

SARDAR PATEL UNIVERSITY, VALLABH VIDYANAGAR

B.Sc. Home Science

(Under Choice Based Credit Scheme)

Semester - Fifth (Foods and Nutrition)

Effect from June, 2020

Sr. No.	Course Type	Course Code (10 Digit)	Name of Course	Theory (T) Practical (P)	Credit	Contact hrs/ week	Exam Duration in hrs	Marks		
								Internal	External	Total
1	Foundation Courses	UH05FPRU21	Programme for Rural and Urban Development	T	3	3	3	30	70	100
2		UH05FPRU22	Programme for Rural and Urban Development	P	1	2	3	15	35	50
3	Core Courses	UH05CFDN23	Computer Application in Foods and Nutrition	P	1	2	3	15	35	50
4		UH05CFDN24	Medical Nutrition Therapy-1	T	3	3	3	30	70	100
5		UH05CFDN25	Medical Nutrition Therapy-1	P	1	2	3	15	35	50
6		UH05CFDN26	Nutritional assesment and Surveillance	T	3	3	3	30	70	100
7		UH05CFDN27	Nutritional assesment and Surveillance	P	1	2	3	15	35	50
8		UH05CFDN28	Nuetracuetical annd functional foods	T	2	2	2	15	35	50
9		UH05CFDN29	Clinical Nutrition	T	3	3	3	30	70	100
10		UH05CFDN30	Maternal and Child Nutrtrion	T	2	2	2	15	35	50
11		UH05CFDN31	Cuisine	P	2	4	Internal	100	-	100
Elective Course (Any One 12,13,14,15)										
12	Elective Courses	UH05EHSC01	Consumerism	T	2	2	2	15	35	50
13		UH05EHSC02	NGO Management	T	2	2	2	15	35	50
14		UH05EHSC03	Accessories and Adomment	T	2	2	2	15	35	50
15		UH05EHSC04	Public Health Epidemiology	T	2	2	2	15	35	50
				Total	24	30	30	325	525	850

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
PROGRAMMES FOR RURAL AND URBAN DEVELOPMENT
COURSE CODE: UH05FPRO21

Theory

Credit: 03

Pd/wk: 03

Marks: 100

Objectives:

1. To develop understanding regarding the national towards urban and rural development
2. To examine the cumulative impact of these developmental efforts in quantitative and qualitative dimensions.

Theory	Content	Weightage
Unit-I	Introduction Introduction to Community Development Programmes. Program-Before and After Independence	10%
Unit-II	History and Concept History in planning in India Five year plan and their focus. Planning at different levels: National to grassroots	10%
Unit-III	Programmes to enhance food productions: Thrust on agriculture. National food production programmes. Independence, Intensive production schemes.	20%
Unit-IV	Poverty alleviation efforts: Rural and Urban communities, characteristics, nature, difference, village organization, rural and urban development (NGOs working), role of CAPART Programmes for poverty alleviation for rural and urban areas, employment generation and social inputs. Current programmes for rural and urban poor. (Latest five year plan should be emphasized).	30%
Unit-VI	Programmes for women and Children: Women as target groups, Specific measures for women and children such as DWCRA, ICDS, IMY, ANARDE, SEVA, CHETNA, TF, SGSY, ARSP. Current programmes for women as initiated and implemented by the different ministries and departments. Shift from welfare to development to empowerment approach. Role of Home Science in rural and urban development.	30%

Outcomes:

1. The students can get the knowledge of different five years plan.
2. They use the knowledge in self empowerment and indirectly helps the society in poverty alleviation.

References:-

1. Upadhyaya, H.C.(1991): Modernisation and Rural Development New Delhi, anmol publications.
2. National institute of Rural development, Hyderabad, 1991. Rural development statistics NIRD.
3. Narayan Manohar S(1989) Integrated Rural energy programmes, Delhi Shree Hari printers.
4. Ghosh Bahanisikha (1990) The Indian population problem, Madras, Sage publications.
5. Thingalaya N.K(1986) Rural India-Real India, Bombay, Himalaya Publishing House.
6. Journal of Social welfare, Journal of Rural development, Journal of Yojana, Journal of Family welfare, Journal of extension education.

