(DMB 21)

M.Sc. DEGREE EXAMINATION,
NOVEMBER 2021.

Second Year

Micro-Biology

MEDICAL MICROBIOLOGY

Time : Three hours Maximum : 70 marks

SECTION A — (5 × 6 = 30 marks)

Answer any FIVE of the following.

1. Normal flora of Respiratory tract

2. Phagocytosis

3. Yersinia pestis

4. Aspergillosis

5. Hepatitis

6. Measles

7. Cephalosporins

8. Imidazoles

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the chemical barriers to infection.

Or

(b) Explain the concept of virulence, invasive factors, Bacterial toxins and their role in pathogenesis.

10. (a) Explain the pathogenesis, symptoms, epidemiology, diagnosis and control of the disease caused by Shigella dysenteriae.

Or

(b) Write an account on superficial Dermatomycosis.

11. (a) Describe the causative organism, symptoms, and remedial measures of Chicken pox.

Or

(b) Explain the factors responsible for resurgence and emergence of infectious diseases.

12. (a) Describe the development of Chemotherapy and properties of chemotherapeutic drugs.

Or

(b) Describe the methods of collection , transport and processing of the specimens.

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(DMB 22)

M.Sc. DEGREE EXAMINATION,
NOVEMBER 2021.

Second Year

Micro-Biology

IMMUNOLOGY AND CELLULAR MICROBIOLOGY

Time : Three hours Maximum : 70 marks

SECTION A — (5 × 6 = 30 marks)

Answer any FIVE of the following.

1. Innate immunity

2. Humoral immunity

3. RIA

4. Agglutination

5. Trigger mechanism

6. Induced endocytosis

7. Endocrine hormone signalling

8. Signal transduction in chemotaxis

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the structure and functions of secondary lymphoid organs.

Or

(b) Explain the nature, structure and functions of Major hystocompatability.

10. (a) Explain the types of hypersensitivity reactions and their significance.

Or

(b) Describe the types of secretion systems and secretion apparatus.

11. (a) Explain the molecular mechanisms of adhesions and bacterial adhesions.

Or

(b) Write an account on the mechanism of Bacterial invasion.

12. (a) Describe the prokaryotic cell to cell signalling and their significance

Or

(b) Explain triggering, effector molecules of apoptosis and induction of apoptosis by microbes.

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(DMB 23)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2021.

Second Year

Microbiology

MICROBIAL GENETICS AND MOLECULAR BIOLOGY

Time : Three hours Maximum : 70 marks

SECTION A — ($5 \times 6 = 30$ marks)

Answer any FIVE of the following.

1. Nature of Plasmids
2. Modern concept of Gene
3. Types of DNA damages
4. SOS repair of DNA
5. Transcription
6. Translation
7. Tn3 transposons
8. Mechanism of transposition

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the different theories of gene concept.

Or

(b) Explain the genome organisation and map of T4 phage.

10. (a) Explain the components, mechanism, unidirectional and multidirectional replication of DNA.

Or

(b) Describe the types of Mutations and their significance.

11. (a) Explain the Regulation of Gene expression.

Or

(b) Write an account on the genetics of Nitrogen fixation.

12. (a) Describe the principle, methodology and applications of PCR.

Or

(b) Describe the production and applications of transgenic animals.

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(DMB 24)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2021.

Second Year

Micro-Biology

FOOD AND INDUSTRIAL MICROBIOLOGY

Time : Three hours Maximum : 70 marks

SECTION A — (5 × 6 = 30 marks)

Answer any FIVE of the following.

1. Dye reduction tests
2. ATP photometry
3. Microorganisms in Milk
4. Quality testing of Milk
5. Chelators
6. Precursors
7. Fed batch culture
8. Continuous culture.

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the causes of food spoilage and microbial spoilage of vegetables.

Or

(b) Describe the various methods of food preservation.

10. (a) Explain the fermented foods such as Sauerkraut Vinegar and, Beer.

Or

(b) Describe the various types of Single Cell Proteins and their importance.

11. (a) Explain the design of fermentor, body construction, aeration and agitation.

Or

(b) Describe the methods of strain improvement of microorganisms.

12. (a) Write an account on the solid state fermentations and their importance.

Or

(b) Describe fermentative production of enzymes and their importance.

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