



BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI – 620 024.

M.Sc. Food Service Management and Dietetics- Course Structure under CBCS

(applicable to the candidates admitted from the academic year 2008-2009 onwards)

Seme ster	Course	Course Title	Ins. Hrs / Week	Credit	Exam Hrs	Marks		Total
						Int.	Extn.	
I	Core Course – I (CC)	Nutrition and Diet in Health Theory	6	5	3	25	75	100
	Core Course – II (CC)	Biochemical Changes in Diseases - Theory	6	4	3	25	75	100
	Core Course – III (CC)	Biochemical Changes in Diseases - Practicals	6	5	3	40	60	100
	Core Course – IV (CC)	Food Service Facilities	6	5	3	25	75	100
	Core Course – V (CC)	Advance Food Science – I - Theory	6	4	3	25	75	100
		Total		30	23			
II	Core Course – VI (CC)	Advance Food Science – II - Theory	6	4	3	25	75	100
	Core Course – VII (CC)	Dietetics	6	5	3	25	75	100
	Core Course – VIII (CC)	Dietetics Practical and Dietetics Internship	6	5	3	40	60	100
	Core Course – IX (CC)	Quantity Food Production and Science	6	5	3	25	75	100
	Elective – I	Community Nutrition	6	4	3	25	75	100
		Total		30	23			
III	Core Course – X (CC)	Management and Accounting in Hospitality Industry	6	4	3	25	75	100
	Core Course – XI (CC)	Research Methodology and Statistics	6	4	3	25	75	100
	Core Course – XII (CC)	Catering Internship	6	5	**	25	75	100
	Elective - II	Principles of Interior Design	6	4	3	25	75	100
	Elective – III	Home scale Food Preservation	6	4	3	25	75	100
		Total		30	21			
IV	Core Course – XIII (CC)	Food Service Management	6	5	3	25	75	100
	Project Work	Dissertation = 80 Marks [2 reviews –20+20=40 marks Report Valuation = 40 marks] Viva = 20 Marks	12	10	-	-	-	100
	Elective - IV	Food Microbiology and Sanitation	6	4	3	25	75	100
	Elective – V	Front Office Management	6	4	3	25	75	100
		Total		30	23			
		Grand Total	120	90				1900

** Catering Internship at Hotel and Hostel – No Theory Examination

Note:

Core Courses include Theory, Practicals & Project

No. of Courses	14 - 17
Credit per Course	4 - 5
Total Credits	70

Elective Courses

(Major based / Non Major / Internship)

No. of Courses	4 – 5
Credit per Course	4 – 6
Total Credits	20

	Internal	External
Theory	25	75
Practicals	40	60

Project

Dissertation	80 Marks	[2 reviews – 20+20 Report Valuation	=	40 marks
Viva	20 Marks		=	40 marks]
				20 marks

Passing Minimum in a Subject

CIA	40%	}	Aggregate 50%
UE	40%		

SEMESTER-I

CORE COURSE – 1 - NUTRITION AND DIET IN HEALTH

(Hour of instruction per week :6 (3+3) Theory:3, Practical 3)

Objectives:

To enable the students

1. Understand the role of nutrition in different conditions
2. Develop competency in planning diets to meet the nutritional requirements of different socio economic levels.
3. Gain knowledge about the methods of assessment of nutritional problems and their implications.

S.No.	Topic	Practical / Course outline	Related Experience
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UNIT I

Nutrition and
Diet in Health

Vital link between
Nutrition and Health.
Review of concept of
adequate nutrition, under
nutrition and malnutrition.
Different food groups-a guide
In menu planning

Assessment of
the Nutritional
status

Assessing, the food and
nutritional problems in the
community, methods available
for the assessment of nutritional
status of an individual and a
community. Direct and
indirect methods, assessment of
of ecological factors. Techniques
of diet and nutrition surveys.

Recommended allowances : ICMR recommended allowances for
Indian basis for requirements
Balanced Menus

Planning diets to meet
the requirement at
different economic
level low, middle and
high income for the
following conditions.

UNIT-II

Nutrition in Pregnancy	Nutritional status and general health, weight gain during pregnancy-the nature of weight gain. Physiological adaptations Requirements, storage of Nutrients in normal pregnancy Physiological cost, complications of Pregnancy, implications for public for Public health programmes.	1. Pregnancy
Nutrition in Lactation	Physiological adjustment during lactation, lactation in relation to Growth and health of infants, Efficiency of milk production, Diet, of lactating women, Implications for public health Programmes.	2. lactation

UNIT III

Nutrition in Infancy	Nutritional status of the infants rate of growth, Weight as the indicator. Nutritional allowances for the Infants, breast feeding Vs. formula Feeding, weaning foods suitable For infants, feeding the premature Infants.	3. Infancy
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UNIT IV

Nutrition in Preschool age	Growth and development of preschool children need and Emphasis on Nutritional and Health care of preschool children Food habits and nutrient intake of Preschool children. Dietary Allowances- supplementary Foods.	6. preschool age
Nutrition during school age	physical development, nutrition status of school age children, school lunch programme, food habits, nutritional requirements	4. School age
Nutrition during Adolescence	Changes of growth, physical, physiological changes in Adolescents, Nutritional needs of the adolescents, changes needed to prevent malnutrition in adolnutrition.	5. Adolescents

UNIT V

Nutrition for the adult	Nutrition for the adult	4. Adult
Nutrition for The aged	Socio-economic and psychological factors-Nutritional requirements- Clinical-needs malnutrition – Advances in geriatric nutrition	4. old people

Reference

1. Infant feeding difficulties, 4th edition, 1977
2. Venkatachalam P.S. and Rebellow, L.W., Nutrition for the Mother and child, ICMR, Special Report, 1971
3. Symposia of the Swedish Nutrition Foundation, III Cunnar Blix 1969.
4. Davidson, Sir Stanley, Passmore R. and Brock J.F. Human Nutrition and Dietetics, E. and S. Livingston Ltd. Edinburgh and London, 1973.
5. Jelliffe, D.B. Assessment of the Nutritional status of the community, WHO Geneva, 1966.
6. Jelliffe, D.B. Infant in the subtropics and tropics, WHO Geneva, 1968.
7. Martin E.A. Roberts, Nutrition work with children, The University of Chicago press, Chicaco, 1963.
8. De las R.P. Nutrition in Tamil Nadu Sangam Publishers, 1972.
9. Gopalan, C. Rama Sastri B.V. and Balasubramanian, Nutritive value of Health Indian Foods, National Institute of Nutrition KMR 1981.
10. Shills, E.M. , Olson, A.J. and Shika, K. Modern Nutrition in Health and Diseases, Le and Febigar, Philadelphia, Vol I. 1994.
11. Vinodini Reddy, Phalhad Rao, Guminath Sastry, I and kasinath. K.C. Nutrition trends in India. National Institute of Nutrition, Hyderabad, 1993.
12. Gnana Sundaram, S.A manual of practical paediatric Nutrition, Students offset service T. Nagar, Madras.

JOURNALS

1. The Indian Journal of Medical Research, ICMR, New Delhi.
2. Indian Journal of paediatrics, published at vally view, London cont, Mussoria, U.P.
3. Indian Journal of Nutrition and Dietetics, Sri Avinashilingam Home Science College, Coimbatore.
4. WHO chronicle, WHO , Geneva.
5. Proceedings of the Nutrition Society of India. Nutrition society of India, New Delhi.
6. Ecology of food and Nutrition, Golden and Breach Service Publishers Ltd., Great Britan.
7. Nutrition News Letter. FAO of the United Nations.
8. Food and Nutrition-notes and reviews, Australian Department of Health, publishing service, Canberra.
9. Swasth Hind central Health Education Bureau, New Delhi.
10. Journal of Human Nutrition, British Dietetic Association, England
11. PAG Bulletin, protein, calorie Advisory Group of the United Nations Systems, USA.
12. Journal of the American Dietetic Association, published by the American Dietetic Association, Chicago Illinois.
13. ICMR Bulletin, Research Information Bulletin Division of publication and Information, Ansari Nagar, New Delhi.
14. Food and Nutrition, FAO of the United Nations, Rome, Italy.
15. Nutrition, National Institute of Nutrition, ICMR, India.