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
PROGRAMMES FOR RURAL AND URBAN DEVELOPMENT
COURSE CODE: UH05FPRO22
Practical

Credit: 01

Pd/wk: 02

Marks: 50

Experiment

- 1 Appraisal of the efforts-
- 2 Examining the impact of the development efforts in selected rural areas Quantitative achievement and qualitative improvement of a programmes
- 3 Study of the evaluation reports of the various departments.
- 4 Conducting Welfare programmes for target groups.
- 5 Planning a programme for the target groups in link with ongoing programmes in Home Science Problems/need identification of a community.

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
COMPUTER APPLICATIONS IN FOODS AND NUTRITION
COURSE CODE: UHO5CFDN23
Practical

Credits: 01
Objectives:

PD/WK-02

Marks: 50

To enable the students to use computer for Nutrition Education and Nutrition Research.
Content

- Practical-1
- a) Introduction to Excel-including writing formulas.
 - b) Formatting Data
 - i. Changing column- Width and row height.
 - ii. Aligning work sheet data
 - iii. Formatting fonts
 - iv. Changing number formats
 - v. Formatting dates
 - vi. Adding borders and colors

- Practical-2
- a) Charting data
 - i. What are charts?
 - ii. Creating charts
 - iii. Selecting the chart type
 - iv. Modifying a chart
 - v. Creating a chart sheet
 - vi. Simple data analysis- coding and graphs

- Practical -3
- a) Preparation of slides in power point
 - i. 13. Slide presentation
 - ii. 14. Adding clip art to slides
 - iii. 15. Insert pictures in slides
 - iv. 16. Setting time for slides show.
 - v. 17. Preparing note pages
 - vi. 18. Preparing audience handouts

- Practical-4
- a) Use of internet
 - Web search for updated information.
 - Net surfing specific topics related to the subject including the latest advances.
 - Locating journals on website.
 - Listing of software related to food and nutrition available in the market.

- Practical – 5 Use of any one software for nutritional calculation

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
MEDICAL NUTRITION THERAPY –I
COURSE CODE: - UHO5CFDN24

Theory

Pd/wk: 03

Marks:100

Credit: 03
Objectives:

1. This course will enable students to learn about different diets other than routine diets.
2. It will help them to plan and calculate diets according to the disease condition

CONTENT

WEIGHTAGE

Unit 1	Therapeutic Diets: a) Diet therapy and types of therapeutic diets. b) Hospital diets and Modification of normal diets. c) Nutrition support method d) Effective nutrition Counseling -Role of Dietitian. -Nutrition care process. -Documentation in nutrition care record. -Guideline for counseling. -Behavior change, counseling strategy, cognitive behavioral therapy, motivation of effectiveness.	20%
Unit 2	Nutrition in weight management a) Body weight components. b) -Regulation of body weight. c) -Weight Imbalance overweight and obesity management of obesity in adults. d) -Nutrition in underweight.	20%
Unit 3	Nutrition in eating disorder a) Anorexia Nervosa b) Bulimia.	20%
Unit 4	Nutrition during fever and infection a) Nutrition in Rheumatoid arthritis. b) Nutrition for oral health. c) Inborn errors of metabolism d) Food allergy	10%
Unit 5	Medical nutritional therapy in Gastro Intestinal Disorders. a) Etiology, symptoms, dietary management in b) Diarrhea, constipation, peptic ulcer and ulcerative colitis	25%
Unit 6	Medical nutritional therapy in menopause	5%
Outcomes	The student will be able to calculate nutrients and plan diets according to disease condition	
References:	<ol style="list-style-type: none"> 1. Joshi S.A.(1992) Nutrition and Dietetics Tata McGraw Hill Publication New Delhi. 2. Anderson, L, Dibble, M.U.Turkki, P.R.Mitchell, H.S. and Rynbergin, H.J. (1982) Nutrition In Health Disease latest ed, J.B.Lippincott& Co. Philadelphia. 3. Antia, F.P. (1973) Clinical Dietetics and nutrition 2nded, Oxford University press New Delhi. 4. Mahan, L.K. Arli, M.T. (1992) Krause Food Nutrition and Diet Therapy 8th ed. W.B. Saunders Co. London. 5. Robinson, C.H.Lawer, M.R.,Chenoweth, W.L. and Garwlic, A.E.(1986) normal and therapeutic 17th ed. Mac.Millsn Publishing Co. 7. Williams S.R. (1989) Nutrition and Diet therapy 6th ed. Tumes mirror/Mosby College publishing St. Louis. 	

