

II SEMESTER HARD CORE COURSES
FNH 451 VITAMINS IN HUMAN NUTRITION

52 Hr (13× 4 units)

Course outcome:

At the end of this course the students will be able to-

- CO 1. Describe the importance of vitamins in human metabolism
- CO 2. Classify the vitamins based on solubility in food and human system.
- CO 3. Elucidate the chemical properties of both fat- and water-soluble vitamins.
- CO 4. Understand the source, digestion, absorption and functions of both fat- and water-soluble vitamins.
- CO 5. Describe the effect of dietary deficiency and complications of each vitamin.
- CO 6. Describe how certain vitamins interact with some drugs.

Unit I: Fat soluble vitamins: History, chemistry, classifications - A, D, E & K, toxicity, physiological action, transport and utilization, storage, dietary sources, losses during preparation and handling, conversion of beta carotene into vitamin A

Unit II: Water soluble vitamins - I: Thiamine, riboflavin, niacin, Folic acid pyridoxine, pantothenic acid, vitamin B12 – functions, digestion, absorption, utilization, deficiency and sources.

Unit III: Water soluble vitamins - II: Biotin, ascorbic acid- functions, digestion, absorption, utilization, losses in preparation and handling, deficiency. Natural sources of vitamins. Synthetic vitamins and their absorption.

Unit IV: Vitamin like compounds and Pseudo vitamins: Choline, carotene, inositol, taurine, flavanoid, pangamate. Vitamin drug interaction. Drug food interaction.

REFERENCES

- Srilakshmi B. Nutrition Science,
- Gibney M J, Elia M, Ljungqvist & Dowsett J., 2005. Clinical Nutrition. The nutrition Society Textbook Series, Blackwell publishing Company
- Williams, S R., 2001, Basic Nutrition and Diet Therapy 11th ed. Times Mirror Mosby College Publishing
- Mahan, L K., Escott Stump S. 2008. Krause's Food and Nutrition Therapy 12th ed., Saunders Elsevier