

**(DMB 01 (NR))**

M.Sc. (Previous) DEGREE EXAMINATION, DECEMBER 2012.

First Year

Microbiology

Paper I — INTRODUCTION MICROORGANISMS

Time : Three hours

Maximum : 80 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Robert Koch
2. Germ theory of fermentations
3. Mycoplasmas
4. *Agrobacterium*
5. Prions
6. HIV
7. Protozoa classification
8. Economic importance of Fungi.

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Write an account on the discovery of antibiotics.  
Or  
(b) Give a comparative account of Prokaryotic and Eukaryotic cell.
10. (a) Describe the general characters of Cyanobacteria and Archaeobacteria.  
Or  
(b) Give an account on Rhizobium and Bacillus.

11. (a) Write an account on the Ultra structure and replication of TMV.

Or

(b) Describe the discovery and chemistry of Viruses.

12. (a) Describe the structure and economic importance of Microalgae.

Or

(b) Give an account on reproduction and significance of Protozoa.

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**(DMB 02 (NR))**

M.Sc. (Previous) DEGREE EXAMINATION, DECEMBER 2012.

First Year

Microbiology

Paper II- MICROBIOLOGICAL METHODS

Time : Three hours

Maximum : 80 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Dark field microscopy.
2. Simple staining.
3. Glove box techniques.
4. MPN method.
5. TLC.
6. Pock method.
7. Autoradiography.
8. Mass Spectroscopy.

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the composition and preparation of Bacteriological media.  
Or  
(b) Describe the principle, methodology and applications of TEM.
10. (a) Describe the methods of isolation of Bacteria.

Or

- (b) Describe the methods of maintenance and preservation of microbial cultures.
11. (a) Write an account on isolation and purification of Viruses.

Or

- (b) Describe the various techniques of Centrifugation.
12. (a) Describe the principle, methodology and applications of UV-VIS Spectrophotometry.

Or

- (b) Write an account on Electrophoresis.
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**(DMB 03 (NR))**

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First Year

Microbiology

Paper III — MICROBIAL PSYCHOLOGY AND BIOCHEMISTRY

Time : Three hours

Maximum : 80 marks

SECTION A – (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Active transport.
2. Synchronous culture.
3. Methylophs.
4. Ion oxidizers.
5. Kreb's Cycle.
6. ATP structure.
7. Oxidation reduction potential.
8. Purines.

SECTION B – (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the Nutritional types of Bacteria.  
Or  
(b) Describe the factors affecting Bacterial growth.
10. (a) Describe the anoxygenic Photosynthesis.  
Or  
(b) Write an account on chemoautotrophy.

11. (a) Explain different types of Phosphorylations.

Or

(b) Write an account on Glycolysis.

12. (a) Describe the properties of Isoenzymes.

Or

(b) Write an account on the nature and classification of Enzymes.

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**(DMB 04 (NR))**

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First Year

Microbiology

Paper IV — ENVIRONMENTAL AND AGRICULTURAL MICROBIOLOGY

Time : Three hours

Maximum : 80 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Aeroallergens.
2. Coli form test for water quality.
3. Transformation of Nitrogen
4. Diversity of soil microbes.
5. Cyanobacterial bioinoculants.
6. Ectotrophic mycchorizae.
7. Plant quarantine.
8. Biological control of plant diseases.

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the various Air sampling techniques.

Or

- (b) Describe the methods of sewage treatment.

10. (a) Describe the methods of isolation of soil microflora.

Or

(b) Write an account on soil organic matter decomposition.

11. (a) Write an account on phosphate solubilizing microorganisms.

Or

(b) Write an account on Vesicular-arbuscular Mycchorizae.

12. (a) Describe the symptoms caused by plant pathogenic fungi and Viruses.

Or

(b) Write an account on the development of disease resistant varieties.

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