8. Raheena Begum (1989) A text book of Food Nutrition and Dietetics Sterling Publisher New Delhi.

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
MEDICAL NUTRITION THERAPY –I
COURSE CODE: - UHO5CFDN25
Practical

Credit: 01

Pd/wk: 02

Marks :50

Practical	Content
1	Planning preparation for the following diets: Modification in normal diet (Clear fluid ,full fluid and soft diet)
2	Medical nutrition therapy in weight management a) Over weight b) Underweight
3	Medical nutrition therapy in Eating Disorders a) Anorexia nervosa b) Bulimia Nervosa
4	Medical nutrition therapy in fevers and infections a) Acute Fever b) Chronic Fever
5	Diet for oral health. Diet for rheumatoid arthritis patient
6	Medical nutrition therapy in gastrointestinal disorder a) Diet for Diarrhea patient b) Diet for constipation patient c) Diet for Peptic Ulcer patient d) Diet for Ulcerative Colitis patient

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
NUTRITIONAL ASSESSMENT AND SURVEILLANCE
COURSE CODE: UHO5CFDN26

Theory

Credits-03

Pd/Wk: 03

Marks: 100

OBJECTIVES

This course will enable the students to

1. Understand the concept of nutritional status and its relationship to health.
2. Know aims, objectives, methods used for assessment of nutritional status.
3. Identify the factors responsible for the malnutrition.

Unit -1	Nutritional status assessment and surveillance-meaning, need, and importance.	05%
Unit-II	Nutrition surveillance system and Nutrition Monitoring. Diet surveys-need, importance, methods of diet survey. Interpretation-concept of consumption unit, intra and inter individual Distribution in family, Adequacy of diet with respect to RDA. Concept of family food security.	25%
Unit-III	Direct Nutritional Assessment of Human groups- a) Clinical signs-need, importance, identifying signs of PEM, Vitamin A, Anemia, Iodine deficiency. Interpretation of descriptive list of clinical signs b) Nutrition Anthropometrics-need and importance, Standards for references, techniques of measuring height, weight, head, chest and arm circumference, Comparison and interpretation of these measurements with the Standards and use of growth charts and interpretation c) Biochemical tests d) Biophysical methods	25%
Unit-IV	a Rapid assessment procedures- need and importance, technique of rapid assessment, interpretation. b Surveillance Systems-International, National and Community.	20%
Unit-V	Secondary sources of Community health data: Sources of relevant vital statistics, importance of infant, child and maternal mortality rates. Epidemiology of nutritionally related diseases. Sociological factors in etiology, prevention of malnutrition, food production and availability, Cultural influences, socio-economic factors, food consumption, conditioning infections, Psychosocial, emergency/disaster conditions like Famine, Floods.	25%

REFERENCES

1. Jelliffe D.B.(1966): Assessment of nutritional status of the community, WHO
2. Saln D R Lockwood R Scrimshaw N S (1981) Methods for the evaluation of the Impact and Nutrition Programme U N University.
3. Rutchie J A S (1967): learning better nutrition, FAO Rome.
4. Gopalan C. Nutritional and Health Care, Nutrition foundation of India, special publication series.
5. Beghan I Cap M Dajardan B (1988) A guide to Nutritional Status Assessment WHO Geneva.
6. Gopaldas T and Seshadri S (1987) Nutrition monitoring and assessment, Oxford University press.
7. 7. Mason J B Habicht J P Tabatabai H Valverde V (1984): Nutritional Surveillance WHO.

