

Telangana State Council Of Higher Education, Govt. Of Telangana

B.Sc. CBCS Common Core Syllabi for All Universities in Telangana

B.Sc. Applied Nutrition and Public Health

FIRST YEAR SEMESTER I				
CODE	COURSE TITLE	COURSE TYPE	HPW	CREDITS
BS101	ENVIRONMENTAL STUDIES	AECC I	2	2
BS102	ENGLISH	CC- I A	4	4
BS103	SECOND LANGUAGE	CC -2 A	4	4
BS104	BASICS OF BIOCHEMISTRY	DSC- IA	4T+2P=6	4+1=5
BS105	OPTIONAL II	DSC -2A	4T+2P=6	4+1=5
BS 106	OPTIONAL III	DSC- 3A	4T+2P=6	4+1=5
	TOTAL			25
SEMESTER II				
BS 201	GENDER SENSITIZATION	AECC 2	2	2
BS 202	ENGLISH	CC- I B	4	4
BS 203	SECOND LANGUAGE	CC -2 B	4	4
BS 204	NUTRITIONAL BIOCHEMISTRY	DSC- IB	4T+2P=6	4+1=5
BS 205	OPTIONALII	DSC- 2B	4T+2P=6	4+1=5
BS 206	OPTIONAL III	DSC- 3B	4T+2P=6	4+1=5
	TOTAL			25
SECOND YEAR SEMESTER III				
BS 301	FOOD SERVICE MANAGEMENT SKILLS	SEC - I	2	2
BS 302	PRODUCT DEVELOPMENT	SEC - II	2	2
BS 303	ENGLISH	CC- IC	3	3
BS 304	SECOND LANGUAGE	CC -2C	3	3
BS 305	FOOD SCIENCE & TECHNOLOGY	DSC - IC	4T+2P=6	4+1=5
BS 306	OPTIONAL- II	DSC- 2C	4T+2P=6	4+1=5
BS 307	OPTIONAL- III	DSC- 3C	4T+2P=6	4+1=5
	TOTAL			25
SEMESTER IV				
BS 401	QUANTITY FOOD PRODUCTION	SEC – 3	2	2
BS 402	BASICS OF BAKING	SEC - 4	2	2
BS 403	ENGLISH	CC- I D	3	3
BS 404	SECOND LANGUAGE	CC -2 D	3	3
BS 405	FAMILY & COMMUNITY NUTRITION	DSC – 1D	4T+2P=6	4+1=5
BS 406	OPTIONAL- II	DSC- 2D	4T+2P=6	4+1=5
BS 407	OPTIONAL- III	DSC- 3D	4T+2P=6	4+1=5
	TOTAL			25

THIRD YEAR SEMESTER V				
BS 501	ENGLISH	CC-1 E	3	3
BS 502	SECOND LANGUAGE	CC-2E	3	3
BS 503	FUNDAMENTALS OF FOOD & NUTRITION	GE-1	4	4
BS 504	A) CLINICAL DIETETICS (OR) B) FOOD SAFETY & QUALITY CONTROL	DSE-1E	4T+2P=6	4+1=5
BS 505	OPTIONAL II A/B/C	DSE – 2E	4T+2P=6	4+1=5
BS 506	OPTIONAL II A/B/C	DSE – 3E	4T+2P=5	4+1=5
	TOTAL			25
SEMESTER- VI				
BS 601	ENGLISH	CC-1F	3	3
BS 602	SECOND LANGUAGE	CC-2F	3	3
BS 603	A) PUBLIC HEALTH , FOOD HYGIENE & SANITATION (OR) B) NUTRITION THERAPY IN CRITICAL CONDITIONS	DSE – 1F	4T+2P=6	4+1=5
BS 604	OPTIONAL II A/B/C	DSE – 2F	4T+2P=6	4+1=5
BS 605	OPTIONAL II A/B/C	DSE – 3F	4T+2P=6	4+1=5
BS 606	PROJECT WORK		4	4
	TOTAL			25
	TOTAL CREDITS			150

CC-Core Course

AECC- Ability Enhancement Compulsory Course

DSC- Discipline Specific Course

SEC- Skill Enhancement Course

DSE- Discipline Specific Elective

GE- General Elective

HPW- Hours per Week

P- Practical

T- Theory

Telangana State Council of Higher Education, Govt. of Telangana

B.Sc. CBCS Common Core Syllabi for All Universities in Telangana

Proposed scheme for choice based credit system in B. Sc. Applied Nutrition and
Public Health

S.NO	COURSE CATEGORY	NO.OF COURSES	CREDITS PER COURSE	CREDITS
1.	AECC	2	2	4
2.	SEC	4	2	8
3.	CC	2	4 (I YEAR), 3 (II YEAR), 3 (III YEAR)	40
4.	DSC	20	5	60
6.	DSE	10	5	30
7.	GE	1	4	4
8.	PROJECT WORK	1	4	4
	TOTAL	37		150
	CREDITS UNDER NON CGPA			
	NSS / NCC/ SPORTS/ EXTRA CURRICULAR		UPTO 6 (2 IN EACH YEAR)	
	SUMMER INTERNSHIP		UPTO 4 (2 IN EACH YEAR)	

BSC APPLIED NUTRITION & PUBLIC HEALTH I YEAR

I SEMESTER

BS104 DISCIPLINE SPECIFIC COURSE IA- (DSC IA)

BASICS OF BIOCHEMISTRY

CREDITS 4

60 HOURS

UNIT 1- INTRODUCTION TO NUTRITION & CARBOHYDRATES

16 HOURS

1.1 Introductory Nutrition, Definition of Nutrition, Food, Nutrients, or Proximate Principles, Nutritional needs of body, specific role of nutrients, classification of foods, food groups.

