

(DMB01)

M.Sc.(Previous)DEGREE EXAMINATION, DECEMBER – 2015

First Year

MICROBIOLOGY

Paper – I : Introduction Microorganisms

Time : 3 Hours

Maximum Marks: 70

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**SECTION-A**

**Answer any Five questions**

**(5×6=30)**

- 1) Contributions of Leeuwenhoek.
- 2) Differences between prokaryote and eukaryote.
- 3) Mycoplasmas
- 4) Bergey's systematic bacteriology
- 5) HIV
- 6) Classification of Virus
- 7) Economic importance of fungi
- 8) Classification of Protozoa

**SECTION-B**

**(4×10=40)**

**Answer all questions**

- 9) Give an account on microbial biodiversity.

OR

Discovery of antibiotics.

- 10) Write an essay on principles of bacterial taxonomy.

OR

Write about Rhizobium and Agrobacterium.

*11)* Write an essay about morphology and chemistry of viruses.

OR

Give an account on ultra structure and replication of T<sub>4</sub> phage.

*12)* Explain reproduction in protozoa.

OR

Give a detailed account on classification of fungi.



(DMB02)

M.Sc. (Previous) DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of First Year)

MICROBIOLOGY

Paper - II : Microbiological Methods

Time : 3 Hours

Maximum Marks: 70

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**SECTION-A**

**Answer Any Five of the following**

**(5×6=30)**

- 1) TEM.
- 2) Simple staining.
- 3) Baiting technique.
- 4) Gaspak.
- 5) TLC.
- 6) Plant tissue culture method of virus.
- 7) Mass spectroscopy.
- 8) Auto radiography.

**SECTION-B**

**Answer all of the following**

**(4×10=40)**

- 9) Give a detailed principle and application of phase contrast microscopy?

OR

Explain different staining methods used in bacteriology?

- 10) Describe different methods used for isolation of bacteria?

OR

Describe maintenance and preservation of bacterial culture?

**11)** Write the differences between differential and density gradient centrifugation?

OR

Describe different methods of isolation and Purification of virus?

**12)** Write about GM counter and LSC?

OR

Give a detailed account on two dimensional gel electrophoresis?



(DMB03)

M.Sc. (Previous) DEGREE EXAMINATION, DECEMBER – 2015

First Year

MICROBIOLOGY

Paper - III : Microbial Physiology and Biochemistry

Time : 3 Hours

Maximum Marks: 70

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**SECTION -A**

**(5 × 6 = 30)**

**Answer any five questions**

- 1) Nutritional types of bacteria.
- 2) Measurement of cell number and cell mass.
- 3) Anoxygenic bacteria.
- 4) Sulfur Oxidisers.
- 5) Redox potential.
- 6) Ethanol fermentation.
- 7) Pyrimidines.
- 8) Allosteric enzymes.

**SECTION -B**

**(4 × 10 = 40)**

**Answer All questions**

- 9) Describe the process of active transport and passive transport of ions.

OR

Describe different factors influencing bacterial growth.

- 10) Describe light reaction of anoxygenic bacteria.

OR

Write an essay on Methylophs.

*11)* Describe HMP pathway.

OR

Write an essay on Lactic acid fermentations.

*12)* Explain the mechanism of enzyme catalysis.

OR

Describe the structure of DNA.



(DMB04)

M.Sc. (Previous) DEGREE EXAMINATION, DECEMBER – 2015

(First Year)

**MICROBIOLOGY**

**Paper - IV : Environmental and Agricultural Microbiology**

**Time : 3 Hours**

**Maximum Marks: 70**

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**SECTION -A**

**(5 × 6 = 30)**

**Answer any five of the following**

- 1) Microbial propagules.
- 2) Sewage treatment.
- 3) Soil environment.
- 4) Transformation of Iron.
- 5) PGPR.
- 6) Azospirillum.
- 7) Powdery mildew.
- 8) Plant quarantine.

**SECTION -B**

**(4 × 10 = 40)**

**Answer All of the following**

- 9) a) Describe different types of air sampling technique.

OR

- b) Give an account on different types of water borne pathogens.

- 10) a) Explain the process of carbon transformation in the soil.

OR

- b) Describe different methods of isolation of soil microflora.

**11)** a) Give a detailed account on mycorrhiza and its importance in agriculture.

OR

b) Give a detailed account on bioinoculants.

**12)** a) Give an account on different types of chemical control measures for plant diseases control.

OR

b) Give a detailed account on black stem rust of wheat.