OUTCOMES

At the end of the course the students shall have the knowledge to

1. Understand the concept of nutritional status and its relationship to health.
2. Know aims, objectives, methods used for assessment of nutritional status.
3. Identify the factors responsible for the malnutrition.

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
NUTRITIONAL ASSESSMENT AND SURVEILLANCE
COURSE CODE: UHO5CFDN27

Credits-01	Practical	Marks-50
PRACTICAL	Pd/Wk-02	
	CONTENT	
1.	To assess the nutritional status by use of anthropometric measurements: <ol style="list-style-type: none">a. Measurement of child's height, weight, circumference measurements-head, chest, mid upper arm, waist-hip ratio.b. Assessment of BMI of adolescents.c. Interpretation of data in weight for age, height for age, weight for height.d. Measurements of fat using skin fold thickness.e. Clinical assessment of PEM, Vitamin A, Anemia, B complex vitamins	
2.	Formulating tool, collection of Data, estimation of Intake by different dietary methods.	
3.	Nutrition Health Education activities-preparation of charts, posters, street plays, skits, puppets, lecture demonstration (any one activity by one group).	
4.	<ol style="list-style-type: none">a) Field visits for surveillance system used in nutrition and health programmes.b) Assessment of BMI for Adolescents	

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
NUTRACEUTICALS AND FUNCTIONAL FOODS
COURSE CODE: UH05CFDN28

Theory

Credits: 02

Pd/Wk: 02

Marks: 50

OBJECTIVES:

THEORY	CONTENT	WEIGHTAGE
I	1. Introduction to Nutraceuticals as Science: a. Historical perspective, classification, scope & future prospects. b. Applied aspects of the Nutraceutical Science. c. Sources of Nutraceuticals. 2. Structure and functions of various Nutraceuticals: a. Glucosamine, Octacosanol, Lycopene, Carnitine, Melatonin and Ornithine alpha ketoglutarate. Use of proanthocyanidins, grape products, flaxseed oil as Nutraceuticals.	25%
II	Functional Foods – I a) Functional Foods-1: Definition, Relation of functional foods & Nutraceuticals (FFN) to foods & drugs. b) Applications of herbs to functional foods. Concept of free radicals and antioxidants; Nutritive and Non-nutritive food components with potential health effects.	25%
III	Food as remedies: a) Nutraceuticals bridging the gap between food and drug, Nutraceuticals in treatment for cognitive decline, Nutraceutical remedies for common disorders like Arthritis, Bronchitis, circulatory problems, hypoglycemia, Nephrological disorders, Liver disorders, Osteoporosis, Psoriasis and Ulcers etc. b) Brief idea about some Nutraceutical rich supplements e.g. Bee pollen, Caffeine, Green tea, Lecithin, Mushroom extract, Chlorophyll, Kelp and <i>Spirulina</i> etc. c) General idea about probiotics and prebiotics as nutraceuticals.	30%
IV	Functional Foods – II a) Sources and role of Isoprenoids, Isoflavones, Flavonoids, carotenoids, Tocotrienols, polyunsaturated fatty acids, sphingolipids, lecithin, choline. terpenoids. Vegetables, Cereals, milk and dairy products as Functional foods. b) Health effects of common beans, <i>Capsicum annum</i> , mustards, Ginseng, garlic, grape, citrus fruits, fish oils, and sea foods, nuts. c) Role of dietary fiber in disease prevention. d) Anti-nutritional Factors present in Foods: e) General idea about role of Probiotics and Prebiotics as nutraceuticals.	20%

OUTCOME:

Students will learn the knowledge of nutraceuticals of food

REFERENCES:

- Owen R.Fennema:Food Chemistry,3rd Edition,Marcel Dekker Inc,New York

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
CLINICAL NUTRITION
COURSE CODE: UHO5CFDN29
Theory

