

FACULTY OF SCIENCE**M.Sc. I – Semester (CBCS) Examination, September 2021****Subject: MICROBIOLOGY****Paper – I: General Microbiology & Microbial Physiology****Time: 2 Hours****Max. Marks: 80****PART – A****Note: Answer any five questions.****(5x7 = 35 Marks)**

- ~~1~~ Robert Koch
- ~~2~~ Endospores
- ~~3~~ Disinfectants
- ~~4~~ Moist heat sterilization
- 5 Bergey's Manual
- ~~6~~ Differential staining
- ~~7~~ Cell cycle in Bacteria
- 8 Macromolecules and supramolecules

PART – B**Note: Answer any three questions.****(3x15 = 45 Marks)**

- ~~9~~ Explain the principle, working and applications of scanning electron microscope.
- ~~10~~ Describe in detail the structure of prokaryotic cell with emphasis on cell wall.
- 11 Write an essay on isolation and preservation of pure cultures.
- 12 Define media. Write an account on bacteriological media used in the laboratories.
- 13 Write an account on various identification methods of bacteria with emphasis on biochemical methods of identification
- 14 Classify nutritional groups of bacteria. Explain bacterial photosynthesis.
- ~~15~~ Define bacterial growth. Explain in detail various factors affecting bacterial growth.
- ~~16~~ What are various culturing methods of bacteria? Explain them in detail.

FACULTY OF SCIENCE

M.Sc. I – Semester (CBCS) Examination, September 2021

Subject: MICROBIOLOGY

Paper –II: Virology

Time: 2 Hours

Max. Marks: 80

PART – A

Note: Answer any five questions.

(5x7 = 35 Marks)

- ~~1~~ subviral particles
- ~~2~~ Biological methods of viral detection
- ~~3~~ Genome organization of HIV
- ~~4~~ Clathrin coated pits
- 5 Interferons
- 6 RNA Tumor viruses
- 7 Viruses for gene delivery
- 8 Viral vectors used for cloning and sequencing

PART – B

Note: Answer any three questions.

(3x15 = 45 Marks)

- ~~9~~ Explain in detail ICTV system of classification of viruses.
- ~~10~~ Explain in detail various methods used for isolation and characterization of viruses.
- ~~11~~ Explain in detail structure, genome organization and replication of HBV?
- ~~12~~ Compare in detail steps involved in Lytic and lysogenic mode of viral replication.
- 13 Describe the process of recombination in phages.
- 14 Explain antiviral agents and their mode of action.
- 15 Write on types of viral vaccines and their preparation.
- 16 Explain in detail about Baculo virus expression system and its importance.
