

CORE COURSE I – GENERAL MICROBIOLOGY

Unit I

History and scope of microbiology, Ultra-structure of bacterial, fungi, algae, mycoplasma and viruses. Classification of microbes, current methods; identification and preservation.

Unit II

Growth of microorganisms – Growth measurement, continuous culture, Synchronous culture, batch culture, Effect of environment.

Unit III

Microbial nutrition: Nutritional types – autotrophs and heterotrophs – common nutritional requirements : C,N,P, HSS – uptake of nutrients.

Unit IV

Enrichment culture – Myxotrophs – Extremophiles – Antimicrobials.

Unit V

Molecular biology and strain improvement by mutation, selection and enrichment, antibiotics & their role of action, Disinfectants and antiseptics.

Unit VI

Application of microbiology in food, dairy, agriculture and pharmaceutical industries.

Reference:

- i. Microbiology – JG Black II Edition, Prentice Hall publications.
- ii. Principles of Microbiology (1996) – R.M. Atlas, Wm.C.Brown Publishers
- iii. Microbiology (1990). Prescott, L.M.Harley JP and Klein DA. Wan C.Publishers.
- iv. Bergy's manual of systematic Bacteriology.
- v. Microbiology (1993). M.J.Pelczar, Tata McGraw Hill Publishing Company, New Delhi.