

# **B.Sc. CLINICAL NUTRITION & DIETETICS**

**PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM IN  
B.Sc. CLINICAL NUTRITION & DIETETICS  
EFFECTIVE FROM 2019-20**

<b>FIRST YEAR – SEMESTER I</b>				
<b>Code</b>	<b>Course Title</b>	<b>Course Type</b>	<b>HPW</b>	<b>Credits</b>
BS 101		AECC 1	2	2
BS 102		CC-1A	4	4
BS 103		CC-2A	4	4
<b>BS 104</b>	<b>Introductory Nutrition</b>	<b>DSC - 1A</b>	<b>4T+2P=6</b>	<b>4+1=5</b>
BS 105		DSC - 2A	4T+2P=6	4+1=5
BS 106		DSC - 3A	4T+2P=6	4+1=5
	<b>TOTAL</b>			<b>25</b>
<b>SEMESTER II</b>				
BS 201		AECC 2	2	2
BS 202		CC-1B	4	4
BS 203		CC-2B	4	4
<b>BS 204</b>	<b>Basic Nutrition</b>	<b>DSC -1B</b>	<b>4T+2P=6</b>	<b>4+1=5</b>
BS 205		DSC -2B	4T+2P=6	4+1=5
BS 206		DSC -3B	4T+2P=6	4+1=5
	<b>TOTAL</b>			<b>25</b>
<b>SECOND YEAR- SEMESTER III</b>				
<b>BS 301</b>	<b>Patient Counseling Skills</b>	<b>SEC -1</b>	<b>2</b>	<b>2</b>
<b>BS 302</b>	<b>Food Preservation</b>	<b>SEC -2</b>	<b>2</b>	<b>2</b>
BS 303		CC-1C	3	3
BS 304		CC-2C	3	3
<b>BS 305</b>	<b>Basic Dietetics</b>	<b>DSC- 1C</b>	<b>4T+2P=6</b>	<b>4+1=5</b>
BS 306		DSC- 2C	4T+2P=6	4+1=5
BS 307		DSC- 3C	4T+2P=6	4+1=5
	<b>TOTAL</b>			<b>25</b>
<b>SEMESTER IV</b>				
<b>BS 401</b>	<b>Nutrition and Fitness</b>	<b>SEC – 3</b>	<b>2</b>	<b>2</b>
<b>BS 402</b>	<b>Food Safety and Quality Control</b>	<b>SEC – 4</b>	<b>2</b>	<b>2</b>
BS 403		CC-1D	3	3
BS 404		CC-2D	3	3
<b>BS 405</b>	<b>Food Science</b>	<b>DSC- 1D</b>	<b>4T+2P=6</b>	<b>4+1=5</b>
BS 406		DSC- 2D	4T+2P=6	4+1=5
BS 407		DSC- 3D	4T+2P=6	4+1=5
	<b>TOTAL</b>			<b>25</b>
<b>THIRD YEAR- SEMESTER V</b>				
<b>BS 501</b>	<b>Nutrition and Health</b>	<b>GE</b>	<b>4T</b>	<b>4</b>
BS 502		CC-1E	3	3
BS 503		CC-2E	3	3
<b>BS 504</b>	<b>A- Community Nutrition</b>	<b>DSE-1E</b>	<b>4T+2P=6</b>	<b>4+1=5</b>
	<b>B- Maternal and Child Nutrition</b>			

BS 505		DSE-2E	4T+2P=6	4+1=5
BS 506		DSE-3E	4T+2P=6	4+1=5
	<b>TOTAL</b>			<b>25</b>
<b>SEMESTER VI</b>				
BS 601		CC-1F	3	3
BS 602		CC-2F	3	3
<b>BS 603</b>	<b>A- Clinical Dietetics</b>	<b>DSE-1F</b>	<b>4T+2P=6</b>	<b>4+1=5</b>
	<b>B- Diet in Disease</b>			
BS 604		DSE-2F	4T+2P=6	4+1=5
BS 605		DSE-3F	4T+2P=6	4+1=5
<b>BS 606</b>	<b>Project Work/Optional</b>		<b>4</b>	<b>4</b>
	<b>TOTAL</b>			<b>25</b>
	<b>TOTAL CREDITS</b>			<b>150</b>
<b>Credits under Non-CGPA</b>	<b>NSS /NCC /sports / Extra curricular</b>	<b>6</b>	<b>Up to 6 (2 in each year)</b>	
	<b>Summer Internship</b>	<b>4</b>	<b>Up to 4 (2 in each, after I &amp; II years)</b>	

