

CORE COURSE III - MICROBIOLOGY

Unit-I

History and scope of Microbiology General features of classification of bacteria, virus, Actinomycetes and fungi. Structure and life cycle of DNA (T₄ Phage) and RNA virus (HIV)

Unit-II

Bacterial growth and nutritional requirements culture of bacteria , methods and maintenance of culture; types of culture media :Gram staining

Unit-III

Microbes of milk and food – Methods of detection, Pasturization and Food poisoning. Food preservation. Role of microbes in environmental management

Unit-IV

Microbes in Fermentation –Production of alcohol, vinegar, antibiotics, enzymes and fuels Biology of Nitrogen fixation-nitrogen fixers.

Unit-V

Causative agents, modes of transmission, symptoms, diagnosis and control of Polio, HIV, HBV A and B, Tuberculosis, Typhoid, Gonorrhoea.

Recommended Text Books

1. PELCZER, M.J., REID, R.D. and CHAN, E.C.S. (1996), Microbiology, V Ed., Tata McGraw Hill Publishing Company Ltd., New Delhi.
2. ANANTHANARAYANAN, T and JAYARAM PANIKER, C.K. (2000), Text Book of Microbiology, VI Ed., Orient Longman Ltd., Madras.

References

1. DAVID FREIFELDER (1998), Microbial Genetics, Narosa Publishing House, New Delhi.
2. POWAR, C.B. and DIGINAWALA, H.F. (1982), General Microbiology Volume I & II, Himalaya Publishing House, Bombay.
3. MICHAEL T. MADIGAN, JOHN M. MARTINKL, JACK PARKER (1997), Biology of Microorganisms, VIII Ed., Prentice Hall International Inc., USA.