

**FOURTH SEMESTER M.Sc. MICROBIOLOGY  
DEGREE EXAMINATION, JULY 2009**

Microbiology

**MB4 – IT MICROBIAL BIOTECHNOLOGY**

(2005 Admissions)

Maximum : 80 Marks

Time : Three Hours

**Section A**

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

Write briefly on:

1. Bioemulsifiers.
2. Immobilization of enzymes by entrapment.
3. *Thiobacillus ferrooxidans*.
4. *Phosphobacteria*.
5. *Bacillus thuringiensis*.
6. Edible vaccines.
7. Microbial Enhanced Oil Recovery.
8. *Alkalophiles*.
9. Feed yeasts.
10. Monoclonal antibodies.
11. Transformation of steroids.
12. *Xenobiotics*.
13. *Probiotics*.
14. *Agrobacterium tumefaciens*.
15. Yeast products.
16. Biopolymers.
17. VAM.
18. Oil spills degradation by microbes.
19. Coal bioprocess to eliminate sulphur.
20. Gene therapy.

(20 x 2 = 40 marks)

**Turn over**

**Section B**

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

Explain the following:-

1. Yeasts and their uses.
2. Microbial production of fuels.
3. Microbial leaching of ores.
4. Bioreactor designs for animal cell culture.
5. Microbial insecticides.
6. Genetically modified foods.
7. Techniques of immobilization of cells.

(5 x 8 = 40 marks)