



**UNIVERSITY OF NORTH BENGAL**  
B.Sc. Honours 5th Semester Examination, 2020

**CC11-MICROBIOLOGY**

Full Marks: 40

**ASSIGNMENT**

*The questions are of equal value  
The figures in the margin indicate full marks.*

**Answer any four questions from the following**

10×4 = 40

1. Describe in detail the various methods and applications of enzyme immobilization. 10
2. An antibiotic producing fungus 'A' was isolated from soil. It was found that it produced 10 International Units (I.U.)/ml. As a student of microbiology what strategies will you use so that the yield can be enhanced to 100 International Units/ml. 10
3. A fungus was cultivated in laboratory scale fermentors. One of the fermenter was operated in a static condition and the other was operated in a submerged condition. What will be the growth characteristics with respect to type of biomass yield and oxygen consumption? 10
4. Describe in detail the microbial production process of penicillin. 10
5. Design a downstream processing experiment to isolate a secondary metabolite produced intracellularly. 10
6. Describe the general methods for isolation of industrially important microbes. What do you mean by crude and synthetic media? 8+2 = 10

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