## Subject No. 4 NUTRITION AND BIOCHEMISTRY

Total Hours: 90

Theory Hours: 70

Practical Hours: 20

**SECTION 'A' - NUTRITION** 

Total Hours: 60

Theory: 40 hrs.

Lab. hours: 20

## AIM:

The Course is designed to assist the students to understand the normal requirement of nutrition and also help the students to understand variations required during various physiological and pathological conditions, and to learn various methods of food preparation, perseverations and maintenance of food hygiene.

## **OBJECTIVES:**

At the end of the course the students will be able to:

- Understand the concept of nutrition & health. •
- Understand different types of nutrients, their importance, sources, functions and problems due to ٠ deficiency.
- Plan balanced diet for individuals and groups and menu efficiently.
- Explain methods of effective cooking and food preservation. •
- Apply the principles of food preparation in the practical field effectively. •

## **COURSE CONTENT:**

#### **Unit I – Introduction:**

Term Nutrition. History. Concepts. Role of nutrition in maintaining health. Nutritional Problems in India. National nutritional policy. Factors affecting food and nutrition: socio-economic, cultural, tradition, production, system of distribution life style and food habits etc. Role of food and its medicinal valve. Classification of foods, food standards. Elements of nutrition: macro and micro calorie, BMR. Macro nutrients- Protein, fats and carbohydrates.

#### **Unit II – Carbohydrates:**

• Classification. Caloric value. Recommended daily allowances of food. Dietary sources & Functions. Digestion, absorption and storage, metabolism of carbohydrates. Malnutrition: Deficiencies and Over consumption. Macro nutrients- carbohydrates. Kerb cycle

#### Unit III – Fats:

• Classification & Caloric value. Recommended daily allowances of food. Dietary sources & Functions. Digestion, absorption and storage, metabolism. Malnutrition: Deficiencies and Over consumption. Macro nutrients-, fats

#### Unit IV – Proteins:

Classification & Caloric value. Recommended daily allowances of food. Dietary sources & Functions. Digestion, absorption and storage, metabolism. Malnutrition: Deficiencies and Over consumption. Macro nutrients- Protein

#### Unit V – Energy:

• Unit of Energy- Kcal. Energy requirements of different categories of people. Measurements of energy. Body Mass Index (BMI) and basic metabolism. Basal Metabolic Rate (BMR) determination and factors affecting. Calorific value of CHO, Fats and Proteins

#### Unit VI – Vitamins:

• Classification. Recommended daily allowances of food. Dietary sources & Function. Digestion, absorption and storage and excretion. Deficiencies. Hypervitaminosis.

## Unit VII – Minerals:

• Classification. Recommended daily allowances of food. Dietary sources& Function. Absorption, synthesis, metabolism storage and excretion. Deficiencies. Over consumption and toxicity.

#### Unit VIII - Water & electrolytes:

- Water: Daily requirement, regulation of water metabolism, distribution of body water.
- Electrolytes: Types, sources, composition of body fluids.
- Maintenance of fluid & electrolyte balance. Over hydration, dehydration and water intoxication. Electrolyte imbalances.

## Unit IX - Cookery rules and preservation of nutrients:

• Principles, methods of cooking and serving. Preservation of nutrients. Safe Food handlingtoxicity. Storage of food. Food preservation, food additives and its principles. Prevention of food adulteration Act (PFA). Food standards. Preparation of simple beverages and different types of food. Food adulteration and Fortification of food

## Unit X - Balanced diet:

 Elements. Food groups. Recommended Daily Allowance of food. Nutritive value of foods. Calculation of balanced diet of different categories of people. Planning menu. Budgeting of food. Introduction to therapeutic diet: Naturopathy – Diet. Food additives, Hospital diet Development of professional skills in preparation of therapeutic diet

#### Unit XI - Role of nurse in nutritional programmes:

National programmes related to nutrition. Vitamin A deficiency programme. National iodine deficiency disorders (IDD) programme. Mid – day meal programme. Integrated child development scheme (ICDS) National and International agencies working towards food / nutrition. NIPCCD, CARE, FAO, MIN, CETRI (Central food technology and research institute) etc. Assessment of nutritional status. Nutrition education and role of nurse.