Credits: 03

PD/WK: 03

Marks: 100

I	Introduction ,principles of clinical nutrition a. Spectrum of nutritional problems, nutrient requirements. b. Effects of disorders on nutritional requirements. c. Importance of nutritional screening. d. Clinical assessment of nutritional status. e. Nutritional assessment tools in clinical decision making. i. MUST, SGA, NIA, MNA GMRI ii. Different types of histories	15%
II	Over nutrition and Under nutrition- a. Introduction, clinical presentation, clinical assessment, treatment approaches and prevention , b. Chronic under nutrition, under nutrition in elderly individuals, assessment of under nutrition, metabolic disorder, treatment.	20%
III	1. Gastrointestinal tract-the pathophysiology, laboratory assessment and nutritional assessment - a. Esophagitis, peptic ulcers b. Celiac disease-ulcerative colitis and Irritable Bowel Syndrome 2. Liver diseases-- the pathophysiology, laboratory assessment and nutritional assessment- a. Acute Viral Hepatitis, Chronic Viral Hepatitis b. Alcoholic Liver Diseases-Hepatic Steatosis, Alcoholic Hepatitis, Alcoholic Cirrhosis, Malnutrition in Liver Disease. 3. Pancreatic and gall bladder disorder- the pathophysiology, laboratory assessment and nutritional assessment- a. Diseases of Exocrine Pancreas i. Acute Pancreatitis ii. Chronic Pancreatitis iii. Diseases of Endocrine Pancreas iv. Diabetes mellitus-types, factors causing, pathophysiology, v. Complications of Diabetes Mellitus- DKA, Macro Vascular Diseases, Micro Vascular Diseases b. Diseases of gall bladder i. Cholestasis	45%

ii. Cholelithiasis

4. Kidney Disorder- the pathophysiology, laboratory assessment and nutritional assessment-
 - a. Nephritis
 - b. Nephrotic Syndrome
 - c. Nephrolithiasis,
 - d. Acute Renal Failure
 - e. Chronic Renal Failure
 - f. ESRD

5. Heart and blood vessels- the pathophysiology, laboratory assessment and nutritional assessment-
 - a. Cardio Vascular Diseases-
 - b. Atherosclerosis-Factors-Modifiable and Non-Modifiable
 - c. Lipoproteins- their role in CVD
 - d. Hyper tension
 - e. Heart Failure

IV	Nutrition in surgery and trauma- Introduction, stress response to trauma and its effects on mechanism Nutrition support in preoperative care.	10%
V	Nutrition and Drug interaction <ol style="list-style-type: none">a. Risk factors of Food drug interactionsb. Effect of Drugs on Nutritional Status,c. Effect of Drugs on Food and Nutritiond. Effect of food on Drug Therapy	10%

REFERENCES:

1. Antia F.P. "Clinical Dietetics" Nutrition 3rd 2000. Oxford University Press. New Delhi/Bombay.
2. Passmore, R. Eastwood M.A. "Human Nutrition & Dietetics" 8th Ed. 1986. ELBS Publ.
3. Robusseau C.H. & Wyley E.S. "Basic Nutrition & Diet Therapy" 6th Ed. 1989 Macmillan Pub New York.
4. Anderson L. & Others "Nutrition in Health & Disease" 17th ed J.B. Lippincott Cp. Philadelphia. Vocational Training Course - Clinical Nutrition & Dietetics.

OUTCOME:

1. At the end of the course the students shall have the knowledge of
2. The basic nutrition screening process and the tools used
3. Clinical assessment of nutritional status in various diseases
4. Metabolic changes in stress and trauma and drug and nutrient interaction

SARDAR PATEL UNIVERSITY
THIRD YEAR BSC (HOME) V SEMESTER
MATERNAL AND CHILD NUTRITION
COURSE CODE: UH05CFDN30
Theory

Credits-02
50

Pd/Wk-02

Marks-

OBJECTIVES:

This course should enable the students to-

1. Understand the physiology of pregnancy and lactation and how these influence nutritional requirements.
2. Learn benefits of breast feeding.
3. Be aware of problems encountered in pregnancy and during breast feeding and how to cope with these problems.
4. Understand the process of growth and development from birth until adulthood.
5. Get familiar with nutritional needs at different stages of growth.
6. Understand the concept of growth promotion.

