UNIT I

FIVE

Write down principle and application of dark field microscopy. 5 mks
Write down principle and application of fluorescent microscopy. 5 mks
Write down principle and application of TEM. 5 mks
Write down principle and application of SEM. 5 mks

SHORT

Write short note on oil immersion objective.
Write short note on resolving power.
Explain numerical aperture and give its importance.
Draw well labeled ray diagram of compound microscope.

V SHORT

Write down contribution of Louis Pasteur in the development of microbiology.
Write down contribution of Robert Koch in the development of microbiology.
Write down contribution of Edward Jenner in the development of microbiology.

UNIT II

LONG

Discuss the structure of endospore and its formation. 5 mks
Explain the structure and function of fluid mosaic model in detail

SHORT

Discuss morphology of bacteria.
Draw well labeled diagram of typical bacterial cell.
Give difference between Gram positive and negative cell wall.
Draw the diagram of fluid mosaic of model of Singer and Nicolson.
Write short note on bacterial ribosome.
Give difference between pili and fimbriae.
Write short note on plasmids and discuss kinds of plasmids.
Give the difference between bacterial and archaea cell membrane.

V SHORT

Give example of comma shape bacteria.
Who suggested the fluid mosaic model.
Draw the structure of 70s ribosome.
Write down names of four rings of bacterial flagella.
What the function of F pili.
Define plasmids.
Enlist three distinct archaea groups.

UNIT III

LONG

Discuss lytic cycle with diagram.
Discuss lysogeny cycle in detail.
Discuss the LHT classification of viruses.

SHORT

Write down characteristics of yeasts and give their importance.
Write down characteristics of moulds and give their importance.
Write down characteristics of protozoa and give their importance.
Give difference between simple and differential staining.
Write down general characteristic of viruses.

V SHORT

Define dye.
Give the difference between dye and stain.
Give examples of differential staining.

UNIT IV

LONG

Discuss the growth curve and its phases in details.
Write down the different methods of isolation of pure culture.
Discuss different mechanism of microbial control.

SHORT

Give the difference between synchronous and continuous culture.
Draw the diagram of chemo stat.
Draw the diagram of turbido stat.

Classify micro organism on the basis of temperature requirement.
Discuss different methods of preservation of pure culture.
Give difference between natural and synthetic media.

V SHORT

Define growth rate.
Define continuous culture.
Write down the composition of nutrient agar.
Give the role of peptone.
Give the role of beef extract.
Give the role of agar agar.
Write down the mode of action of alcohol on bacteria.
What are HEPA filters?
Define sterilization.
What is a disinfectant?
Define antiseptic.
Define sanitizer.
What is incineration?
Define tyndallization.
Give examples of preservatives.
What are thermophiles?
Define acidophiles.