

**D 12977**.....

**Name** .....

**Reg. No** .....

**THIRD SEMESTER M.Sc. (MICROBIOLOGY) DEGREE EXAMINATION  
FEBRUARY 2006**

**Paper VIII – MOLECULAR BIOLOGY AND GENETIC ENGINEERING**

**Time : Three Hours**

**Maximum : 80 Marks**

*Wherever needed answers must be supported by structural illustrations and diagrams.*

**Section A**

*Answer **all** questions.*

*Each question carries 2 marks.*

Write very briefly on:-

- |  |   |
|--|---|
| 1. Restriction <b>Endonucleases</b> .  | 2. Base sequence of DNA.                      |
| 3. Transfer RNA.                       | 4. Gene Libraries.                            |
| 5. Single stranded RNA <b>phages</b> . | 6. Recombination in Bacterial Transformation. |
| 7. Co-transduction.                    | 8. Linkage.                                   |
| 9. <b>Plasmids</b> .                   | 10. Transformation Proteins in DNA Viroses.   |
| 11. Northern blotting.                 | 12. Discontinuous Replication of DNA.         |
| 13. Regulation of Gene Expression.     | 14. <b>Cosmids</b> .                          |
| 15. <b>Transgenic</b> plants.          | 16. Blunt-End Ligation.                       |
| 17. Transcription in Gene Expression.  | 18. Gene Libraries.                           |
| 19. Sex <b>Plasmid</b> .               | 20. c-DNA.                                    |

(20 x 2 = 40 marks)

**Section B**

*Answer any **five** questions.*

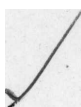
*Each question carries 8 marks.*

Write notes on:-

1. Events at the Replication of Fork DNA.
2. The Processing of Prokaryotic RNA.
3. Outline of Translation.
4. Properties of Prokaryotic Initiator tRNA.
5. The Lysogenic cycle.
6. Synthesis of rRNA and tRNA.
7. Properties of Phages.

x 8 = 40 marks)

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Name.....

Reg. No.....

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, AUGUST 2006**

Microbiology

MB 2.3 T—INDUSTRIAL MICROBIOLOGY

(2005 admissions)

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Write about / Answer **all** the questions each in 2 or 3 sentences.  
Each question carries 2 marks.*

- |   |  |
|---|--|
| 1. Continuous fermentation.                   | 2. <b>Heterolactic</b> fermentation.         |
| 3. Strain stability.                          | 4. <b>Turbidostat</b> .                      |
| 5. Storage ageing of beer.                    | 6. Mashing in beer brewing.                  |
| 7. Strain improvement by <b>mutagenesis</b> . | 8. Cloning vector.                           |
| 9. Deep jet <b>fermenter</b> .                | 10. <b>Spirulina</b> .                       |
| 11. Vitamin B <sub>12</sub> production.       | 12. Use of <b>proteases</b> in beer brewing. |
| 13. Baker's yeast.                            | 14. Solid substrate <b>fermentation</b> .    |
| 15. Hops.                                     | 16. <b>Antifoam</b> agents.                  |
| 17. GRAS status.                              | 18. Clostridium <b>acetobutylicum</b> .      |
| 19. Fortified wines.                          | 20. Lactic acid production.                  |

(20 x 2 = 40 marks)

**Section B**

*Write note **on / Discuss** any **five** of the following.  
Each question carries 8 marks.*

21. Isolation and screening of antibiotic producers.
22. Strain improvement.
23. Downstream processing.
24. Citric acid production.
25. Bioassays.
26. Media, and vessel sterilization for fermentation.
27. Production of **SCP**.

(5 x 8 = 40 marks)