CC- Core Course

AECC- Ability Enhancement Compulsory Course

DSC- Discipline Specific Core

SEC- Skill Enhancement Course

DSE- Discipline Specific Elective

GE- Generic Elective

HPW – Hours per week

### SUMMARY OF CREDITS FOR B. Sc. PROGRAM

S. No.	Course Category	No. of courses	Credits per course	Credits
1	AECC	2	2	4
2	SEC	4	2	8
3	CC	12	4 (year1) 3 (year 2) 3 (year 3)	40
4	DSC	12	5	60
5	DSE	6	5	30
6	GE	1	4	4
7	Project work			4
	<b>TOTAL</b>	<b>40</b>		<b>150</b>

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

REVISED SYLLABUS (CBCS) WITH EFFECT FROM 2019-20

**B. Sc. I YEAR**  
**SEMESTER I (Theory) PAPER I DSC - 1A**

**Code BS 104 INTRODUCTORY NUTRITION**

**4 Hours/Week; Credits 4**

**Credit-1: Introduction to Nutrition**

- 1.1 Introduction to nutrition, food as a source of nutrients, functions of food.  
Definition of nutrition, nutrients, adequate, optimum and good nutrition, malnutrition.  
Inter relationship between nutrition and health.
- 1.2 Introduction to meal management, Balanced diet, Food guide for India, Basic 5 food groups. Basic principles and steps in meal planning

**Credit-2: Carbohydrates and Lipids**

- 2.1 Composition, Classification, Sources and Functions, Digestion, Absorption and Transport  
Carbohydrate metabolism- Glycolysis, citric acid cycle, glycogenesis and glycogenolysis, gluconeogenesis, pentose phosphate pathway.
- 2.2 Lipids- Composition, classification, sources and Functions, Essential fatty Acids, Digestion. Lipid metabolism-Beta-oxidation of fatty acids

**Credit-3: Amino acids, Proteins and Enzymes**

- 3.1 Amino acids: Classification- Chemical and Nutritional, Deamination and Transamination, Urea cycle.  
Proteins- Composition, Classification, Sources, Functions, Effects of protein deficiency.
- 3.2 Enzymes - Definition, Classification, Properties, Mechanism of Enzyme Action, Factors Effecting Enzyme Action, Enzyme Inhibitors

**Credit-4: Water and Hormones**

- 4.1 Water as a nutrient, functions of water, sources, requirements, water balance, effect of deficiency.
- 4.2 Hormones: Pituitary, adrenocortical, thyroid and reproductive hormones; Hormones of the Pancreas and hormones of the adrenal cortex- Mode of action and control of secretion.

**Suggested Readings**

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.

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

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

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

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## **I SEMESTER SYLLABUS – Practical paper**

**Code: BS 104 INTRODUCTORY NUTRITION (50 Marks)**  
**3 Hours/week; Credits 1**

### **Credit-5**

1. Food Exchange List and using the Indian Food Composition Tables to calculate Nutritive values of Food preparations.
2. Nutritive Value Calculations of Cereal based Preparations  
Vegetable pulao, Puri, Lemon Rice, Dosa, Idly, Stuffed Paratha, Upma, Poha, Vermicelli Upma, Phulka and Chapathi
3. Nutritive Value Calculations of Pulse based Preparations  
Cholae, Plain Dal, Tomato dal and Spinach dal
4. Nutritive Value Calculations of Vegetable based Preparations  
Carrot and peas fughath, Beans fughath, Cauliflower and Tomato curry, Cauliflower and Peas fughath and Potato and peas fughath.
5. Nutritive Value Calculations of Meat based Preparations  
Minced meat curry, Mutton curry, Omelet, Chicken curry, Fish curry and Egg curry
6. Nutritive Value Calculations of Milk based Preparations  
Fruit salad, Vermicelli kheer, Sago kheer and Caramel pudding.
7. Planning diets for an Adult man and an Adult woman during different physical activities- sedentary, moderate and heavy worker.