CORE COURSE-11
BIOCHEMICAL CHANGES IN DISEASES
(Hours of Instruction per week 6: Theory 6)

OBJECTIVES:

To enable students

1. Understand the Biochemical and physiological impairments in diseases:
2. Develop skills to analyze selected constituents in blood and urine during diseases:

TOPIC	PRACTICAL
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UNIT I

Basis for biochemical estimation
_basic principles - general lab
information - units of measure.
Uses of biochemical data in
Clinical medicine.
Acquisition and interpretation
of biochemical data.

UNIT II

Disorders of carbohydrate metabolism
Maintenance of Normoglycaemia - Normal
Glucose metabolism - glucose transporters -
Glucose transporter proteins - insulin -
Biosynthesis, secretion, kinetics, action
Abnormalities of insulin synthesis and
Secretion.
Diabet has mellitus - definition , classification
of diabetes - in detail.
Long term diabetic complications, management
of diabetes mellitus.

Screening of diabetes:
1. measurement of blood glucose
random, fasting,
2. measurement of urinary
glucose content
3. Oral glucose tolerance test

b. Fat metabolism - lipids - types.
Lipoprotein - types, metabolism
- exogenous pathway, endogenous pathway.
Lipoprotein disorders - primary
dyslipoproteinaemics, acquired
Hyperlipididaemia, acquired hypolipidaemia

Investigations of lipid disorders
-appearance of the sample

Total cholesterol - estimation
Triglycerides HDL & HDL

UNIT III

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|---|--|
| a. Clinical biochemistry of nutrition, nutritional requirements - carbohydrate, protein fat, vitamins, minerals | Xylose absorption test
Lactose to tolerance test
facal fat excretion |
| b. Malabsorption carbohydrate absorption protein absorption fat absorption, diarrhea, its course. | SEPT, SGPT, AP
AP, Bilirubin |
| c. Anatomy of liver Hepatic regeneration physiological function, liver function test and its uses. | |
| d. Poisoning - actiology of poisoning, Diagnosis and management of poisoning Specific poisons. | Lab assessment of specific poisons like salicylate, Dogoxin, metals, alcohols etc. |

UNIT IV

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| a. Anatomy of kidney - gross anatomy and microstructure renal function. Renal diseases and its presentation. Assessment of renal function. Renal Failure - acute and chronic, metabolic Consequences and management of renal Failure. | Biochemical test of renal Function.
– appearance, colour, smell
specific gravity and osmolality
-urine glucose
-urine PH |
| b. Mechanism of protein conservation by the kidney - urine protein content in health - proteinuria in renal disease -proteinuria in non renal disease. | -protein
-urinary sediment
serum creatinine
Plasma urea conc. |
| c. Renal tubular disorders, renal calculi | Plasma urea concentration
Plasma B2 micro globulin
Observation of dialysis |

UNIT V

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|---|---|
| a. Blood - components, function, RBC - structure, function and metabolism, Hemolysis - definition and classification And consequences | Blood count
total - WBC Count
total - RBC count
differential count |
| b. Biosynthesis of haem porphyries and its genetics, classification | ESR |
| c. Hemoglobinopathies, structure and function of hemoglobin , control of hemoglobin synthesis. Thalasaemias - α and β . Structural Hemoglobin variants SCA | Blood grouping & Rh factor
Separation of serum and plasma |

CORE COURSE –III (PRACTICAL)

BIOCHEMICAL CHANGES IN DISEASES PRACTICAL – 6 Hours / Wk

1. Qualitative estimation.
 - a. Sugars - mono - di and polysaccharides
 - b. Proteins and amino acids
 - c. Minerals

2. Analysis of blood for
 - a. Glucose
 - b. Hemoglobin
 - c. Cholesterol
 - d. Pyruvic acid
 - e. Serum A/C ratio
 - f. Serum phospholipid
 - g. Serum protein

3. Analysis of Urine for
 - a. Creatinine
 - b. Urea
 - c. Total nitrogen
 - d. Calcium
 - e. Phosphorous
 - f. Vitamin C

4. Techniques of Chromatography (paper), electrophoresis.

5. Animal Studies - ER, nitrogen balance studies, human balance studies

6. Microbiological assay of folic acid

7. Tests for food adulterants.

CORE COURSE -IV
FOOD SERVICE FACILITIES

(Hours of Instruction per week: 6Hours Theory 3+Practical 3)

OBJECTIVES

To enable students

Gain knowledge in space allocation and arrangement of equipment in food Service institution.

Develop skills in selecting and handling equipments for food preparation and service.

Acquire knowledge in use of computers for catering services.

S.No.	TOPIC	COURSE OUTLINE	PRACT./RELATED EXPERIENCE
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UNIT I

Type of food Service

Review of :
Location, architectural Considerations, space Allocation, design, work Flow in all types of Commercial and welfare food Service institutions, House keeping requirements in Relation to size, work and storage Heights.

UNIT II

Floor planning and layouts

Planning and organizing space relationships and arrangement of equipment with assembly Line concept.

Detailed layout and location of Functional areas in relation to Capacity, receipt, purchase & Storage of food, food production, Dinning, food service, removal of Soiled dishes, hand washing and Dishwashing.
Workers and their work space needs.

Work simplification

Sanitation of plant, garbage Disposal and pest control.

UNIT III

Equipment	Review of classification, traditional and modern equipments, Materials used for bases and finishes, Accessory Parts and Functional Design of equipment.	Market survey of electrical & non-electrical equipment available.
Equipment	needs for commercial and welfare food service Institutions of varying capacities	

UNIT IV

Catering Systems	Recent trends versus traditional, cook, chill & cook - freeze systems. Working knowledge of mechanics of menu planning, customer preferences, portion cost and control.
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UNIT V

Automation in The Hospitality Industry	Advent of computer technology Advantage of using computers in menu planning and accounting functions of food service institutions. Types of computer systems used for reservation systems, point of sale systems (POS) and property management systems.(PMS)
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REFERENCE

1. Peet L, and Thy L. S. 'Household Equipment,' John Wiley and Sons., New York, 1961.
2. Beveridge E.B. and Churchil F.M. 'Household Equipment,' Experiment. The Iowa state college.
3. Beveridge E.B. 'Choosing and using Home Equipment,' The Iowa State University press, Iowa
4. Ehrenkranz F. and Inman L. 'Equipment in the Home'. Harper and Brothers, New York, 1958.
5. Johnston B.J. Equipment for modern living, the Macmillan Co., New York, 1965.
6. Vasantha B.J. household equipment principles. Prentice Hall Inc., Engle, Wood Cliffs, New york, 1964.

7. Glow G. Edition, 'Catering Equipment and systems Design' Applied Science Publishers Ltd. London 1977.
8. Kotschevar and Terrell, ' Food Service Planning, Layout and Equipment, 2nd Edition, John Willey and Sons, 1997.
9. Unklebay N.S. Unklebay K. " Energy Management in food Service. Ellis Horwood Ltd., England, 1982.
10. Palan E.R. Sc. Steadler, J.A. 'Preparing for the food service Industry- 'An introductory approach" AVI Publishing Co., West Port, 1986.
11. Foster, D.L. - V.I.P. An introduction to ' Hospitality, Glencoe, Macmillan/ McGraw - Hill , International Editions, 1993.
12. Foster, D.L. - Food and Beverage Operations, Methods and cost controls Glencoe, Macmillan/ McGraw – Hill, International Editions, 1993.
13. West, B.B., Wood, L., Harger, V.F. and Schugart - Food Service in Institutions, John Wiley & Sons., N.Y., 1972.

