## EXTENDED LECTURE OUTLINE

**FND6 315 Introduction to Clinical Nutrition (2+1)**

**Theory**

1. Introduction to clinical nutrition : Definition, Importance, Commom deficiency diseases, Nutritional deficiency diseases, pathogenesis of Nutritional deficiency diseases. Objectives of Clinical Nutrition.
2. Principles of Clinical Nutrition :
    - The spectrum of nutritional problems**:** Malnutrition (under- and over-nutrition, Nutritional deficiencies, Mal absorption syndrome, Drug nutrient interaction.
    - Effect of disease and nutritional status**:** Fluid and electrolytes, Protein, Energy.
    - Metabolic blocks and nutritional requirements : Inborn errors of metabolism, Acquired metabolic blocks.
    - Effect of the route of feeding on nutrient requirements : Parenteral nutrition, Gastric and jejunal feeding, Cutaneous (skin), Subcutaneous, Rectal, Peritoneal.
    - Effect of the phase of disease on nutritional requirements
    - Feeding schedules
    - Structure and function.
    - Management pathways.
3. Diet prescription: Considerations in Diet prescription, Accuracy in Diet prescription
4. Metabolic changes and clinical diagnosis in various diseases:

Nutrient deficiency diseases like

i) Anemia : Classification of Anemia, Iron-deficiency Anemia, Blood transfusion,, Diet, Prevention of Anemia

ii) Vitamin Bcomplex deficiencies

- Thiamine deficiency : Causes, Subclinical deficiency, Infantile beriberi, Dry beri beri, Polyneuropathy, Wet beriberi, Treatment : Prophylactic, Subclinical deficiency, Intravenous feeding , Toxicity
- Riboflavin deficiency : Causes, deficiency, Toxicity
- Pyridoxine deficiency : Causes, : Convulsios in infants, Anaemia, Xanthurenic aciduria, Chinese restaurant syndrome, Isoniazid, Treatment, Toxicity.
- Niacin deficiency : Subclinical deficiency,Treatment, Hartnup's disease, other uses of Niacin, Toxicity
- Vitamin B12 deficiency : Lack of intake, Lack of intrinsic factor, Deficiency of intestinal absorption, Diagnosos, Treatment, Toxicity

iii) VitaminA deficiency : Pathology, Clinical manifestations, Treatment, Toxicity

iv) Iodine deficiency disorders : Goitre, Hypothyroidism, Hyperthyroidism, Treatment

v) Calcium deficiency : Hypocalcemia, Tetany, Osteoporosis Hypercalcemia, Clinical

manifestations, Prevention and Treatment,

vi) Vitamin D deficiency : Rickets, Osteomalcia , Treatment, Toxicity

vii) Ascorbic acid deficiency : Scurvy, Infantile Scurvy, Treatment, High doses of Vitamin C.

5. Metabolic changes and clinical diagnosis in Diabetes mellitus
6. Metabolic changes and clinical diagnosis in Cardiovascular diseases : Coronary Heart disease and Atherosclerosis
7. Metabolic changes and clinical diagnosis in renal disorder : Acute glomerulonephritis, Kidney(Renal)failure – Acute and chronic, Kidney stones (Urolithiasis).
8. Metabolic changes and clinical diagnosis in liver diseases : Jaundice, Hepatic coma, Cirrhosis of Liver, Fatty liver
9. Metabolic changes and clinical diagnosis in cancer.
10. Normal cut-off values for blood and urine parameters.
11. Interpretation of report of blood and urine in different disease conditions.
12. Drug and nutrient interaction : effect of drugs on nutritional status, Effect of diet and nutritional status on drug effectiveness.
13. Depletion and repletion studies
14. Nutrient balance studies;
15. Use of isotopically labelled nutrients.
16. Nutrition screening and assessment methods(MiniNutritionalAssessment(MNA),
17. Patient-Generated Subjective Global Assessment (PG- SGA),
18. Malnutrition Universal Screening tool(MUST),
19. Disease specific tools.
20. Nutrition care process-Assessment, Diagnosis, Interpretation, Monitoring, and Evaluation (ADIME).

**Suggested Readings**

Antia F.P and Philip Abraham,2002, Clinical Dietetics and Nutrition, Oxford University Press, New Delhi-110001.

NUTRIENT AND DRUG INTERACTION Unit-7.pdf
C ANCER Unit-8.pdf
Clinical Chemistry-I.pdf
CLIN-NUTFIN.pdf
CLINICAL NUTRITION PDF.pdf

Clinical Nutrition Notes

Diabetes mellitus Unit-12 (1).pdf

Disease-Specific Tools Nutrition

Davidson and passmore ,1996, Human nutrition and dietetics, Third edition,Baltimore, The Williams and Wilkins companypp: 430-435.
liver gal bladder and pancreas Unit-15.pdf
MALNUTRITION UNIVERSAL SCREENING TOOL must_full.pdf

Blood Test Results Explained: Lab Report Interpretation Guide for India | ReportSense
Normal Lab Values & Blood Test Reference Ranges 2025 | Focus Diagnostics
NUTRIENT AND DRUG INTERACTION Unit-7.pdf
Nutrient requirements of Indians, 2024, ICMR-National Institute of Nutrition ,Hyderabad
RENAL DISEASES Unit-16.pdf
Swaminathan M, 2015, Essentials of Food and Nutrition, Volume-2, The Bangalore press,Bangalore-560018.