

2022

M.Sc.

2nd Semester Examination

MICROBIOLOGY

PAPER—201

Full Marks : 50

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

UNIT-201.1 HOST-PATHOGEN INTERACTION

Group - A

Answer any two questions. 2×2

1. What is tabtoxin? Name the tabtoxin producing organism.

(Turn Over)

2. 'Biofilm production is an adaptive and protective measure of pathogen' - Justify the statement.
3. What is squid melanin?
4. What are the different types of exotoxins? Explain with examples.

Group - B

Answer any *two* questions.

2×4

5. Discuss the signal transduction between pathogenicity gene and resistance gene during plant pathogen interaction.
6. Describe the dimorphic behavior of pathogenic fungi.
7. What cellular damage does viruses?
8. State the sequential events of wounds healing.

Group - C

Answer any *one* question.

1×8

9. Enzymes play an important role in pathogenesis of microbes - Justify. What is the difference

between the mode of action of polygalacturonase and pectin methyl esterase? 6+2

10. Describe briefly the type of mycosis with suitable examples.

UNIT-201.2 IMMUNOLOGY

Group - A

Answer any *two* questions. 2×2

1. What are primary and secondary lymphoid organs?
2. Characterize dendritic cell and mast cell.
3. State the composition of the T-cell receptor complex.
4. Mention the T-helper cell subpopulation with characteristic features.

Group - B

Answer any *two* questions. 2×4

5. Describe the health benefits of complement.

6. Describe the universal model of cooperation between B and T cells.
7. What is the hypervariable region of immunoglobulin? What fragment (in respect to MW) will be produced when the monomeric immunoglobulin is treated by papain and pepsin?
8. What are non-specific receptors of innate immunity?

Group - C

Answer any one question.

1×8

9. Describe the antigen processing and presentation by antigen presenting cells giving emphasis on MHC molecules.
10. Describe the phases of target killing by cytotoxic lymphocytes.

[Internal Assessment - 10 Marks]
