

(DMB 21)

M.Sc. DEGREE EXAMINATION,

DECEMBER 2019.

Second Year

Microbiology

MEDICAL MICROBIOLOGY

Time : Three hours

Maximum : 70 marks

SECTION A – (5 × 6 = 30 Marks)

Answer any FIVE of the following.

1. Significance of normal flora
2. Concept of virulence
3. *Treponema pallidum*
4. Aspergillosis
5. Oncoviruses
6. Hepatitis
7. Cephalosporins
8. Sulpha drugs.

SECTION B – (4 × 10 = 40 Marks)

Answer ALL questions.

9. (a) Describe the mechanical barriers to infection.
Or
(b) Write an account on bacterial toxins and their role in pathogenesis.
10. (a) Describe the symptoms, epidemiology, diagnosis and control methods of the disease caused by *Corynebacterium diphtheriae*.
Or
(b) Write an account on dermatomycoses.

11. (a) Write an account on the viral disease caused by Rabies.

Or

(b) Describe the protozoan disease caused by Plasmodium species.

12. (a) Describe the methods of transmission and control of epidemics.

Or

(b) Describe the biochemical tests used for diagnosis of bacterial pathogens.

(DMB 22)

M.Sc. DEGREE EXAMINATION,
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Microbiology

IMMUNOLOGY AND CELLULAR MICROBIOLOGY

Time : Three hours

Maximum : 70 marks

SECTION A – (5 × 6 = 30 Marks)

Answer any FIVE of the following.

1. Neutrophils
2. Macrophages
3. ELISA
4. Cell mediated hypersensitivity reactions
5. Zipper mechanism
6. Trigger mechanism
7. Quorum sensing
8. Bacterial pheromones.

SECTION B – (4 × 10 = 40 Marks)

Answer ALL questions.

9. (a) Write an account on innate and acquired immunity.

Or

- (b) Describe the nature, structure and functions of Histocompatibility complex.

10. (a) Describe the antigen and antibody reactions.

Or

- (b) Write an account on autoimmune diseases and their control.

11. (a) Describe the molecular mechanism of adhesion and bacterial adhesion.

Or

(b) Describe the bacterial toxins and toxins acting on protein synthesis.

12. (a) Describe the signal transduction in chemotaxis.

Or

(b) Describe the molecules of apoptosis and induction of apoptosis by microbes.

(DMB 23)

M.Sc. DEGREE EXAMINATION,
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Second Year
Micro-Biology

MICROBIAL GENETICS AND MOLECULAR BIOLOGY

Time : Three hours

Maximum : 70 marks

SECTION A – (5 × 6 = 30 Marks)

Answer any FIVE of the following

1. Muton
2. Recon
3. Triplet code
4. Cracking of genetic code
5. Features of genetic code
6. Translation in Prokaryotes
7. Cloning strategies
8. Screening of recombinants.

SECTION B – (4 × 10 = 40 Marks)

Answer ALL questions.

9. (a) Explain DNA as genetic material.
Or
(b) Describe the genetic recombination in Bacteria.
10. (a) Describe the types of DNA damages and their repair mechanisms.
Or
(b) Write an account on mutagens.
11. (a) Write an account on Operon concept.

Or

- (b) Describe the nif genes and their regulation in Klebsiella.
12. (a) Describe the rDNA technology and its applications.

Or

- (b) Write an account on Blotting techniques.
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(DMB 24)

M.Sc. DEGREE EXAMINATION,
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Microbiology

FOOD AND INDUSTRIAL MICROBIOLOGY

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 6 = 30 marks)

Answer any FIVE of the following.

1. Standard plate count
2. Most Probable Number
3. Pasteurisation of milk
4. Microbial spoilage of milk
5. Types of fermenters
6. Body construction of fermenter
7. Cell aggregation and flocculation
8. Foam separation

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the microorganisms associated with foods and the sources of contamination of foods.

Or

- (b) Describe the food preservation methods.

10. (a) Describe the fermentation production of Beer and Wine.

Or

- (b) Write an account on Mushroom cultivation.

11. (a) Describe the range of fermentation processes.

Or

(b) Describe the screening of microorganisms for the production of commercially important metabolites.

12. (a) Describe the solid state fermentations.

Or

(b) Write an account on recovery and purification of fermentation products.
