

(i) Printed Pages: 3]

Roll No.

(ii) Questions : 9]

Sub. Code :

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Exam. Code :

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**B.A./B.Sc. (General) 2nd Semester
Examination**

1047

INDUSTRIAL MICROBIOLOGY

(Elective)

**Paper : IMB 201 (Fundamentals of
Microbiology-II)**

Time : 3 Hours]

[Max. Marks : 33

Note :- Attempt *five* questions in all, including Question No. 1 which is compulsory and selecting *one* question from each Unit.

1. Compulsory Questions :

- (a) Differentiate between substrate level phosphorylation and photophosphorylation.
- (b) Differentiate between fermenter and bioreactor.
- (c) Why viruses are regarded as microorganisms ?

- (d) Explain the process of ammonification.
- (e) What are psychrophiles ?
- (f) How will you define culture ? 1.5×6=9

Unit-I

2. Draw a well labelled ultra-structural diagram of :
- (a) An algal cell
- (b) The bacterial cell. 3,3
3. Describe the downstream processing. 6

Unit-II

4. Write notes on the following :
- (a) Thermophiles
- (b) Medium formulation. 3,3
5. Discuss the microbial diversity of extreme environments. 6

Unit-III

6. Describe various preservation methods for microbial cultures. Also highlight their advantages and disadvantages. 6

7. Write notes on the following :

- (a) Culture preservation in liquid nitrogen.
- (b) Maintenance of stability of the preserved culture.

3,3

Unit-IV

8. Discuss the breakdown of carbohydrates through glycolysis.

6

9. Compare and contrast the nitrogen fixation in symbiotic and free living system.

6