

**D 2711**

Name.....

Reg. No. ....

**FIRST SEMESTER M.Sc. (MICROBIOLOGY) DEGREE EXAMINATION,  
JANUARY 2005**

**Paper I—GENERAL MICROBIOLOGY**

Time : Three Hours

Maximum : 80 Marks

**\*Section A**

*Write about/ answer all the questions, each in two or three sentences.*

1. Generation time.
2. Anaerobic Jar.
3. Halophilic organisms.
4. Selective media.
5. Role of ribosomes.
6. Plasmids.
7. Locomotion in bacteria.
8. Breeds count.
9. Lyophilization.
10. Mutagens.
11. Lysogenic bacteriophage.
12. Biodegradation.
13. DNA hybridisation.
14. Methanogenesis.
15. Transfer RNA and its role.
16. Uses of Nephelometry.
17. Biological Nitrogen fixation.
18. Pathogenicity.
19. Volulin granules.
20. Serotyping.

(20 x 2 = 40 marks)

**Section B**

*Write note on/ discuss any five of the following.*

1. Bacterial taxonomy.
2. Methods of quantitation of microbes.
3. Genetic variations in micro-organisms.
4. Culture media and their classification.
5. Methods of preservation of Microbial cultures.
6. Factors influencing the growth of microbes.
7. Growth curve of bacteria and its significance.

(5 x 8 = 40 marks)

**C 28080**

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**SECOND SEMESTER M.Sc. (MICROBIOLOGY) DEGREE EXAMINATION  
AUGUST 2003**

Paper VI—INDUSTRIAL MICRO BIOTECHNOLOGY

Maximum : 80 Marks

Time : Three Hours

A. Answer *all* questions in *two* or *three* sentences :

- 1 Specify the advantages of **bioprocess** over chemical processes.
- 2 What are **auxotrophic** mutants ? What is their use ?
- 3 What is **CSTR** ? What is its uses ?
- 4 Specify the importance of **fedbatch** culture.
- 5 What are the differences between a gate valve and a globe valve ?
- 6 What is critical oxygen demand ?
- 7 What is Placket and Burman model ? Specify its use.
- 8 Explain the principle in ammonium sulphate fractionation.
- 9 What are the differences between turbulent flow and laminar flow ?
- 10 Explain the principle involved in distillation.
- 11 What is the doubling time of a bacterial culture growing with unit specific growth rate ?
- 12 What is crowded plate technique ?
- 13 What is ICI process ? What is its significance ?
- 14 Comment on the role of Ammonium Per Sulphate in **PAGC**.
- 15 Give a brief account on continuous **sterilination**.
- 16 What is the use of sulphite oxidation method ?
- 17 What is **Sonication** ?
- 18 What are the **antifoam** agents ? Why they are used ?
- 19 Give a brief account on the different methods of drying used in the down stream processing of fermentation products.
- 20 What are the differences between **SSF** and **SMF** ?

(20 x 2 = 40 marks)

B. Write a note on any *five* of the following :---

- 1 Methods of strain improvement.
- 2 Valves used in **bioreactors**.
- 3 Bioassays.
- 4 Media designing in fermentation.
- 5 Kinetics of batch and continuous culture.
- 6 Control of **bioreactors**.
- 7 Methods of DNA transfer.

(5 x 8 = 40 marks)