CORE COURSE - V - ADVANCED FOOD SCIENCE - I

(Hour of instruction per week : 6 Theory 3+ Practical 3)

OBJECTIVES:

To enable students

1. Understand the principles and chemistry of foods.
2. Apply the principles while preparing and cooking.

S.No.	TOPIC	COURSE OUTLINE	RELATED EXPERIENCE (PRACTICALS)
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UNIT I

Evaluation of quality of foods:

	Sensory methods of assessment	Factors affecting the ability of food selection of taste panel .Different Preference and description test	Evaluating the acceptability of food. Subjective and objective methods.
	Physical and Objective methods	Physical characteristics like colour appearance. Texture, density, volume Tenderness. Viscosity and Surface tension, moisture Loss and weight. Microscopic examination	Microscopic examination
	Changes in food During cooking	Preparation of colloids gel formation. Stabilization of colloids. Colloidal chemistry	
	Emulsion	Food emulsion, emulsifier, Stabilizer, preparation of mayonnaise	Preparation of mayonnaise and mulsions
	Browning Reaction	Enzymatic, nonenzymatic reaction in foods	

S.No.	TOPIC	COURSE OUTLINE	RELATED EXPERIENCE
UNIT-II			
	Sugar	Sources, uses, properties, Crystallisation of sugar. Stages of sugar cookery	Crystallisation of Sugar stages of sugar cookery
	Sugar cookery	Amorphous and crystalline Candies, fondant, fudge And caramels, Indian Sweet preparations.	Fondant fudge, and brittle, preparation of halwa, coconut burfi and Gulabjamun
UNIT III - CARBOHYDRATE:			
	Starch	Sources – uses, gelatinisation of flours starch as thickening Agents. Gluten formation Factors affecting it, Retro- Gradation of starch.	Microscopic examination of different starch gluten formation
	Bread making	Role of ingredients - Methods of Bread Making leavening Agents.	preparation of dosai, iddli, appam, poori, Chappathi, Demonstration of Bread making Preparation of Different biscuits
	Fats and Oils	Sources and extraction of edible fats and oils. Characteristics of fats And oils. Physical and Chemical properties of Oils and fats. Changes During storage and cooking. Uses of fats, value and Flakiness.	Smoking temp. Factors affecting absorption of fats, deep fried foods
	Vegetables And Fruits	Structure, texture, pigments and acids in vegetable and Fruits. Cellulose and Hemicellulose. Browning Reactions-enzymatic and Non-enzymatic browning. Changes in cooking,pectic Substances, jams and jelly	Structure, texture, pigments and acids in vegetables and fruits browning reaction. Changes in cooking, pectic substances, jams and jellies.

S.No.	TOPIC	COURSE OUTLINE	RELATED EXPERIENCE
UNIT IV			
	Grams, Dhals And nuts	Composition, methods of processing and cooking, Effects of processing such As soaking, decortication, Germination and fermentation	Methods of cooking pulses, effect of soaking with Alkalis salts and germination of grams.
	Meat	Structure, cuts of meat and constituents of meat, Postmortem changes, methods of increasing Tenderness and juiciness	Meat fish and poultry changes in cooking. Two recipes in each, Involving any two Methods.
	Fish	Kinds of fish, constituents selection and cooking	
	Eggs	Structure, composition and Selection, coagulation of egg Protein, egg cooked in Shell, poached, cake making procedures and different types of cakes.	coagulation of Egg boiled eggs, poached eggs omelette custard and cake
	Milk and Milk Products	composition and constituents of milk. Physical and chemical properties. Coagulation of Milk protein, creaming Butter and cheese making	cream of tomato soup preparation of cheese, curds and ice-cream.
UNIT V - Fortification and Enrichment			
	Post harvest	Post harvest losses reasons for losses of foods, extent of losses methods for assessing losses. Preventive measures to minimize losses of food.	

SUGGESTED BOOK REFERENCES

A. Books.

1. Potter N.M. 'Food Science' The AVI publishing Company inc., West Port, Connecticut, U.S.S. 1973.
2. Fox A. Cameron, A.G. 1970, 'Food Science and Chemical Approach', University of London, press Ltd., 1970.
3. Griswold, R.M. 'The Experimental study of Foods' Houghton Milflin, Company, Bpstpñ New York, 1962.
4. Peckham, G.C., 'Foundation of Food Preparation', The Macmillan and Company, London, 1969
5. Paul P.C. and Palmer, H.H.. 'Food Theory and applications'. John Willey and sons, Inc., New York 1972.
6. Low, B. 'Experimental Cookery' John Willey and Sons, Inc., New York. (1965)
7. Meyer, :H. 'Food Chemistry' Van Nonstrand, Teinhold Company, New York and London, 1969.
8. Amerine, M.A. et-al ., 'Principles of Sensory Evaluation of food '
' Academic press, New York, and London 1965.
9. Paul, P.C. and palmer, H.H Food Theory and Applicaions. John Wiley (1972)
10. Matz., S.A. Food Texture The AVI Publishing Co. (1962)
11. Kranar, A. and Twing B.A. Fundamental of Quality control for the Food Industry. The AVI publishing Co., (1966)
12. Vail, G.E., Philip J.A. Rust L.O. Griswold R.M. Justin, M.M.
'Food' , Houghton Mifflin, Co., 1973.
13. Pameranz., Y., Functional Properties of Food components. Academic Press Inc., Boston, 1991.

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1. Food processing, patman publishing Company, New York, USA
2. Cereal food, world , American Association of Cereal Chemists.
3. British Food Journal, The Peterson Publishing Co., Ltd.
4. Food Technology 'Journal of Institute of Food Technology, Illinois, USA
5. Journal of Food Science and Technology by Association of Food Scientist and Technologist India.
6. Food Technology abstracts. CFRI. Mysore.
7. Journal of Food Science, The Institute of food technologist, Illinois, U.S.A.
8. Nutrition and Food science, Forbes publishing Ltd., Martree House, Queenway London

SEMESTER - II - CORE COURSE – VI - ADVANCED FOOD SCIENCE II

{ Hours of Instruction Per week: 6

Theory 3

Theory 3}

OBJECTIVES:

To enable Students to

1. Understand the Principles and chemistry of foods.
2. Apply the Principles while preparing and cooking.

TOPIC	COURSE OUTLINE	RELATED EXPERIENCE
UNIT – I CARBOHYDRATE STARCH	Sources – Uses gelatinization of flours, starch as thickening agents. Gluten formation, Factors affecting it and Retro gradation of starch.	Microscopic Examination of different Starches and gluten formation preparation of Dasai, Idli, Appam, Poori, Chappathi.
BREAD MAKING	Role of ingredients- Methods of Bread making and leavening agents.	Demonstration of Bread making, Preparation of different types of biscuits.
UNIT – II GRAMS, DHALS AND NUTS	Composition, Methods of Processing and cooking, Effects of Processing Such as soaking, decortications, Germination and fermentation.	Methods of cooking pulses, Effect of soaking with Alkalis, salts and germination of grams.
VEGETABLES AND FRUITS	Structure, Texture pigments and, Acids in Vegetable and fruits. Cellulose and Hemicelluloses. Changes in cooking, Pectic substances, James and Jelly.	Structure, Texture, Pigments and acids in Vegetables and fruits changes in cooking, pectic substances, Jam and Jelly.
UNIT – III SUGAR	Sources, Uses Properties, crystallization of sugar.	Crystallization of sugar, stages of sugar cookery, Fondant, Fudge and brittle, Preparation of Lalwa, coconut burfi and gulabjamun.
SUGAR COOKERY	Stages of Sugar cookery, Amorphous and crystalline candies, fondant, Fudge and caramels, Indian Sweet Preparations.	

