

PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM IN

B.Sc. APPLIED NUTRITION AND PUBLIC HEALTH

FIRST YEAR SEMESTER I				
CODE	COURSE TITLE	COURSE TYPE	HPW	CREDITS
BS101	Communication			
BS 102	ENGLISH			
BS 103	SECONDLANGUAGE			
BS 104	NUTRITIONAL BIOCHEMISTRY-I	DSC IA	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	NUTRITIONAL BIOCHEMISTRY II	DSC IB	4+2	5
BS 205	OPTIONALII			
BS 206	OPTIONAL III			
SECOND YEAR – SEMESTER -3				
BS 301	FOOD SERVICE MANAGEMENT SKILLS	SEC -I	2	2
BS 302	ENGLISH			
BS 303	SECOND LANGUAGE			
BS 304	FOOD SCIENCE	DSC -IC	4+2	5
BS 305	OPTIONAL II			
BS 306	OPTIONAL III			
SEMESTER - 4				
BS 401	QUANTITY FOOD PRODUCTION SKILL	SEC -2	2	2
BS 402	ENGLISH			
BS 403	SECOND LANGUAGE			
BS 404	FAMILY AND COMMUNITY NUTRITION	DSC – 1D	4+2	5
BS 405	OPTIONAL II			
BS 406	OPTIONAL III			
THIRD YEAR - SEMESTER 5				
BS 501	HOSPITAL ADMINISTRATION SKILLS	SEC -3	2	2
BS 502	FUNDAMENTALS OF FOOD & NUTRITION	GE -1	2	2
BS 503	CLINICAL DIETETICS	DSC – IE	3+2	4
BS 504	OPTIONAL II			

BS 505	OPTIONAL II			
BS 506	A) FOOD SAFETY AND QUALITY CONTROL (OR) B) FOOD PRESERVATION	DSC – IE	3+2	4
BS 507	OPTIONAL II A/B/C			
BS 508	OPTIONAL III A/B/C			
SEMESTER -6				
BS-601	PATIENT COUNSELLING TECHNIQUES AND SKILLS	SEC -4	2	2
BS-602	NUTRITIONAL APPROACH IN HUMAN LIFE	GE -2	2	2
BS-603	PUBLIC HEALTH	DSC – 1F	3+2	4
BS-604	OPTIONAL II			
BS-605	OPTIONAL III			
BS-606	A) FOOD HYGIENE AND SANITATION (OR) B) ADVANCED DIETETICS	DSE -1F	3+2	4
BS-607	OPTIONAL II A/B/C			
BS-608	OPTIONAL III A/B/C			
				TOTAL 164

B.Sc. APPLIED NUTRITION AND PUBLIC HEALTH

OSMANIA UNIVERSITY

REVISED SYLLABUS (CBCS) WITH EFFECT FROM 2016-2017

B.Sc. I YEAR

SEMESTER I THEORY

Nutritional Biochemistry 1
4 HOURS /WEEK; CREDITS 4

60 hours
CODE 104,DSC-1A

Unit I

16 hours

Introductory Nutrition, Definition of Nutrition, Food, Nutrients, or Proximate Principles, Nutritional needs of body, specific role of nutrients, classification of foods, food groups. Carbohydrates – Composition and chemistry, classification, sources, nutritional significance, digestion, absorption and metabolism - Glycolysis, TCA Cycle with bioenergetics.

Unit II

18 hours

Proteins: Composition and chemistry, classification sources, functions, digestion and absorption, denaturation. Nutritional significance of some amino acids .General properties of proteins, metabolism, deamination, transamination, decarboxylation. Outlines supplementary value of amino acids. Deficiency of Protein – PEM definition, classification, and age groups affected
Nucleic acids: Composition – purine and pyrimidine bases DNA, RNA – structure and biological functions

Unit III

14 hours

Lipids: Composition Chemistry classification sources, function, chemical properties – digestion and absorption, essential fatty acids – functions and deficiency, elements of fat analysis, Metabolism : B- oxidation of fatty acids. Types of Rancidity, Ketosis

Unit IV

12 hours

Energy Metabolism: Types of energy, energy yielding food factors, energy units determination of energy value of food using bomb calorimeter. PFV (Physiological Fuel Value) of foods, direct indirect calorimetry, RQ, SDA of food. Determination of BMR and factors affecting BMR

SUGGESTED READINGS:

- ✓ Nutrition science – B Srilakshmi, New age international Publishers, 2nd edition.
- ✓ A text book of biochemistry, Dr. AVSS Rama Rao, 10th edition, UBS publishers Distribution pvt. Ltd.
- ✓ Biochemsitry- U Satyanarayana, U chakrapani, Books and Allied(P. Ltd.)
- ✓ Helen A. Guthrie, Introductory Nutrition, Times Mirror Mosby.
- ✓ Swaminathan M, Advance Textbook on Food and Nutrition, Volume 1, The Bangalore printing and Publishing Co., Ltd.
- ✓ Mudambi S R and Rajagopal M V, Fundamentals of Food and Nutrition, Willey Eastern Ltd.
- ✓ Swaminathan M, Handbook of Food and Nutrition, the Bangalore Printing and Publishing Co. Ltd.

I SEMESTER SYLLABUS -PRACTICAL PAPER

Nutritional Biochemistry 1

Total no of practicals: 8

2 hours /week

credit 1

I. Introduction to Qualitative and Quantitative of Nutrients

II. Carbohydrates:

1. Qualitative analysis of Glucose
2. Qualitative analysis of Fructose
3. Qualitative analysis of Maltose
4. Qualitative analysis of Sucrose
5. Qualitative analysis of Lactose
6. Qualitative analysis of Starch

III. Proteins

1. Qualitative analysis of Proteins

IV. Qualitative analysis of Minerals

B.Sc. I year - SEMESTER II (Theory)

Nutritional Biochemistry 2

60 hours

Code BS 204, DSC 1B

4 hour/ week, credits 4

Unit I

20 hours

Vitamins : Fat soluble – A,D,E,K . History, Chemistry, physiological functions, sources, requirements, effects of deficiency.

Water soluble vitamins – B Complex – Thiamine, Riboflavin, Niacin, Pantothenic Acid, Folic Acid, Vitamin B12, Biotin and Pyridoxine, Vitamin C. History, requirements, functions, sources, effect of deficiencies.

Unit II

16 hours

Macro and Micro Minerals – Calcium, Phosphorous, Iron, Fluorine, Iodine. History, Chemistry, physiological functions, sources, requirements, deficiency. Role of Zinc and Selenium as antioxidants.

Unit III

12 hours

Water balance and electrolyte balance – regulation of water balance, abnormalities of water balance, water compartments in the body. Japanese Water Therapy.

Unit IV

12 hours

Enzymes – Definition, classification, properties, mechanism of enzyme action, factors affecting enzyme action, enzyme inhibitions.

Hormones – Major endocrine glands and their secretions, classification, general mode of action – Insulin, Thyroxin,

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II SEMESTER SYLLABUS -PRACTICAL PAPER

Nutritional Biochemistry 2

Total no of practicals: 7

2 hours/week

credits 1

I. Quantative analysis of carbohydrates

Estimation of reducing sugar by Benedict's method

Estimation of Fructose by Roe's Resorcinol method

II. Estimation of protein by Biuret method

III. Fats

Determination of saponification number of oil.

V. Vitamins

Estimation of ascorbic acid by 2,6, dichlorophenol, indophenols method.

Estimation of ascorbic acid in lemon / cabbage / green chillies

VI. Minerals

Estimation of Calcium in GLV