using a single carbon source. It was shown that two horizontal lines appeared in the growth curve plotted. Explain the reason. How is generation time determined in a bacterial growth curve? 4+6

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