<p>UNIT – IV MEAT</p>	<p>Structure, Cuts of meat and Constituents of meat, Postmortem changes, Methods of increasing Tenderness and juiciness</p>	<p>Meat, fish and Poultry – changes in cooking. Two recipes in each involving any two methods.</p>
<p>FISH</p>	<p>Kinds of fish, Constituents, selection and cooking</p>	
<p>EGGS</p>	<p>Structure, Composition and Selection, Coagulation of egg Protein, Egg cooked in shell, Poached, cake making Procedures and different types of cakes.</p>	<p>Coagulation of Egg, boiled eggs, Poached eggs, omelets, Custard and cake.</p>
<p>UNIT- V MILK AND MILK PRODUCTS</p>	<p>Composition, and Constituents of milk, Physical and chemical properties. Protein, creaming, butter and cheese making.</p>	<p>Cream of Tomato soup, Preparation of cheese, curds and ice-cream.</p>
<p>FATS AND OILS</p>	<p>Sources and Extraction of edible fats and oils. Characteristics of Fats And oils Physical and Chemical Properties of oils and Fats. Changer during storage and cooking. Uses of fats, Value and Flakiness</p>	<p>Smoking temperature. Factors affecting absorption of fats, deep fried foods.</p>

CORE COURSE – VII- DIETETICS

(Hour of Instruction per week : 6 (theory 6)

OBJECTIVES:

1. Understand the role of dietitian
2. Gain knowledge about the principles of diet therapy and different Therapeutic diets
3. Develop aptitude for taking up dietetics as a profession

S.No.	TOPIC	COURSE OUTLINE
UNIT I		
	Role of dietitian in the Hospital and community Feeding the patients	Education and personal qualifications Professional ethics and obligations Psychology of feeding the patient Assessment of patients needs
	Routine Hospital diets	Regular diet, solid diet, Full liquid diet, clear diet , and tube feeding, surgical conditions and Allergic conditions
UNIT II		
	Modifications of diets Diet counseling And use of computer in Diet planning for following conditions.	Acute, chronic and re current fevers typhoid, rheumatic fever. Poliomyelitis cholera, tuberculosis and malaria
	Gastrointestinal Disorders	Etiology and modifications of diet in peptic ulcer, gastritis, diarrhea Constipation, malabsorption syndrome, Ulcerative colitis, enteritis and carcinoma
	Liver and gall bladder and pathology disorders	Etiological factors, dietary regimen in jaundice, cirrhosis, hepatitis, Hepatic coma, cholecystitis Cholelithiasis and pancreatitis

UNIT III

Metabolic disorders

Predisposing factors and modification of diet in diabetes mellitus, obesity, underweight.
Hypothyroidism, hyperthyroidism, gout.

UNIT IV

Cardiovascular disorders

Risk factors and dietary regimen-
Acute and chronic cardiac disease,
Vascular Disease atherosclerosis,
Hypercholesterolemia hyperlipo-
Proteinemia, essential hypertension

UNIT V

Renal disorders

Contributory factors and dietary modification acute and chronic glomerulonephritis, nephrosis, nephrosclerosis, uremia, nephrolithiasis.

REFERENCE:

1. Antia F.E. Clinical Dietetics and Nutrition, Oxford University Press New Delhi, 1973, 1989
2. Davidson passmore P. and Breck J.P. Human Nutrition and Dietetics. The English Language Book Society, Livingstone, 1975, 1986.
3. Robinson H. Normal and Therapeutic Nutrition, Oxford and IBH publishing Calcutta, Bombay, 1972, 1987.
4. Krause M.V. Horsch M.A. Food Nutrition and Diet Therapy W.B. Saunders Company, Philadelphia, 1972.
5. Swaminathan M. Essentials of Food and Nutrition, Vol. I & II Ganesh and Company, Madras, 1974.
6. Howa R. Basic Nutrition in Health and disease, W.B. Saunder Co., Philadelphia, 1971.
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8. Cooper Et. al, Nutrition in health and disease 4th edition, Bippincolt Compl. 1963.
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11. Gopalan , C. Ramasastri, B.V. and Balasubramaniam, S.C. Nutritive value of Indian Foods National Institute of Nutrition, Hyderabad 7, 1994.
12. Sue Rod Williams, Nutrition and Diet therapy. Times Mirror mosby college, publishing St. Louis, Toronto, Bosition, 1989.

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1. Journal of American Dietetics Association
2. Indian Journal of Medical Research
3. Indian Journal of Nutrition and Dietetics
4. Nutrition Reviews
5. American Journal of Clinical Nutrtrion
6. Nutrition Bulleting. The British Nutrition Foundation.15 Belgrave square, London Swix.
7. Applied Nutrition, Journal of Indian Dietetics Association Pratabchakraborty pub. Secretary of Indian Dietic Association 27/1 Monoharpuku, Calcutta 700 029.
8. Diabetes care. Pub. by American Diabetic & American Dietetic Association, Professional section membership, 1960 Duke Street, Alexandra, V.A. 22314.
9. Food and Nutrtrion Bulletin, The Editor, The United Nations University, Cambridge, Programme Officer, Massachusatts Inst. of Technology E-38-756, Cambridge Mass, 02139, USA.
10. The New England Journal of Medicine, Massachysetts Medical Society England by passmore International Redlec, Herts.
11. Journal of Royal Society of Medicine, The Royal Society of Medicine, Wimpole Street, London.
12. Clinical Nutrition, Sales Promotion, Department, Churchill Livingstone Medical Journals Robers Stevenson House 1-3, Baxter's place, Edinburgh EH1, EAF.UK.
13. The British Journal of Nutrition, Cambridge Univerasity, Press Journals Dept. 46 West 20th Street, New York, 10011-4211.
14. The Journal of Nutrition, Subscription Dept. Rockville pick, Bethesda MD 20814-3990.
15. International Journal of Sport Nutrition, Human kinetics Publishers InE, Box 5076, Champaign IL 61825-5076.
16. International Journal of Vitamin and Nutrition Research. Hogrefe and Huber publishers, Toronto, Ontario M4P2S3. Canada.
17. Nigerian Journal of Nutritional Sciences, Dr.O.B. Oloyeda, Dept. of Biochemistry University of Illorin, P.M.B.1515. Illorin, Nigeria.

4. Case study

Selecting and observing one patient requiring a therapeutic

Diet in relation to

Patient's dietary history - income, occupation, food habits
and social factors.

Calculating the diet according to medical prescription..

Accompanying the doctor while visiting the patient.

Use of the computer in diet

Counselling and patient education

Education of the patient.

CORE COURSE-IX - QUANTITY FOOD PRODUCTION AND SERVICE

(Hour of Instruction / week : 6 hours (3+3))

OBJECTIVES

To enable students

1. Develop professional competence in quantity food production.
2. Acquire training in the different types of service used in various catering establishments.

S.No.	TOPIC	COURSE OUTLINE	PRACT./ RELATED
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UNIT I

Menu planning	Study of menus for different Types of quantity food outlets. Courses of menu, Uses of menu cards, points for Menu writing Important cookery terms used in Menus, common French and English Menu terms. Review of mechanics of menu Planning. Menu format, Standardization of recipes, recipe files and Adapting recipes.
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UNIT II

Quantity Food Transportation And buying	Transportation, receipt and Handling of foods. Storage of Foods (dry & refrigerated) Review of food selection with Reference to food buyer, Methods of buying, specifications, Use of processed and convenience Foods.
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UNIT III

Methods of cooking	Application of cookery principles for quantity food production for various food groups.	Prepare menu courses for Indian, Western Far East and Continental meals (at least 2 each)
	Methods of cooking- Moist, Dry heat (using air as a medium) Using fat as a medium, Micro wave Cooking.	-veg . & non veg. & calculate nutritive value,yield, size of
	Conservation of fuel	portion, cost/ serving
	Review of food standards .	

