

(DMB 21)

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

Second Year

Microbiology

Paper V — MEDICAL MICROBIOLOGY

Time : Three hours

Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE of the following.

1. Normal flora of skin.
2. Phagocytosis.
3. Piedras.
4. Candidiases.
5. Rabies.
6. Entamoeba histolytica.
7. Disease reservoirs.
8. Polymixin – B.

SECTION B — (4 × 15 = 60 marks)

Answer ALL questions.

9. (a) Describe the chemical 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 of the disease caused by Mycobacterium tuberculosis

Or

(b) Describe subcutaneous mycoses.

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

Or

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

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

Or

(b) Write an account on antiviral drugs.

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Microbiology

Paper VI — IMMUNOLOGY AND CELLULAR MICROBIOLOGY

Time : Three hours

Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE of the following.

1. B-cells
2. MALT
3. RIA
4. Antigens
5. Phagocytosis
6. EPEC Tir C
7. Apoptosis
8. Botulinum exoenzyme 3

SECTION B — (4 × 15 = 60 marks)

Answer ALL questions.

9. (a) Describe innate and acquired immunity.
Or
(b) Describe the functions of primary lymphoid organs.
10. (a) Describe the nature, types and functions of antibodies.
Or
(b) Write an account on autoimmune diseases and their control.

11. (a) Describe the molecular mechanisms of bacterial adhesions.

Or

(b) Write an account on T-complex transfer system in Agrobacterium tumefaciens.

12. (a) Describe cell to cell signaling in prokaryotes.

Or

(b) Write an account on signal transduction in chemotaxis.

(DMB 23)

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Microbiology

Paper VII — MICROBIAL GENETICS AND MOLECULAR BIOLOGY

Time : Three hours

Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE of the following.

1. Muton.
2. Plasmids.
3. Tripple code.
4. Wobble hypothesis.
5. Nod-genes.
6. Translation in prokaryotes
7. Cloning strategies.
8. PCR.

SECTION B — (4 × 15 = 60 marks)

Answer ALL questions.

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

Or

- (b) Write an account on genetic recombination in bacteria.

10. (a) Describe the repair mechanisms of DNA.

Or

(b) Write an account on types of mutations.

11. (a) Compare the protein synthesis of prokaryotes with those of Eukaryotes.

Or

(b) Write an account on the regulation of gene expression.

12. (a) Write an account on the mechanisms of transposition.

Or

(b) Describe the applications of genetic engineering.

(DMB 24)

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Paper VIII — FOOD AND INDUSTRIAL MICROBIOLOGY

Time : Three hours

Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE of the following.

1. ATP photometry
2. Dye Reduction tests
3. SCP
4. Botulism
5. Agitation of fermentor
6. Chelators
7. Fed batch culture
8. Liquid-liquid extraction

SECTION B — (4 × 15 = 60 marks)

Answer ALL questions.

9. (a) Describe the methods of food preservation.

Or

- (b) Describe the sources of microbial contamination of foods.

10. (a) Write an account on the cultivation of mushrooms.

Or

(b) Describe the food borne infections.

11. (a) Describe the different types of fermentors and their applications.

Or

(b) Write an account on the screening of microorganisms for the production of commercially important metabolites.

12. (a) Write an account on the principle and applications of HPLC.

Or

(b) Describe the economic importance of fermentation.
