

**PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM IN
B.Sc. CLINICAL NUTRITION & DIETETICS (2016-17)**

FIRST YEAR – SEMESTER 1				
Code	Course Title	Course Type	HPW	Credits
BS 101	Communication			
BS 102	English			
BS 103	Second Language			
BS 104	Physiology & Biochemistry	DSC - 1A	4+2	5
BS 105	Optional II			
BS 106	Optional III			
SEMESTER 2				
BS 201	Environmental Studies			
BS 202	English			
BS 203	Second Language			
BS 204	Basic Nutrition	DSC -1B	4+2	5
BS 205	Optional II			
BS 206	Optional III			
SECOND YEAR- SEMESTER 3				
BS 301	Food Safety	SEC -1	2	2
BS 302	English			
BS 303	Second Language			
BS 304	Basic Dietetics	DSC- 1C	4+2	5
BS 305	Optional II			
BS 306	Optional III			
SEMESTER 4				
BS 401	Food Service Management	SEC – 2	2	2
BS 402	English			
BS 403	Second Language			
BS 404	Food Science	DSC- 1D	4+2	5
BS 405	Optional II			
BS 406	Optional III			
THIRD YEAR- SEMESTER 5				
BS 501	Nutrition and Fitness	SEC-3	2	2
BS 502	Fundamentals of Foods and Nutrition	GE-1	2	2
BS 503	Diet Therapy	DSC-1E	3+2	4
BS 504	Optional II			
BS 505	Optional III			
BS 506	A- Community Nutrition	DSE-1E	3+2	4
	B- Food Preservation			
BS 507	Optional II A/B/C			
BS 508	Optional III A/B/C			
SEMESTER 6				
BS 601	Patient Counseling Skills	SEC- 4	2	2
BS 602	Family and Community Nutrition	GE-2	2	2
BS 603	Advanced Dietetics	DSC-1F	3+2	4

BS 604	Optional II			
BS 605	Optional III			
BS 606	A- Public Health	DSE-1F	3+2	4
BS 607	B- Maternal and Child Nutrition			
BS 608	Optional II A/B/C			
BS 609	Optional III A/B/C			
	TOTAL CREDITS			164

**B.Sc. CLINICAL NUTRITION & DIETETICS
OSMANIA UNIVERSITY**

REVISED SYLLABUS (CBCS) WITH EFFECT FROM 2016-17

B. Sc. I YEAR

SEMESTER I (Theory)

**PHYSIOLOGY & BIOCHEMISTRY
4 Hours/Week; Credits 4**

**60 Hrs
CODE 104, DSC-1A**

- Unit I 16 Hours
Molecular aspect of transport: Passive diffusion, facilitated diffusion, active transport, and passive transport.
Major metabolic pathways:
Carbohydrate metabolism: Classification, digestion, absorption, glycolysis, citric acid cycle, glycogenesis and glycogenolysis, gluconeogenesis, pentose phosphate pathway.
Lipid metabolism: Digestion, absorption, and beta-oxidation of fatty acids.
- Unit II 18 Hours
Protein metabolism: Classification, digestion and absorption, deamination and transamination, Urea cycle.
Hormones: Pituitary, adrenocortical, thyroid and reproductive hormones, hormones of the adrenal cortex- Mode of action and control of secretion.
- Unit III 14 Hours
Blood and blood circulation: Blood composition, functions, clotting, blood groups, Blood vessels- artery, vein, capillary, structure of heart, cardiac cycle, Blood pressure – pulse, systolic, diastolic.
Respiratory system: Structure and functions of respiratory organs (in brief), Mechanism of respiration.
- Unit IV 12 Hours
Digestive system: Organs, structure, functions of oesophagus, stomach, small intestine, large intestine. Glands - Liver, gall bladder, pancreas.
Excretory system: Organs structure and functions of kidney, ureter, and urinary bladder. Formation of urine, Composition of normal urine, Abnormal constituents of urine.

Suggested Readings

Guyton A.C. and Hall J.E. Textbook of Medical Physiology, Saunders, Latest Edition.

Rama Rao A.V.S.S. and Surya Lakshmi A., A text book of Biochemistry for medical students, UBS Publishers Distributors Ltd.

Weil J.H. General Biochemistry, Wiley Eastern Limited, New Delhi.

Suresh R. Essentials of Human Physiology, Books and Allied (P) Ltd. Kolkata, 2013.

Chatterjee C.C. Human Physiology, Medical Allied Agency, Calcutta.

Chakrabarti, Ghosh and Sahana's Human Physiology, The New Book Stall, Calcutta.

Pavan Kumar B.S.P., Medical Transcription - The What, Why and How, Paras Publishing, Hyderabad.