UNIT IV

Quantity Food
Production

Food preparations - main dishes and
Their usual accompaniments.
Soups, Salads and salad dressings
Common sauces and chutneys.
Dishes for special catering
Functions, festivals.

UNIT V

Food Service Techniques	Equipment for service Silver, crockery, glassware, Stainless steel, plastics And melamine ware	1. Planning the menu, organizing, preparing & serving breakfast, lunch, tea and dinner for 50 persons and more
2. Prepare & serve	Line n - table cloths Table mats, napkins. Flowers for the table Rules for laying a table.	3 festival menus 3. Practical training in table food Service.

Rules for waiting at a Table.	buffet service, Food and beverage service.
Types of service – Formal, informal and Indian service-carving at table.	
Food and beverage service For special catering functions like wedding Receptions, outdoor catering	special catering for birthday, wedding anniversary parties and other Special functions
Style of service – Indian , Far East and continental menus.	Equipment list And decorative Items to be Included.

REFERENCE:

1. West B.B. Wood L. Harger V.P. (1966) Food Service in institutions John Willey And sons, Inc., New York.
2. Casady M.S. (1973) Food preparation Handbook' published by the Home Science Association of India.
3. Karla Longree(1967) 'Quantity Food Sanitation' John Wiley and Sons, Inc., New York.
4. Waldo(1969) Recipes for great restaurants, Colier Macmillan Boom Company, New York.
5. Kotschewar L. and Terrel M.E.(1961) Food service Planning layout and Equipment, John Wiley and Sons Ltd.
6. Thangam E. Philip (1965) Modern Cookery for Teaching and the trade vol. I & II, John Wi Orient Longmans Ltd., New Delhi.
7. Terrel M.E. and Haigu V.F. (1966) Professional Food preparation, John Wiley And Sons, New York.
8. Marzia Magris, Cauty Mc Crary and Richard Brighton, Introduction to catering Oxford Blackwell, Scientific Publications, London, 1993.
9. Lewis J. Miner, Ronald Ficichy 1984- Food service system Management AVI Publishing Company.
10. Paul Mericks, Peter Jones - The Management of catering operations, 1986. Holt, Pinehart and Winston Publishers.

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1. American Journal of Clinical Nutrition, Published by the American Society For Clinical Nutrition.
2. Indian Journal of nutrition and dietetics pub. Sri Avinashilingam Home Science college, Coimbatore.
3. Indian Management - Journal of all India management Association.
4. Journal of American Dietetics Association.
5. Journal of Food Science and Technology.
6. Nutrition-published National Institute of Nutrition.
7. World Review of Nutrition and Dietetics.

ELECTIVE – I - COMMUNITY NUTRITION

Objectives :

To enable the students to

- Understand the basic concepts of nutrition
- Understand the nutritional problems of community
- Know the ongoing intervention programmes to overcome malnutrition in the community
- Acquire skills in conducting nutrition education.

UNIT I - Concepts of Nutrition

Definition of nutrition and health and their interrelationship. Balanced diet, basic principles of meal planning. ICMR Recommended Dietary Allowances for all age groups.

UNIT II - Assesment of Nutritional Status.

Anthropometric, Clinical, Biochemical and Dietary methods.

UNIT III - Nutritional problems in the community.

Importance of good nutrition, Prevalence, etiology and measures to overcome malnutrition – deficiency disorders – PEM, micro nutrient deficiencies (Vitamin A, nutritional anemia, IDD), over nutrition (obesity)- Prevalence, causes, complications and dietary guidelines.

Food Adulteration- Definition, adulterants in different foods ,their illeffects and detection(house hold level techniques).

Food standards - BIS, Agmark and food laws.

UNIT IV – Nutrition Programmes

National nutrition policy, intervention programmes to combat malnutrition, ICDS programmes, Mid day meal programme.

Role of International organizations – UNICEF, FAO, WHO.

UNIT V – Nutrition Education

Definition, need, principles and methods of nutrition education

Related experience :

1. Case study of Children with micronutrient deficiencies.
2. Study of two on-going nutritional programmes
3. Detection of adulterants in common food items

REFERENCE:

1. Infant feeding difficulties, 4th edition, 1977
2. Venkatachalam P.S. and Rebellow, L.W., Nutrition for the Mother and child, ICMR, Special Report, 1971
3. Symposia of the Swedish Nutrition Foundation, III Cunnar Blix 1969.
4. Davidson, Sir Stanley, Passmore R. and Brock J.F. Human Nutrition and Dietetics, E. and S. Livingston Ltd. Edinburgh and London, 1973.
5. Jelliffe, D.B. Assessment of the Nutritional status of the community, WHO Geneva, 1966.
6. Jelliffe, D.B. Infant in the subtropics and tropics, WHO Geneva, 1968.
7. Martin E.A. Roberts, Nutrition work with children, The University of Chicago press, Chicaco, 1963.
8. Devadas R.P. Nutrition in Tamil Nadu Sangam Publishers, 1972.
9. Gopalan, C. Rama Sastri B.V. and Balasubramanian, Nutritive value of Health Indian Foods, National Institute of Nutrition KMR 1981.
10. Shills, E.M. , Olson, A.J. and Shika, K. Modern Nutrition in Health and Diseases, Le and Febigar, Philadelphia, Vol I. 1994.
11. Vinodini Reddy, Phalhad Rao, Guminath Sastry, I and kasinath. K.C. Nutrition trends in India. National Institute of Nutrition, Hyderabad, 1993.
12. Gnana Sundaram, S.A manual of practical paediatric Nutrition, Students offset service T. Nagar, Madras.

JOURNALS

1. The Indian Journal of Medical Research, ICMR, New Delhi.
2. Indian Journal of paediatrics, published at vally view, London cont, Mussoria, U.P.
3. Indian Journal of Nutrition and Dietetics, Sri Avinashilingam Home Science College, Coimbatore.
4. WHO chronicle, WHO , Geneva.
5. Proceedings of the Nutrition Society of India. Nutrition society of India, New Delhi.
6. Ecology of food and Nutrition, Golden and Breach Service Publishers Ltd., Great Britan.
7. Nutrition News Letter. FAO of the United Nations.
8. Food and Nutrition-notes and reviews, Australian Department of Health, publishing service, Canberra.
9. Swasth Hind central Health Education Bureau, New Delhi.
10. Journal of Human Nutrition, British Dietetic Association, England
11. PAG Bulletin, protein, calorie Advisory Group of the United Nations Systems, USA.
12. Journal of the American Dietetic Association, published by the American Dietetic Association, Chicago Illinois.
13. ICMR Bulletin, Research Information Bulletin Division of publication and Information, Ansari Nagar, New Delhi.
14. Food and Nutrition, FAO of the United Nations, Rome, Italy.
15. Nutrition, National Institute of Nutrition, ICMR, India.

SEMESTER – III - CORE COURSE - X
MANAGEMENT AND ACCOUNTING IN HOSPITALITY INDUSTRY
(Hour of Instruction per week : 6 hours)

OBJECTIVES: To enable students.

1. know the origin of the hospitality industry and the functions, objectives and responsibilities of ownership and management.
2. Gain knowledge on various sources of finance
3. Know the accounting tools used by the business office.
4. Understand the main functions of the marketing and sales department.
5. Find out the factors that influence food and beverage cost and discuss cost control methods.

UNIT I

Introduction to the Hospitality Industry Origin of the Hospitality Industry - Industry segments- Hotel Organisations - Business office (Back Office) - ownership- and management methods- The function of ownership - the function of management.