# **SECTION 'A' -NUTRITION**

Unit No. &	Objectives	Contents with distributed hours								
total hours	Objectives			Must know			Desirable to know		Nice to know	
I Introduction (4 hours)	At the end of unit students a <b>Knowledge:</b> Understand and classification of foods, food elements of nutrition, calorid Explain factors affecting food and nutritional problems in <b>Attitude:</b> Appreciates the irr economic cultural and tradit food and nutrition.	<ul> <li>Role of nutrition in maintaining health.</li> <li>Nutritional Problems in India.</li> <li>Classification of foods &amp; Food standards.</li> <li>Elements of nutrition: macro and micro* Calorie, BMR. (2 hours)</li> </ul>			Factors affecting food and nutrition: socio- economic, cultural, Tradition, production, system of distribution, life style and food habits etc. (1 hrs)History, Concept Role of food and medicinal value. National nutrition 		Concepts ood and its il value. nutritional			
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of health care team an sy	of the stem	Lifelong learner	Critical	l thinker	Researcher
		PO1	PO2	PO3	PO4		PO5	PO	06	PO7
C1- Explain role ( health.	of nutrition in maintaining	3	3	2	1		3		2	1
C2- Describe the	nutritional problems in India.	3	3	2	2		3		2	3
C3- Define food, standards.	classify foods and explain food	2	2	2	1		2		2	1
C4- Explain elem	ents of nutrition.	2	2	1	1		2		2	1
C5- Explain Basa	l Metabolic Rate.	3	3	2	1		3	2	2	3
C6- Explain the fa nutrition	actors affecting food and	3	3	3	2		2		2	3
C7- Describe the value.	role of food and its medicinal	3	3	2	3		2		2	2
C8- Explain Natio	onal nutritional policy.	2	3	2	1		3		3	3
II Carbohydrate (02 hours)	At the end of unit students a <b>Knowledge</b> Understand and classification, functions and carbohydrates. Enlist the eff deficiencies and over consume	re able to describe digestion of ects of mption.	<ul> <li>Classifi</li> <li>Recomr</li> <li>Dietary</li> <li>Malnutr consum</li> </ul>	cation &Caloric nended daily all sources. & Fun ition: Deficienc ption. (1 hrs)	e value. lowances of food. ction. cies and Over	• C ai M c: n • <b>k</b> ( 1 h	Digestion, absorp nd storage, Metabolism of arbohydrates M utrients- carbohyd Xerb cycle nrs)	tion Aacro Irates		
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of health care team an sy	f the stem	Lifelong learner	Critical	thinker	Researcher
		PO1	PO2	PO3	PO4		PO5	PO6		PO7
C1-Define and c	lassify caloric value	3	3	2	1		2		3	2

C2-Explain reco	mmended daily allowances of	2	2	2	1	2	2	1
food	,	3	3	2	1	3	2	l
C3-Enlist the die	etary sources and function	3	3	2	1	2	1	2
C4-Explain maln Over consumpt	nutrition: Deficiencies and tion.	3	3	2	2	3	3	3
C5-Describe the storage of carb	digestion, absorption and ohydrate	3	3	2	1	2	2	2
C6- Explain the carbohydrates	e metabolism of	3	3	2	1	2	2	2
C7-Explain Kert	b cycle.	2	2	2	1	2	2	2
III Fats (02 hours)	At the end of unit students a <b>Knowledge:</b> Understand an classification and requireme Understand and explain dila functions and digestion of fa <b>Attitude:</b> Use this knowled practice.	re able to d describe ents of fats. tory sources, ats. ge in nursing	<ul> <li>Classifie</li> <li>Recomm</li> <li>Dietary</li> <li>Malnutr consump</li> </ul>	cation & Calorie nended daily all sources & Func ition: Deficienc ption.(1 hrs)	c value lowances of food. etion. ies and Over	Digestion, abso and st metabolism. Macro nutrients- (1 hrs)	rption orage, fats	
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of the health care team an system	Lifelong learner	Critical thinker	Researcher
		PO1	PO2	PO3	PO4	PO5	PO6	PO7
C1-Define and c	lassify caloric value	3	3	2	1	2	3	2
C2-Explain reco food	mmended daily allowances of	3	3	2	1	3	2	1
C3-Enlist the die	etary sources and function	3	3	2	1	2	1	2
C4-Explain maln Over consumpt	nutrition: Deficiencies and tion.	3	3	2	2	3	3	3
C5-Describe the storage of fats	digestion, absorption and	3	3	2	1	2	2	2
C6- Explain the	e metabolism of fats	3	3	2	1	2	2	2
IV Proteins (02 hours)	At the end of unit students a <b>Knowledge:</b> Understand an classification and requireme <b>Attitude:</b> Use this knowled practice.	re able to d describe ents of proteins. ge in nursing	<ul> <li>Classifie</li> <li>Recomm</li> <li>Dietary</li> <li>Malnutr consump</li> </ul>	cation& Caloric nended daily all sources& Funct ition: Deficienc ption.(1 hrs)	value. owances of food. tion ies and Over	<ul> <li>Digestion, absorption and storage, metal</li> <li>Macro nutrien Protein (1 hrs)</li> </ul>	d polism its-	
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of the health care team an system	Lifelong learner	Critical thinker	Researcher
		PO1	PO2	PO3	PO4	PO5	PO6	PO7
C1-Define and c	lassify caloric value	3	3	2	1	2	3	2
C2-Explain reco	mmended daily allowances of	3	3	2	1	3	2	1

