

SEMESTER-I

Max. Marks – 40+10
Time- 3 Hrs.

PAPER –I DIVERSITY OF MICROBES

Note: Attempt five questions in all, selecting two questions from each unit.

Question No. 1 is compulsory (short answer type).

Nine questions are to be set spread over the entire syllabus. All questions carry equal marks.

UNIT-I

Bacteria : Structure, nutrition, reproduction and economic importance; general account of cyanobacteria (with reference to *Nostoc*).

Algae: General characters, classification (upto classes) and economic importance; important features and life-history (excluding development) of *Volvox*, *Oedogonium* (Chlorophyceae), *Vaucheria* (Xanthophyceae), *Ectocarpus* (Phaeophyceae) and *Polysiphonia* (Rhodophyceae).

UNIT-II

Viruses: General account of Viruses including structure of TMV and Bacteriophages.

Fungi: General characters, classification (upto classes) and economic importance; important features and life-history of *Phytophthora* (Mastigomycotina), *Mucor* (Zygomycotina), *Penicillium* (Ascomycotina), *Puccinia*, *Agaricus* (Basidiomycotina), *Colletotrichum* (Deuteromycotina); General account of Lichens.

**PAPER –II CELL
BIOLOGY**

Max. Marks - 40+10

Time- 3 Hrs.

Note: Attempt five questions in all, selecting two questions from each unit.

Question No. 1 is compulsory (short answer type).

Nine questions are to be set spread over the entire syllabus. All questions carry equal marks.

UNIT-I

The Cell Envelopes: Structure and functions of Cell Wall and Plasma Membrane.

Ultrastructure and function of nucleus, Golgi Apparatus, Endoplasmic Reticulum, Chloroplast, Mitochondria, Lysosomes, Peroxisomes and Vacuoles.

UNIT-II

Cell Division: Mitosis and Meiosis.

Chromosome: Morphology, organization, ultrastructure of Centromere and Telomere;
Chromosomal alterations- deletions, duplications, translocations, inversions; **Variations in chromosome number-** aneuploidy, polyploidy; sex chromosomes and sex determination.