1.2 **Carbohydrates** — Composition and chemistry, classification, sources, nutritional significance, digestion, absorption and metabolism - Glycolysis, TCA Cycle with bioenergetics.

Unit II- PROTEINS & NUCLEIC ACIDS

18 HOURS

2.1 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

2.2 Nucleic acids: Composition — purine and pyrimidine bases DNA, RNA — structure and biological functions

Unit III- LIPIDS

14 HOURS

3.1 Composition Chemistry classification- simple, compound & derived lipids with functions, cholesterol functions & ranges

3.2 sources, chemical properties.

3.3 Digestion and Absorption,

3.4 Essential fatty acids-omega3 & omega 6: functions and deficiency,

3.5 Elements of fat analysis, Metabolism: Beta- oxidation of fatty acids. Types of Rancidity, Ketosis

Unit IV-ENERGY METABOLISM

12 HOURS

4.1 Types of energy, energy yielding food factors, RDA & factors affecting RDA, energy units.

4.2 Principle of direct & indirect calorimetry

4.3 Determination of energy value of food using bomb calorimeter.

4.4 PFV (Physiological Fuel Value) of foods,, RQ, SDA of food.

4.5 Determination of BMR and factors affecting BMR

REFERENCE BOOKS

- ✓ Nutrition science- B srilashmi, New age international publishers, 2nd edition.
- ✓ A textbook of biochemistry, Dr. AVSS Rama Rao, 10th edition, UBS publishers Distribution pvt. Ltd.
- ✓ Biochemistry- U satyanaraya, U chakrapani, Books and Allied (P.Ltd)
- ✓ Helen A. Guthrie, Introductory Nutrition, Times Mirror Mosby
- ✓ Swaminathan M, Advance Textboo on Food and Nutrition, Volume 1, The Bangalore printing and publishing co.,Ltd.
- ✓ Mudambi SR 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.

BSC APPLIED NUTRITION & PUBLIC HEALTH I YEAR

I -SEMESTER

BS104 DISCIPLINE SPECIFIC COURSE IA- (DSC IA)

BASICS OF BIOCHEMISTRY (Practical)

PERIODS: 15

NO. OF 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

I. Qualitative analysis of Proteins

IV. Minerals

IV. Qualitative analysis of Minerals

BSC APPLIED NUTRITION & PUBLIC HEALTH I YEAR

II SEMESTER

BS204 DISCIPLINE SPECIFIC COURSE IB- (DSC IB)

NUTRITIONAL BIOCHEMISTRY

CREDITS 4

60 HOURS

Unit I- VITAMINS

20 HOURS

1.1 Fat soluble — A,D,E,K . History, Chemistry, physiological functions, sources, requirements, effects of deficiency.

1.2 Water soluble vitamins — B Complex — Thiamine, Riboflavin, Niacin, Pantothenic Acid, Folic Acid, Vitamin B 12, Biotin and Pyridoxine, Vitamin C- History, requirements, functions, sources, effect of deficiencies.

Unit II - MINERALS

16 HOURS

2.1 Calcium, Phosphorous, Iron, Fluorine, Iodine. History, Chemistry, physiological functions, sources, requirements, deficiency.

2.2 Role of Zinc and Selenium as antioxidants.

Unit III-Water balance and electrolyte balance

12 HOURS

3.1 Functions of water, water compartments in the body, distribution of water & electrolyte in the body. Regulation of water balance (over hydration & dehydration), regulation of electrolyte balance (hypo & hypernatremia, hypo & hyperkalemia), RAAS (Renin Angiotensin Aldosterone system), water intoxication

3.2 , Acid base balance & imbalance , Japanese Water Therapy.

Unit IV-ENZYMES & HORMONES

12 HOURS

4.1 **Enzymes** — Definition, classification, properties, mechanism of enzyme action, factors affecting enzyme action, enzyme inhibitions.

4.2Hormones — Major endocrine glands and their secretions, classification, general mode of action, functions ,hypo & hyper secretion of — Insulin, Thyroxin, growth hormone, sex hormones

REFERENCE BOOKS

- ✓ Nutrition science- B srilashmi, New age international publishers, 2nd edition.
- ✓ A textbook of biochemistry, Dr. AVSS Rama Rao, 10th edition, UBS publishers Distribution pvt. Ltd.
- ✓ Biochemistry- U satyanaraya, U chakrapani, Books and Allied (P.Ltd)
- ✓ Helen A. Guthrie, Introductory Nutrition, Times Mirror Mosby
- ✓ Swaminathan M, Advance Textboo on Food and Nutrition, Volume 1, The Bangalore printing and publishing co.,Ltd.
- ✓ Mudambi SR 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.

BSC APPLIED NUTRITION & PUBLIC HEALTH I YEAR

II -SEMESTER

BS204 DISCIPLINE SPECIFIC COURSE IB- (DSC IB)

NUTRITIONAL BIOCHEMISTRY (PRACTICAL)

NO. OF HOURS 15

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.

IV. Vitamins

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

Estimation of ascorbic acid in lemon / cabbage / green chillies.

V. Minerals

FACULTY OF SCIENCE
B.SC I SEMESTER(CBCS) EXAMINATION,
SUBJECT: APPLIED NUTRITION & PUBLIC HEALTH
PAPER I : BASICS OF BIOCHEMISTRY
MODEL QUESTION PAPER

TIME: 3HRS

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

(ESSAY ANSWER TYPE)

NOTE: ATTEMPT ALL THE QUESTIONS

(4x12=48M)

- 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