food								
C3-Enlist the die	etary sources and function	3	3	2	1	2	1	2
C4-Explain maln Over consumpt	nutrition: Deficiencies and tion.	3	3	2	2	3	3	3
C5-Describe the digestion, absorption and storage of proteins		3	3	2	1	2	2	2
C6- Explain the metabolism of proteins 3		3	2	1	2	2	2	
V Energy (03 hours)	At the end of unit students a <b>Knowledge:</b> understand and caloric requirement of vario <b>Skill :</b> Able to calculate calo	re able to l explain the us age groups. ories of food	<ul> <li>Unit of ]</li> <li>Energy of people</li> </ul>	Energy- Kcal requirements of e. (1 hour)	different categories	Measurements of energy. Body Mass Index ( and basic metaboli Basal Metabolic R (BMR) – determin and factors affecting.( <b>1hours</b> )	(BMI) (1ho sm (1ho ate ation	orific value HO, Fats Proteins. urs)
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of the health care team an systemeter team and systemeters and the health care team and systemeters are team and systemeters and the health care team and	Lifelong learner	Critical thinker	Researcher
		PO1	PO2	PO3	PO4	PO5	PO6	PO7
C1- Define unit	of energy	3	3	2	1	2	2	1
C2-Explain the e categories of peo	energy requirement of different ople.	3	2	3	1	2	2	3
C3- Explain the	measurements of energy	2	2	2	1	2	2	1
C4- Explain bod	y mass index	3	3	2	1	3	2	3
C5-Describe Ba	sal Metabolic Rate	3	3	2	1	3	2	3
C6-Determine the Metabolic Rate	e factors affecting Basal	2	2	2	1	2	2	2
C7- Explain cale Proteins.	orific value of CHO, Fats and	3	3	2	1	2	3	2
VI Vitamins (04 hours)	At the end of unit students a <b>Knowledge:</b> Classify the viimportance of vitamins. <b>Skill:</b> Identify the vitamins	re able to tamins. Enlist the deficiency.	<ul> <li>Classific</li> <li>Recomm</li> <li>Dietary</li> <li>Digestic</li> </ul>	cation. nended daily al sources & Func on (3 hours)	lowances of food. etion.	<ul> <li>Absorption storage an excretion. Deficiencie</li> <li>Hypervitamine (1hours)</li> </ul>	n and d es. osis	
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of the health care team an system	Lifelong learner	Critical thinker	Researcher
		PO1	PO2	PO3	PO4	PO5	PO6	PO7
C1-Define and c	lassify caloric value	3	3	2	1	2	3	2