UNIT II

Financing Need for finance - kinds of finance long-term and short-term
The Business finance- Role of commercial Banks Institutional financing.

UNIT III:

Financial Reports The importance of financial reports - the Balance sheet - preparing a Balance sheet - purpose and use of an operating statement - cash flow analysis. Financial Planning - For costing sales - Projecting expenses
Departmental Budgets.

CORE COURSE – XI - RESEARCH METHODOLOGY AND STATISTICS

OBJECTIVE

To enable the Students to

1. Understand the fundamental Principles and technique of methodology Concerning research and
2. Apply statistical procedure to analyse numerical data and draw inference.

S.No.	TOPIC	COURSEOUTLINE	RELATED EXPERIENCE
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UNIT I

Types of Research	Different types of research and their Applications.
Methods of Collecting data	Conducting enquires to collect primary data source for secondary Data, preparation of schedules and questionnaires, Processing data, interview method of enquiry, training of inter-viewers Editing and coding the data.

UNIT II

Classification And organisation Of data	Classification by the categories and measurements, discrete and continuous variables. Tabulation scheme, preparation of tabular forms, methods of Securing accuracy in tabulation
Representation of the data	Graphical and diagramatic representations use of Computers in data processing and Presentation.

UNIT III

Sample surveys Choice of the sample, random
Samples systematic samples,
Cluster samples/ multistage
Sample and quota sample.
Sources of bias and methods of
Reducing bias.

Experimentation Principles, Planning of experiments
and thesis presentation of data, writing reports,
Writing foot notes and bibliographical citations.

UNIT IV

Measures of Mean, Median, mode, their relative
Central tendency advantages and disadvantages, Measures of
Dispersion, mean deviation, coefficient of
Variation, percentiles and percentile ranks.

Correlation Association of attributes contingency table,
Correlation, coefficient of correlation and its
Interpretation rank correlation, regression
Equations and predictions.

UNIT V

Probability Rules and probability and its applications.

Distribution Normal, binomial, their properties importance
of these distributions in statistical studies.

Large and small samples, X and F tests, tests
For independence using contingency analysis of
Variance and applications.

SUGGESTED REFERENCES

1. Devadas, R.P. Handbook on Methodology of Research, Sri Ramakrishna Mission vidhyalaya, 1971.
2. Shukla, M.C. and Gulshan, S.R. Statistics, Sultan Chand & Co., Ramnagar, New Delhi, 1970.
3. Gupta P.P. Statistical Methods, Sultan Chand & Co., 1977.
4. Seetharaman V.A. Textbook of Statistics, Revised edition 1973.
5. George E. Forguson, statistical Analysis in psychology and Education, McGraw Hill Book co., 1971.
6. Ramasamy, M.P. Theory and application of statistics, Kalaikadir Publications, 1970
7. Monsen, E.R. (Ed) Research Successful statistics, American Dietetics Association T X 367, R.4 1992.

CORE COURSE – XII - CATERING INTERNSHIP

OBJECTIVES

To enable students

1. Gain knowledge of origin, equipment and food service techniques in institutions.
2. Obtain practical training in quantity catering and service

COURSE OUTLINE

1. Internship for a period of FOUR Weeks in well established catering Institutions (2 weeks commercial and 2 weeks welfare), to develop Professional competence. Detailed observation on meal planning, food Standards and service.
2. a) Case study of 5 quantity food outlets to be recorded with reference to staff organization, kitchen layout, purchase, preparation and service of food, processing, holding and storage, specific equipment used and convenience products, Supervising control and accounting procedures.
- b). Detailed study of menus in the selected quantity food outlets –
Breakfast, lunch, dinner, fast food items and snacks. Price lists of items.

3. a). A Duty Roster to be established to provide students practical experience in breakfast cookery during 5 early morning sessions in a College Hostel.

b). Development of check sheets for:

Menu

Employee performance

Kitchen safety

Sanitation

ELECTIVE - II - PRINCIPLES OF INTERIOR DESIGN

Instructional hours : 6 hours

Objectives :

- To help the students to understand the principles of Interior Design.
- To provide experience in the application of the principles of Interior design.
- To plan pleasing interior and exterior surrounding for home and office.

UNIT I – Housing

House – Functions and factors influencing selection of a house.

Features to be considered in house construction- Lighting – Types (Natural and Artificial) classification of lighting based on fittings (Direct lighting, Indirect lighting, semi direct lighting, semi indirect lighting and diffused lighting) Suitable lighting for different areas, Ventilation, safety and economy.

UNIT II - Art in Every Day Life

Importance of Good taste - Meaning and need for good taste.

Design - Definition, kinds of design, elements of design, - Line, Direction, Shape, Size, texture and colour.

Principles of Design – Harmony, Balance, Rhythm, proportion, Emphasis.

UNIT III – Colours in Interior

Classification of colours (primary, binary, intermediate, tertiary and quarternary)

Prang colour system, colour dimensions (Hue, Value and intensity), colour harmony, principles of design in the use of colours.

UNIT IV - Flower Arrangement

Requirements for flower arrangement (Holders, containers and flowers), Treatment of flowers, styles in flower arrangement (traditional, oriental and modern).

Types of flower arrangement (Line, Mass, Combination, Japanese arrangements)

UNIT V – Home Furnishings and Maintenance

Selection, arrangements and care of furniture in living area , study area dining area and bed room.

Furnishing – Selection, use and care of furnishing materials, window treatment(draperies and curtains), floor coverings

Maintenance - Cleanliness and care of the home (Daily cleaning, weekly cleaning, cleaning of floors, cleaning of walls, cleaning of windows, cleaning of mirror, cleaning of pictures, cleaning of beds and beddings, cleaning of furniture)

Cleanliness of the surroundings.

REFERENCES:

- 1.Nickell.P; and Dorsey.J.M; Management in family living,John Wiley and sons,New york,1960.
- 2.Goldstein.H and Goldstein.G; Art in everyday life,Mc.millan&co,Newyork,1966.
- 3.Graig.H.T&Rush.C.H, Homes with character,Health&co,Boston,1965.
- 4.Rutt.A.H;Home furnishing,John Wiley&sons,New yirk,1961.
- 5.Devdas.R.P, Textbook of Home science.
- 6.Roytay, All about decorating your home, London, Hamilton,1976.
7. Alexander M.J,Designing Interior Environment, New York 1972.

ELECTIVE III – HOME SCALE FOOD PRESERVATION

Objectives :

To enable students to

- Understand the types of spoilage occurring in foods.
- Gain knowledge on various methods of food preservation
- Acquire skills in preservation of various foods.

Unit I Basic Principles of Food Preservation

Meaning, objectives and basic principles of food preservation (Asepsis, Removal, anaerobic conditions).

Unit II Food spoilage

Food spoilage and its prevention

Causes, Types (Physical, Enzymatic and Microbial – Moulds, Yeast and Bacteria).

Unit III Food Preservation using high and low temperature

Principles, types, methods and advantages of each.

High temp – Canning process, Principles involved, Spoilage encountered, aseptic canning.

Low temp – 1. Refrigeration – Principles and working systems.

2. Freezing – Principles, methods, advantages and disadvantages

Unit IV Food preservation using drying, dehydration and radiation

Principle, advantages, mechanical devices and methods employed for drying and dehydration. Pretreatment of foods, factors affecting drying and dehydration. Radiation – types, uses and safety limits.

Unit V Food preservation using Chemicals

Types of preservation, advantages and disadvantages, permissible limits.

Related experience :

1. Preparation of Squashes and Juices
2. Preparation of jams, jellies, marmalades
3. Preparation of pickles, sauces, ketchups
4. Preparation of dehydrated products.
5. Industrial visit

CORE COURSE –XIII - FOOD SERVICE MANAGEMENT

OBJECTIVE:

To enable students

1. Develop skills in organizing and managing Food Service Institutions.
2. Gain knowledge about the Food Service and responsibilities of each.