## **B Sc I YEAR, SEMESTER II (Theory)**

### **Code BS 204 BASIC NUTRITION DSC -1B**

**4 Hours/Week, Credits 4**

#### **Credit-1: Energy**

- 1.1 Energy: Units of energy, components of energy requirement, BMR, Measurement of energy, factors affecting BMR
- 1.2 Energy requirements of Adults, Reference man and Woman.

#### **Credit-2: Vitamins and Minerals**

- 2.1 Water soluble vitamins: Classification, sources, functions and deficiency of Ascorbic acid, Thiamine, Riboflavin, Niacin, Vitamin B<sub>6</sub>, Vitamin B<sub>12</sub> and Folic acid.  
Fat soluble vitamins: Classification, sources, functions and deficiency of Fat soluble vitamins A, D, E, K.
- 2.2 Minerals: Functions, sources and deficiency of Calcium, iron, iodine, sodium and potassium.

#### **Credit-3: Nutrition in Pregnancy, Infancy and Lactation**

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- 3.1 Nutrition in pregnancy: Physiological stages of pregnancy, nutritional requirements, complications of pregnancy.
- 3.2 Nutrition during infancy: Nutritional requirements, Nutritional contribution of Human milk vs. cow's milk/infant formula, Introduction of supplementary foods.  
Nutritional requirements during Lactation.

#### **Credit-4: Childhood, School age, Adolescence and Geriatric Nutrition**

- 4.1 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.
- 4.2 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.

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.

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## **II SEMESTER SYLLABUS – Practical paper**

### **BS 204 BASIC NUTRITION**

**3 Hours/week; Credits 1 (50 marks)**

#### **Credit-5**

1. Planning a balanced diet for a pregnant woman doing different physical activities- sedentary, moderate and heavy worker.
2. Planning a balanced diet for a Lactating woman doing different physical activities- sedentary, moderate and heavy worker (0-6 months and 6-12 months).
3. Planning a balanced diet for a pre-school child.
4. Planning a balanced diet for a school age child (Packed lunch).
  - School going boy aged 10-12 years
  - School going girl aged 10- 12 years
5. Planning a balanced diet for Adolescent girls and adolescent boys (Packed lunch).
  - Adolescent girl aged 13-15 years
  - Adolescent boy aged 13-15 years
  - Adolescent girl aged 16-17 years
  - Adolescent boy aged 16-17 years
6. Planning a balanced diet for a Senior Citizen.
  - Planning a diet for an elderly woman
  - Planning a diet for an elderly man

**FACULTY OF SCIENCE**  
**B.Sc. I SEMESTER(CBCS) EXAMINATION**  
**Subject: CLINICAL NUTRITION & DIETETICS**  
**THEORY MODEL PAPER- CBCS Pattern**

Time 3 Hrs.

Max Marks 80

**PART A (8x4=32M)**  
**(SHORT ANSWER TYPE)**

**NOTE: ANSWER ANY EIGHT OF THE FOLLOWING QUESTIONS**

1. CREDIT I
2. CREDIT I
3. CREDIT I
4. CREDIT II
5. CREDIT II
6. CREDIT II
7. CREDIT III
8. CREDIT III
9. CREDIT III
10. CREDIT IV
11. CREDIT IV
12. CREDIT IV

**PART -B(4x12=48M)**  
**(ESSAY ANSWER TYPE)**

**NOTE: ATTEMPT ALL THE QUESTIONS**

- 13 (a) CREDIT I  
(or)  
(b) CREDIT I
- 14 (a) CREDIT II  
(or)  
(b) CREDIT II
- 15 (a) CREDIT III  
(or)  
(b) CREDIT III
- 16 (a) CREDIT IV.  
(or)  
(b) CREDIT IV