C2-Explain record food	mmended daily allowances of	3	3	2	1		3	2	1
C3-Enlist the die	etary sources and function	3	3	2	1		2	1	2
C4-Explain malnutrition: Deficiencies and Over consumption.			3	2	2		3	3	3
C5-Describe the digestion, absorption and 3			3	2	1		2	2	2
C6- Explain the	e metabolism of vitamins	3	3	2	1		2	2	2
C7- Explain hy	pervitaminosis	2	2	2	1		2	2	2
VII Minerals (04 hours)	At the end of unit students a <b>Knowledge:</b> Understand an importance of minerals. <b>Skill :</b> Identify the mineral of	re able to d describe the leficiency	<ul> <li>Classifie</li> <li>Recommendation</li> <li>Dietary (3 hour)</li> </ul>	cation nended daily all sources& Func s)	lowances of food. tion	•	Absorption, ynthesis, metab torage and excretion. Deficiencies Over consumpt and toxicity. (1	ion hr)	
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of health care team an sy	f the stem	Lifelong learner	Critical thinker	Researcher
		PO1	PO2	PO3	PO4		PO5	PO6	PO7
C1-Define and c	lassify caloric value	3	3	2	1		2	3	2
C2-Explain record food	mmended daily allowances of	3	3	2	1		3	2	1
C3-Enlist the die	etary sources and function	3	3	2	1		2	1	2
C4-Explain malr Over consumpt	nutrition: Deficiencies and tion.	3	3	2	2		3	3	3
C5-Describe the storage of min	digestion, absorption and erals	3	3	2	1		2	2	2
C6- Explain the	e metabolism of minerals	3	3	2	1		2	2	2
VIII Water (03 hours)	At the end of unit students a <b>Knowledge:</b> Understand an importance of water and ele <b>Attitude:</b> Use this knowled practice.	re able to d explain ctrolytes. ge in nursing	<ul> <li>Water: water.</li> <li>Electro of body electroly</li> </ul>	Daily requirem lytes Types, sou fluids. Mainten yte balance (2 h	ent, regulation of arces, composition ance of fluid & ours)	<ul> <li>M</li> <li>C</li> <li>V</li> <li>C</li> <li>C</li> <li>V</li> <li>W</li> <li>H</li> <li>H</li></ul>	Metabolism, listribution of b vater Over hydration, lehydration and vater intoxicatio Electrolyte mbalances (1 ho	ody L on, our)	
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of health care team an sy	f the stem	Lifelong learner	Critical thinker	Researcher
		PO1	PO2	PO3	PO4		PO5	PO6	PO7
C1-Explain the d	laily requirement and	3	3	2	1		2	2	3

