S.Y.B.A.(Home-Science)- III Semester

Biochemistry and Microbiology (CORE Compulsory -CC 206)

- **Objectives :-**

1. To understand relations between nutrition and biochemistry.
2. To aware about metabolism of nutrients.
3. To provide orientation to the role of micro organi sm in water and food.
4. To provide knowledge concerning microbial food contamination and human disease

- **Unit – 1**

1. Chemical composition and classification of carbohydrates
2. Metabolism of carbohydrates

   (A) Glycolysis . (B) Citric acid cycle (Kreb's cycle)

3. Classification and properties of lipids
4. Metabolism of lipids, oxidation of fatty acids.

- **Unit- 2**

- Classification and structure of amino acids
  (By amino group and carboxylic group wise)
- Structure of proteins: Primary, secondary, tertiary.
- Biological importance of peptides and proteins
- Urea cycle.

- **Unit- 3**

1. Microbiology of water
   -(A) surface and subsurface water (B) Atmospheric water
2. Water purification for drinking purpose
   - (A) Household scale (B) Municipal water purification system
3. Micro organism respon sible for food poisoning
   - Food poisoning of botulism, salmonella and staphylococcus
4. Advantages and disadvantages of Micro organism in food

- **Unit -4**

1. Microbiology of milk: Raw milk, pasteurized milk, sterilized milk
2. Micro biology of fermented milk and milk products e.g. curd, cheese
3. Micro biology of bakery industry
4. Pathogen involved in human disease
   (A) Gastrointestinal (B) Tuberculosis (C) Malaria

- **References:-**

1. Murry R K , Granner D K , Mayes P A and Rodwell W W (1990)-
   Harper's Biochemistry (22nd addition), New Jersey, Prentic hall, International INC
2. Conn E E and SLUMPF (1994)
   Outline of Biochemistry (4th Addition), New Delhi, New age International Ltd.
3. Weil J H (1990)
   General Biochmistry (6th Addition), New Delhi, Wiley Eastern Ltd.