THEORY	CONTENT	WEIGHTAGE
Unit-I	Nutrition during pregnancy: a) Placental development and function, foetal growth and development b) physiological changes during pregnancy, Importance of proper weight gain c) Nutritional and non- nutritional factors affecting pregnancy outcome d) Antenatal care ,Effects of fetal malnutrition e) Common problems of pregnancy and their management f) Pregnancy induced diabetes and hypertension g) Food aversions and cravings, Pica h) Importance of nutritional requirements and modification of a. existing diet. supplementations, Deficiency of nutrients and their b. impact. i) Adolescent pregnancy, consequences, cares, etc.	35%
Unit-II	Nutrition during Lactation: a) Nutrition during lactation and dietary management, food supplements, lactogogues b) Physiology of lactation c) Factors affecting lactation d) problems during lactation e) lactation amenorrhoea, breast hygiene, milk bank in India and its function	25%
Unit-III	Nutrition during Infancy: a) Breast feeding- colostrums, its composition and importance in	20%

- feeding. Initiation of breast
- b) Feeding and duration of breast feeding. Nutritional and other advantages of breast feeding.
- c) Introduction of complimentary foods, initiation and management of weaning, sterilization of bottles, mixed feeding and artificial feeding. Teething and management of problems.

Unit-V Growth and development during preschool, school going and adolescent child with special needs: 20%

- a) Management of preterm and low birth weight children
- b) Dietary management of preschoolers and school going child.
- c) Physical, brain and mental development, anorexia nervosa & bulimia during Adolescents.
- d) Puberty, Prepubertal and pubertal changes, Menarche/menstrual cycle.

OUTCOME:

1. The students will get the knowledge of importance of nutrition during childhood and adolescence which influence a woman's preconceptional nutritional status which subsequently influences the outcome of pregnancy and health of her child.
2. The students will understand the beneficial effects of breast feeding for both mother and infant as well as how intrauterine malnutrition is a key predictor of developmental delay.

REFERENCES:

1. Ghosh (1992) The feeding and care of infant and young children UHAI.6th ed. New Delhi.
2. WHO (1978) A Growth chart of International use in maternal and child Health Care Geneva.
3. Swaminathan M.(1985) Essentials of Foods and Nutrition.Vol.I &II Ganesh and Co. Madras.
4. King M.H.King F.M.A Morley D: Burgress A.P (1972) Nutrition for Developing countries ECBS Oxford Universities Press.
5. Indian National Code for protection of Breast feeding.Govt.of India Ministry of Social Welfare.
6. Indian Council of Medical Research (1989) RDI for Indians.
7. M C Laren D.S.Meguid M.M (1988) Nutrition and its Disorders. Churchill Livingstone waterlow J.C (1992) PEM Edward Arnold.
8. Sachdeva H.P.S Chaudhary P (1994)
9. Nutrition in Children: Developing country concerns Dept. of pediatrics.Maulana Azad Medical College New Delhi.
10. Worthing Robets B.S. & William S (1989) Nutrition in Pregnancy & Lactation.

SARDAR PATEL UNIVERSITY

**THIRD YEAR BSC (HOME) V SEMESTER
CUISINE
COURSE CODE: UH05CFDN31
Practical**

Credit: 02

Pd/wk: 04

Marks: 100

1. Brief Introduction, cooking terms, special ingredients and preparation of recipes of Northern India-Punjab, Jammu and Kashmir, Uttrakhand, Uttar Pradesh, Laddakh, Haryana, Himachal Pradesh –Any two states
2. Brief Introduction, cooking terms, special ingredients and preparation of recipes of Southern India-Andhra Pradesh, Tamilnadu, Kerala, Karnataka- Any two states
3. Brief Introduction, cooking terms, special ingredients and preparation of recipes of western India- Rajasthan, Maharashtra, Goa, Madhya Pradesh, Gujarat- Any two states
4. Brief Introduction, cooking terms, special ingredients and preparation of recipes of Eastern India- Assam, West Bengal, Tripura, Nagaland, Manipur, Arunachal Pradesh- Any two states
5. Oriental Cuisine- Arabic, Chinese, Japanese, Ceylonese, Thai, Indonesian-Any two
6. South American Cuisine- Mexican
7. Mediterrian Cuisine – Egyptian, Greek (Any one)