regulation of wa	iter.							
C2- Define, expl types, sources, c	lain, classify, and describe the composition of body fluids.	3	3	2	1	2	2	3
C3- Explain ma electrolyte bala	intenance of fluid & ance	3	3	1	2	1	1	2
C4-Explain meta	abolism of water	3	3	2	1	2	2	2
C5- Explain the body	distribution of water in the	3	3	2	1	2	2	2
C6-Explain Ov water intoxication	ver hydration, dehydration and	3	3	2	1	2	2	2
C7- Describe e	electrolyte imbalances	3	3	1	2	1	1	2
IX (05 hours)	At the end of unit students a <b>Knowledge:</b> Understand an of food keeping and preserv nutrients. <b>Skill:</b> Cook foods stuffs foll <b>Attitude:</b> Appreciate the im to be followed while cookin	re able to d describe rules ation of owing rules. portance of rules g.	<ul> <li>Principl serving.</li> <li>Preserva</li> <li>Safe Fo</li> <li>Storage</li> <li>Food state</li> <li>Preparate</li> <li>differentiation</li> </ul>	es, methods of o ation of nutrient od handling-tox of food andards tion of simple b t types of food o	everages and (3 hours)	Food preservatic food additives a principles Food fortifica (1 hours)	on, nd its tion (PF) • Foo adu (1 h	vention of 1 Iteration Act A) od Ilteration ours)
Course outcome		Clinician/ Nurse	Professional	Communicator	Leader and member of the	Lifelong learner	Critical thinker	Researcher
		educator			health care team an system			
		educator PO1	PO2	PO3	health care team an system PO4	PO5	PO6	PO7
C1-Define cook methods of cook	ing, explain the principles,	PO1 3	PO2 3	PO3 3	health care team an system PO4 2	PO5 3	PO6 3	PO7 3
C1-Define cook methods of cook C2-Explain the r nutrients	ing, explain the principles, king methods of preservation of	PO1 3 3	PO2 3 3	PO3 3 3	health care team an system PO4 2 2 2	PO5 3 3	PO6 3 3 3	PO7 3 3
C1-Define cook methods of cook C2-Explain the r nutrients C3- Explain safe	ing, explain the principles, cing methods of preservation of e food handling	PO1 3 3 3	PO2 3 3 3	PO3 3 3 3 3	health care team an system PO4 2 2 2 2 2	PO5 3 3 3 3	PO6 3 3 3 3	PO7 3 3 3
C1-Define cook methods of cook C2-Explain the nutrients C3- Explain safe C4-Explian the s	ing, explain the principles, king methods of preservation of e food handling storage of food	educator PO1 3 3 3 3 3	PO2 3 3 3 3 3 3	PO3 3 3 3 3 3	health care team an system PO4 2 2 2 2 2 2 2 2 2	PO5 3 3 3 3 3 3	PO6 3 3 3 3 3 3	PO7 3 3 3 3 3
C1-Define cook methods of cook C2-Explain the r nutrients C3- Explain safe C4-Explian the s C5-Describe for	ing, explain the principles, king methods of preservation of e food handling storage of food od standards	educator PO1 3 3 3 3 3 3	PO2 3 3 3 3 3 3 3 3	PO3 3 3 3 3 3 3 3 3	health care team an system PO4 2 2 2 2 2 2 2 2	PO5 3 3 3 3 3 3 3 3	PO6 3 3 3 3 3 3 3 3	PO7 3 3 3 3 3 3
C1-Define cook methods of cook C2-Explain the r nutrients C3- Explain safe C4-Explian the s C5-Describe foo C6-Illustrate the beverages and d	ing, explain the principles, king methods of preservation of e food handling storage of food od standards e preparation of simple ifferent types of food	educator           PO1           3           3           3           3           3           3           3           3           3           3           3           3           3	PO2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PO3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	health care team an system PO4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	PO5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PO6 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PO7 3 3 3 3 3 3 3 3
C1-Define cook methods of cook C2-Explain the r nutrients C3- Explain safe C4-Explian the s C5-Describe foo C6-Illustrate the beverages and d C7-Explain the l additives and its	ing, explain the principles, king methods of preservation of e food handling storage of food od standards e preparation of simple ifferent types of food Food preservation, food e principles	educator           PO1           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3	PO2 3 3 3 3 3 3 3 3 3 3 3 3 3	PO3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	health care team an system PO4 2 2 2 2 2 2 2 2 2 2 2	PO5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PO6 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PO7 3 3 3 3 3 3 3 3
C1-Define cook methods of cook C2-Explain the r nutrients C3- Explain safe C4-Explian the s C5-Describe foc C6-Illustrate the beverages and d C7-Explain the l additives and its C8- Explain foo	ing, explain the principles, cing methods of preservation of e food handling storage of food od standards e preparation of simple ifferent types of food Food preservation, food a principles d fortification	educator           PO1           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3	PO2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PO3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	health care team an system PO4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	PO5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PO6 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PO7 3 3 3 3 3 3 3 3 3 3