S.No.	TOPIC	COURSE OUTLINE	RELATED EXPERIENCE
UNIT I			
	Definition and scope of food service	Food Industries - Classification Review of objectives and classification of food Service	Visit to Commercial 21 and non Commercial (welfare)food service institutions.
	Management	Definition, Principles and Scope of management	
UNIT II			
	Planning	Nature, importance, steps in: Planning, steps and kinds of Forecasting, assessment of needs of food service based on Present and future trends.	
	Organizing	Process of organization. Principles of organization, Types of organization, tools of management	Planning work sheet for different categories of personnel in Food Service Institution.

UNIT III

Staffing

Manpower Planning Labour Sources, Selection, Recruitment and training wages, salaries, Incentives, promotion demotion, Transfer, dismissal. Managerial Problems of Food Service unit.

Directing and
and controlling

Direction, leadership, delegation, decentralization, centralization, Supervision, human relations in Industry, authority and responsibility, Motivation, communication Evaluation Techniques.

UNIT IV

Food cost and
Accountability

Review of maintenance of accounts Daily, Weekly monthly accounts for food, labour equipment and Furnishing , rent, water, fuel, light, Licences, cleaning supplies, maintenance and Miscellaneous.

Double entry book keeping, Ledger accounts Journal and Balance sheet, budgetary control, non-budgetary control. Cost control, fixed, Variable, average marginal and unit cost, break Even analysis-production planning control.

UNIT V

Administrative
Preparation

Qualifications of effective food service administrator

Leadership
and use of

and / or dietitians.

Responsibilities, communications, academic
Requirements and opportunities.
Professional and Trade Associations.
Evaluation of self and department.

Check sheet
for use by
administrator
and dietitians.

REFERENCES :

1. West B.B. Wood L., Harger, V.F. Food service Institutions, John Wiley and Sons, Inc., New York, V. Edition, 1977.
2. Shukla. M.C. Business Organisation and Management S. Chand and co., Ltd., Ramnagar, New Delhi , 1982.
3. S.P Auroeve, office Organization and management Vikas publishing House, 2nd revised Edition, 1982.
4. P.N. Reddy, S.S. Gulshan. Principles of Business organization and Management. Eurasia publishing House, Ramnagar, New Delhi.
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6. S.C. Kushal. Financial Management 8th Edition. Chaitanya publishing House. 1982.
7. Lendal, H. Kotschever. Quantity food purchasing John Wiley and sona, 2nd Edition 1975.
8. Louis. A. Allen. Management and Organization. McGraw Hill Company, New York, 1958.
9. Davar, S.R. 1 Business Organization and Industrial Management' Progressive Corcoration private Ltd., 1974. Bombay, Madras.
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11. Payne - Palacio, J. Harger, U., Shugart, G. and Thesis, M Wests and Woods- 'Introduction to food service, Macmillan publishing Co., New York, 1994.
12. Waighrich, H. and Koontz, H. Management- A Global perspective. Mac Graw Hill. International, 1994.
13. Nathaniel, R.S. Catering Management for Hotel Restaurants and Institute, Surjeet pub., Delhi 110 007. (1991)

14. Andrews, S. Hotel Housekeeping Training. Manual Tata Mc Graw Hill pub Co., Ltd., New Delhi 110 002. 1992.
15. Rutherford, D.G. Hotel Management and operation, van Nostrand Reinhold. 115, fifth Avenue, New York, 10003, 1990.

JOURNALS

1. Journal of vacation marketing. Henry Steward Publications 28/30 Little Russel Street, London, W.C. IA. 2 HN
2. Indian Management - Journal of All India Management Association. All India Management Association pub. Management House, New Delhi - 3
3. Journal of the American Dietetic Association ' the American Dietetic Association, 430 North Michigan Avenue, Chicago, Illincise.

UPDATED LIST OF REFERENCES BOOKS AND JOURNALS

BOOKS

S.No.	TITLE	AUTHOR(S)	YEAR OF PUBLICATION	PUBLISHER
1.	Introductory Nutrition, 7 th Edition	Guthrue, H.A.	1989	Times Mirror Mosby college publishing Co. Toronto
	\$50.00			
2.	Krause's Food, Nutrtrion and diet Therapy 8 th edition	Mohan, E.K & Arlin, M	1992	W.B.Saundars Company Philadelphia
3.	Food Microbiology And Sanitation	Adams, M.R., Moss, M.O		New Age Ins. (P) Ltd.
	Rs.160/-			

- | | | | | |
|----|--|---|------|---|
| 4. | Textbook of Bio-chemistry with clinical correlation | Devlin, T.M. | 1993 | John Wiley & Sons,
New York |
| 5. | Textbook of human Nutrition

Rs.190/- | Mahtab, S.
Banji, N.
Pralhad Rao
Vinodinin Reddy | 1996 | Oxford and IBH publishing |
| 6. | Dietary fiber in health

health and disease
US\$ 119/- | David kritcher

sky
Charles Bonfield | 1995 | Eagen press

USA |
| 7. | Comparative Assessment in the Health sector - Disease burden Expenditures and Intervention packages- | C.J.L Murray and
A.D. Lopez | 1994 | WHO

WHO, 1994 |
| 8. | Reaching India's poor non- governmental approaches to community health | Saroj pachauri | 1994 | Sage publications
India Pvt.Ltd
New Delhi |
| 9. | Nutrition issues in Developing countries
Part I Diarrheal Diseases part II, diet and Activity during pregnancy and lactation. | | 1993 | National Academic Press
Washington |

- | | | | |
|--|--|------|---|
| 10. Food safety | Ramesh U. Diet
and Nageswara Rao | 1991 | The Bangalore
printing and
publishing co.,
Bangalore |
| 11. Food safety | M. Ellin Doyle
carol E. Stein
hart
Barbara, A
Cochrani | 1993 | Marcel
Dokker Inc |
| 12. Biochemical
basis of disease | Anthony R. Teal
and Barry A.
Saggars | 1997 | The Bio-
Chemical Society,
London. |
| 13. Prevention of
diabetes
Mellitus | | 1994 | WHO |
| 14. Cardiovascular
disease risk
factors: New
Sw.Cr.10
areas for research
US\$ 19% | | 1994 | WHO

Geneva |
| 15. Food Service
organizations -
A managerial
and systems approach | Marian C.
spears | 1995 | Prentice
hall |
| 16. Food Preservation
Publishing | S.K. kulshrestha | 1994 | Vikas
House Pvt.Ltd
New Delhi. |

JOURNALS

1. The Indian Journal of Nutrition and Dietetics, Avinashilingam
Institute for Home Science and Higher Education for Women-Deemed
University
2. Report of TCDC workshop on 'on-farm post harvest technology'
(Available at Avinashilingam deemed University, coimbatore)
3. Report of National Seminar on the role of Home science Institutions
in the prevention and control of vitamin A deficiency and nutritional Anaemia
(Available at Avinashilingam Deemed University, Coimbatore)
4. Kisan World
5. .Khurushetra
6. Food Technology abstracts, CFTRI, Mysore
7. Express Hotellier and Caterer, Weekly update of hospitality
Industry, published by Indian Express.
8. Hospitality, Hotel catering & Institution management association,
191, Twinty Road, London SW17 7HN, England
9. Coterer, Hotelkeeper, Reed Business publishing Ltd. Consumer industries
Quadrant house, The Quadrant sutlon, SM2 5As, England
10. Food processing Chicago.
11. Food Technology, New Zealand.