I SEMESTER SYLLABUS – Practical paper

PHYSIOLOGY & BIOCHEMISTRY

Total No. of Practicals 8

2 Hours/week Credits 1

1. Digestive system:

Observation and drawing liver, kidney, spleen, pancreas, stomach, gall bladder, large and small intestine.

2. Types of cells:

Microscopic examination of prepared slides.

- a) Epithelium- stratified, squamous, ciliated, columnar.
- b) Connective tissue - Adipose tissue, Bone, areolar, connective tissue.
- c) Muscle - Smooth, cardiac, stratified.
- d) Nerve - Medullated, Nerve cell. Examine and draw the tissues.

3. Blood:

a) Microscopic examination of prepared slides.

- i) fresh mount of blood
- ii) stained blood smear

b) Testing of blood groups using typed sera.

c) Measurement of Hemoglobin by Sahli's Method

4. Heart: Anatomy of heart. Circulation - drawing and labeling.

5. Histology of

- a) Lung section
- b) Trachea

Pulse and respiration rate- at rest and after exercise.

6. Arterial blood pressure: Determination using a Sphygmomanometer.

7. Excretion: drawing and labeling the excretory system.

8. Skin:

- a) Histology: Microscopic examination of prepared slides.
- b) Measurement of body temperature - Mouth and armpit.

B Sc I YEAR, SEMESTER II (Theory)

BASIC NUTRITION
Code BS 204, DSC 1-B

60 Hrs
4 Hours/Week, Credits 4

Unit I 16 Hours

Introduction to nutrition, food as a source of nutrients, functions of foods.
Definition of nutrition, nutrients, adequate, optimum and good nutrition, malnutrition.
Inter relationship between nutrition and health.
Water as a nutrient, function, sources, requirement, water balance, effect of deficiency.
Carbohydrates: composition, food sources, functions, storage in the body.
Fats and oils: Composition, classification, and food sources, Functions.

Unit II 18 Hours

Proteins: Composition, sources, essential and non-essential amino acids, functions, protein deficiency (very brief).
Energy: Units of energy, components of energy requirement, BMR, Measurement of energy, factors affecting BMR. Minerals: Function, sources and deficiency of Calcium, iron, iodine, fluorine, sodium and potassium (in very brief).
Vitamins: Classification, sources, functions and deficiency of
a) Fat soluble vitamins A, D, E, K.
b) Water soluble vitamins -Ascorbic acid, Thiamine, Riboflavin, Niacin, Vitamin B₆, Vitamin B₁₂, Folic acid.

Unit III 14 Hours

Introduction to meal management, Balanced diet, Food guide, Basic 5 food groups.
Basic principles and steps in meal planning. Nutrition in pregnancy: Physiological stages of pregnancy, nutritional requirements, complications of pregnancy.
Nutrition during infancy: Nutritional requirements, Nutritional contribution of Human milk vs. cow's milk/infant formula, Introduction of supplementary foods.
Nutritional requirements during Lactation.

Unit IV 12 Hours

Nutrition during Early childhood: Nutritional requirements of a toddler/ preschool child.
Nutrition of School children: Nutritional requirements of school children, Importance of snacks, School lunch.
Nutrition during Adolescence: Nutritional requirements of adolescents, Factors influencing eating habits.
Geriatric Nutrition: Factors influencing food intake, Nutritional requirements.

Suggested Readings

Agarwal, A. and Udipi S. A. Textbook of Human Nutrition, Jaypee Brothers Medical Publishers (P) Ltd. New Delhi, 2014.

Helen A. Guthrie, Introductory Nutrition, Times Mirror-Mosby.

Swaminathan M. Advanced Text book on Food and Nutrition, Vol-I, The Bangalore Printing & Publishing Co., Ltd.

Wardlaw G.M. & Insel P.M. Perspectives in Nutrition Mosby Publishing Co., St. Louis.

Mudambi, S.R. and Rajagopal M.V. Fundamentals of Foods and Nutrition, Wiley Eastern Limited.

Patricia A. Kreutler and Dorice Czajka Narins, Nutrition in perspective, Prentice Hall, New Jersey.

Swaminathan M. Hand book of Food and Nutrition, The Bangalore Printing Publishing Co. Ltd.

II SEMESTER SYLLABUS – Practical paper

BASIC NUTRITION
2 Hours/week Credits 1

Total Number of Practicals 7

1. Planning diets for Adult man and woman during different physical activities- sedentary, moderate and heavy worker.
2. Planning of a balanced diet for a pregnant woman.
3. Planning of a balanced diet for a Nursing mother.
4. Planning a diet for a pre-school child.
5. Planning a balanced diet for a school age child.
6. Planning a balanced diet for an Adolescent.
7. Planning a diet for a Senior Citizen.