

CORE COURSE II – MICROBIAL BIOCHEMISTRY

Unit I

Glycolysis, citric acid cycle, pentose phosphate pathway, fatty acid metabolism, amino acid degradation, photosynthesis.

Unit II

Generation of ATP, Substrate, oxidative and photo-phosphorylation. Generation of biosynthetic precursors – Role of Inhibitors.

Unit III

Biosynthesis of nucleic acids, proteins and amino acids – Regulation of enzyme synthesis and inhibition (Positive and negative regulation).

Unit IV

Osmoregulation, omp proteins, proton pump symport and antiport.

Unit V

Antimicrobial chemotherapy – Evolution of antibiotic therapy – Mechanism of action of antimicrobials – Drug resistance.

Reference:

- i. Biochemistry (1995) 0 Lubert Stryer, W.H. Freeman & Company.
- ii. Biochemistry (1988) – G.Zubay. Macmillan publishing co.
- iii. Harper's Biochemistry (1990) – R.K. Murray et al.,
- iv. Biochemistry (1992) – A.L. Lehninger et al.,
- v. Biochemistry of bacterial growth. 2nd edition – K.M.C.Quillen et al., Wiley Publication NY.