ELECTIVE IV -FOOD MICRO BIOLOGY AND SANITATION
(Hour of Instruction per week : 6 Including 3 hours Practicals)

OBJECTIVES:

To enable students

1. Understand the common organisms associated with food borne illnesses
2. Gain knowledge on the necessity for cleanliness in preparation and service of foods

S.No.	TOPICS	COURSE OUTLINE	RELATED EXPERIENCE (PRACTICALS)
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UNIT I

Fundamentals of Microbiology	Introduction: Development of Microbiology and food sanitation Bacteria: Morphology, reproduction	preparation of media for cultivating micro
organisms	Physiology, growth curve and	Inoculation of the
media	Biochemical changes in bacteria	Isolation of pure culture
	Yeasts: Morphology, Methods of multiplication process of hybridization, physiology, classification and importance of Yeasts.	
	Molds: Morphology, multiplication, physiology and nutrition, significance of molds and common household molds	
	Viruses: Discovery, bacteriophages Morphology, reproduction, human	

Viral diseases, identification and Control and viruses in relation to Food science

General Principles of Food Preservation: Physical - High temperature, Low temperature, Drying - Water activity, Irradiation, High Pressure Processing Specialization, modification of atmosphere. Chemical - Organic acids, esters, nitrite, Sulphur dioxide and ' natural food Preservative.

Microbiology Of natural Products Water: Sources, bacteriology of water supplies, bacteriological examination and purification of water Standard qualitative analysis of water to determine the water Portability.

- a. Presumptive test
- b. Confirmed test
- c. Standard plate Count

Air: Sources, kinds and numbers Importance of state of suspension, Diseases transmitted by air and Treatment of air.

UNIT III

Microbiology of Milk and milk products: kinds of micro organisms in milk, Sources of contamination, Pathogens in milk, control of Micro organisms, quality and 1 Standard plate count of milk 2. Direct microscopic count of organism in milk.

Methods of study. Microbiology of dairy products - fermented milk Butter and cheese. 3. Reductase test using methylene Blue or resa Zurin

Microbiology of fleshy foods
Flesh foods: Bacteria found in meat, microbiology of Poultry, fish and meat products.

UNIT IV

Microbiology of Demonstration of Fruits and Vegetables;
External Contamination preservation and Spoilage of fruits. Contamination And control of microorganisms in Vegetables
bacteria in Various food products such vegetables, fruits soft drinks, meat, Canned food

Products, etc.,
Microbiology of Cereal and cereal Products
Cereal and Cereal products: Organism associated with grains classification and control of molds in bread

Sale of sugar
Sugar spices and salt: Effect of salt on micro Organisms, role of sugars in Foods and role of spices in food

UNIT V

Principles of Food spoilage
Food spoilage Microbiological biochemical, biological physical and chemical factors spoilage and examination of canned food, Methods of food preservation, food
Demonstration of of bacteria in meat under market conditions examination of canned fruits and preserved

borne diseases and their outbreak vegetable products.

Sanitation
And safety

Personal hygiene: Care of hand and habits, sanitation in handling food
Equipment plant extension, plant Construction, equipment personal Facilities, water supply and sewage Disposal.

Linen: Sanitary handling and care of
Different types of table linen

Causes for kitchen accidents and prevention,
Causes, falls, burn, suffocation, poisoning,
Injury by sharp instruments. Solving the
Accident problem-education in safety habits.

REFERENCES:

1. Burton W.L., Microbiology, 1958, Macmillan co., New York
2. Pelczar and Raid, Microbiology 1974, McGraw Hill co., New York.
3. Salle A.O. Fundamental Principles of Bacteriology 1967, McGraw hill co., London.
4. Clifton, C.E. Introduction to the Bacterial 1968, McGraw Hill co., London.
5. Crickshank Medical Microbiology, 1974, Kothari co., Bombay
6. Wilson and Miles Toplay and Wilson's Principles of Bacteriology and 1975, Edward Arnol publishers, London.
7. Dean of Anderson, Introduction to Microbiology, 1973. C.U.
8. Naster, 'Mclawthy, Robers and Pearsall microbiology
9. Heschdrefar Quality control Food Microbiology and Technique 1976, Academic Press, London, New York.
10. weusser, H.H. Practical Food Microbiology and Technique 1971, Sri AVI Publishing co.,Inc., West for connection.

11. Thorner, and Manning Quality control in food production, 1976,
The AVI publishing co., London.
12. Smith and Walters Introductory Food Science.
13. Norman Derosia Technology and Food preservations, 1970, The AVI
publishing co., Inc., West Prot Connecticut.
14. Hobb Better, Food poisoning and food hygiene
15. Reliman, Food Borne infections and intoxications, 1969,
Academic Press, New York.
16. Nickerson and Ronrivalli, L Elementary food science 1976, The AVI Publishing co.,
West post connecticut USA
17. Frazier W.C. Westhoff D.C. a Food Microbiology, Tata Mcgraw Hill
publishing co., New Delhi, 1978, 1988.
18. Potter N.N. Food science 1973, The AVI publishing co., The West port
Connecticut USA
19. Christy A.S. and Christs N.O. Food hygiene and Food Hazards 1971, Faber 3
Queen equane London.
20. Defiguerydo and Splittstrasser Food Microbiology, 1967 Tata McGraw, Hill
publishing co., New Delhi.
21. Keral Longree Quantity food sanitation, 1972, John Willey and sons, Inc.,
New York. Longner Blaker, Sanitary Techniques in Food Service, 1971, John
Willey and Sons, Inc., New York.
23. U.S. Department Food Service Sanitation.
24. West, Wood and arger, Food service in Institutions, 1966, John
Wiley & Sons, Inc., New York, London.
- 25.. Prescott L.M. Harphy J.P. and Klein, D.A. William B. Brown Pub. 1995.
26. M.R. Admas and M.O. moss; Food Microbiology, 1995. Royal Society of
Chemistry, Cambridge.

JOURNAL:

Health action chafa - Health Accessories for all U.S.A.

SEMESTER – IV - ELECTIVE COURSE – V - FRONT OFFICE MANAGEMENT

OBJECTIVES.

1. To understand the Varie dimensions of a Gödel industry with special reference to front office.
2. To study the Concepts of organization, Communication, and operational procedures in a front office.

UNIT I

TITLE	TOPIC	COURSE OUTLINE
I. Hotel Industry	Hotels Hotel Organization Functional Department in a hotel	Definition, Classification based on star Category, size and location Organization Pattern in a large, medium and small sized hotel. Roomsdivision :- Front office, Housekeeping, Reservations, Night audit and loss Huns, Night audit and loss /prevention Security departments. Food and beverage allounting Engineering and Sales departments.
II The Guest and Guest Rooms	The Guestroom – categorizing the guest room Key control Room sales differentiation Market segmentation	Room types, Room configuration, Room Designations , Room Numbering, Room status reconciliation. Various Key control systems, Group rooms, Transient rooms, Transient reservation avenues. - Group market segments, Transient market segments.
III Room Rates and Reservation	Room Rate Designations Reservations – Determining occupancy and availability	Rack rate, Corporate rate Volume account rates, Government rate, seasonal rates weekday / Weekend rates, membership rates, Industry rates, Walk in rates, Premium rates, halfdayrates, Advance Purchase rates, Package rates, Per person rates, Group rates. Availability factors and overselling.
IV Front office Overview	The Arrival Chronology Departure	Greeting, Transition, Registration and Completion – Group arrivals. Front desk Checkout, Guest directed Computer checkout, Automated checkout.

	Front office operations	Communications, staffing Values added Services – safe deposit boxes, Mail and document handling.
V Guest Accounting and Night Audit	Guest Accounting Night Audit	Accounting basics, Guest history account – Guest Ledger – City ledger – Accounting entries. Guest Accounting and the front desk. Night audit overview, Night audit, reporting, Ancillary Night audit duties.

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