X (07 hours)	At the end of unit students a <b>Knowledge:</b> Understand an importance of balance diet. <b>Skill :</b> Prepare balance diet <b>Attitude:</b> Educate client.	re able to d describe	<ul> <li>Element</li> <li>Recommendation</li> <li>Nutritive</li> <li>Calculation</li> <li>Calculation</li> <li>Calculation</li> <li>Plannin</li> <li>Budget</li> </ul>	nts,& Food grou mended Daily A ve value of food ation of balance ries of people (2 ng menu (1 hour ing of food (1ho	ips Allowance of food & ls (2 hrs) d diet of different 2 hr) r) our)	<ul> <li>]</li> <li>]</li> <li>]</li> <li>]</li> <li>]</li> <li>1</li> <li>1</li> <li>1</li> <li>1</li> </ul>	Introduction therapeutic die Naturopathy <b>Hospital diet</b> <b>Development</b> <b>professional</b> <b>in preparatio</b> <b>therapeutic die</b> <b>hour</b> )	to et : of skills n of et (1	
Course outcome		Clinician/ Nurse educator	Professional	Communicator	Leader and member of health care team an sys	f the stem	Lifelong learner	Critical thinker	Researcher
		PO1	PO2	PO3	PO4		PO5	PO6	PO7
C1- Explain elem	nents and food group	3	3	2	1		2	2	1
C2-Explain the l Allowance of fo foods	Recommended Daily ood & Nutritive value of	3	3	2	1		3	2	1
C3- Describe the diet of different	Calculation of balanced t categories of people	3	3	2	1		2	3	3
C4- Explain Plan	nning menu	3	3	2	1		2	2	1
C5-Explain Bud	geting of food	3	3	2	1		2	2	1
C6- Explain natu	ropathy	2	2	2	1		2	2	2
C7- Describe hos	spital diet	2	2	2	1		2	2	2
C8- Developmen preparation of the	t of professional skills in erapeutic diet	3	3	2	2		3	2	3
XI (04 hours)	At the end of unit students a <b>Knowledge:</b> Enlist Nationa Programmes in India and de rule. <b>Attitude:</b> Contribute in imp national nutritional program	re able to l Nutritional scribe nurse's lementation of s.	• Assess educat	ment of nutritic	onal status Nutrition nurse. (1 hour)	<ul> <li>N</li> <li>r</li> <li>V</li> <li>p</li> <li>M</li> <li>p</li> <li>I</li> <li>d</li> <li>(1)</li> </ul>	National program elated to nutriti Vitamin A deficie rogramme. Vational iodine leficiency disord programme(IDD) Aid – day meal programme ntegrated child levelopment sche ICDS). 2 hours)	mmes N ion all ency In lers to for eme FL C for te re	ational nd iternation agencies orking owards ood / utrition. hour)NIPC D, CARE, AO, MIN, ETRI (Central od chnology and search

						ins	titute) etc.
Course outcome	Clinician/ Nurse educator	Professional	Communicator	Leader and member of the health care team an system	Lifelong learner	Critical thinker	Researcher
	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C1- Explain Assessment of nutritional status Nutrition education and role of nurse	3	3	2	1	3	2	1
C2- Explain National programmes related to nutrition	3	3	2	2	3	2	3
C3-Describe the National and International agencies working towards food / nutrition	3	3	2	1	3	2	3

## LAB HOURS: TOTAL - 20 HOURS

Sr. No	Name of Topic	I	Recipe				
Ι	Liquid Diet	Egg Flip	Barley Water	Total 20			
		Whey Water	Orange Juice	Hours			
		Mango Juice	Sweet Line Juice	Experience			
		Soup					
II	Soft Diet	Custard	Carmel custard				
		Kanji	Jelly				
		Porridge					
III	Semi Solid	Khichadi	Smashed Potatoes				
	Diet	Kheer					
IV	<b>Balanced Diet</b>	Planning of Menu	Budgeting of Food				
		Calculation of Nutritive Values	Identification of various food groups				

## **TEACHING STRATEGY:**

Total Teaching Hours: 60 Lectures: 40

Lab Hours: 20

#### **TEACHING METHODS:**

• Lecture. Simulated Kitchen. Group Discussion and Modified Tutorial

## A.V. AIDS:

• Over head Projector, L.C.D, Computer assisted learning, Flip charts, Posters, Black Board.

#### **ASSIGNMENTS: Theory:**

Theory:

Sr. No	Assignments	No./Quantity	Marks Per Assignment	Total Marks
1	Assignment Book	One- Preparation of various types of diet	20	40
2	Home assignment	One	20	

• While calculating Internal Assessment –Marks obtained in the assignments of Nutrition and Biochemistry shall be amalgamated as one subject, 'Nutrition and Biochemistry.

## LIST OF RECOMMENDED BOOKS:

- Anderson, Nutrition in nursing
- Anita E.P Clinical dietetics and nutrition
- Corrine H Robinson- Normal and therapeutic nutrition
- Patwardhan V.N., Nutrition in India
- Leena F Cooper., Nutrition in health and disease