

C 7026

Name.....

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, AUGUST 2005

Microbiology

Paper VI—INDUSTRIAL MICROBIOTECHNOLOGY—CONCEPTS AND DESIGN

Time : Three Hours

Maximum : 80 Marks

. Section A

I. Answer *all* questions in *two* or *three* sentences :-

- 1 Specific growth rate.
- 2 Continuous culture.
- 3 Affinity chromatography.
- 4 Baffles in a bioreactor.
- 5 Salting out technique.
- 6 Air lift fermentor.
- 7 Theological properties.
- 8 Electro dialysis.
- 9 Crowded plate technique.
- 10 Enrichment culture.
- 11 Volumetric oxygen transfer coefficient.
- 12 Market potential in fermentation industry designing.
- 13 Placket and Burman model.
- 14 Methanogenesis.
- 15 Enzyme precipitation with organic solvents.
- 16 Pruteen production.
- 17 Inhibitors in fermentation medians.
- 18 Yield coefficient.
- 19 Mass transfer coefficient.
- 20 Antifoam agents.

(20 x 2 = 40 marks)

Section B

II. Write notes on any *five* of the following :-

- 1 Indirect methods of industrial sterilization.
- 2 Kinetics of Batch culture.
- 3 Media designing in fermentation.
- 4 Solid state fermentation.
- 5 Methods of product drying in fermentation.
- 6 Instrumentation of Bioreactors.
- 7 Methods of screening in fermentation

(5 x 8 = 40 marks)

C 7024

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Microbiology

Paper IV—IMMUNOLOGY

Time : Three Hours

Maximum : 80 Marks

Section A

*Answer all questions.
Each question carries 2 marks.*

Write very briefly on :

1. Direct Coombs test.
2. Adjuvants.
3. Plasma cells.
4. Lymphokines.
5. MHC restriction.
6. Suicide genes.
7. Microphages.
8. Opsonins.
9. T-cell receptors.
10. Lattice hypothesis.
11. Radial immunodiffusion.
12. Properdin pathway.
13. Neo-antigens.
14. Rheumatoid arthritis.
15. Serum sickness.
16. Contact dermatitis.
17. HLA typing.
18. Rocket electrophoresis.
19. Monoclonal antibodies.
20. Cutaneous anaphylaxis.

(20 x 2 = 40 marks)

Section B

*Answer any five questions.
Each question carries 8 marks.*

Write notes on :

- | | |
|-----------------------|---------------------------------------|
| 1. Immunoprophylaxis. | 2. Biological effects of complements. |
| 3. Lymphocytes. | 4. Radioimmunoassay. |
| 5. MHC. | 6. Atopy. |
| 7. Gene therapy. | |

(5 x 8 = 40 marks)