

Manonmaniam Sundaranar University, Tirunelveli

UG COURSES-AFFILIATED COLLEGES

B.Sc. Nutrition & Dietetics

(Choice Based Credit System)

(For those who joined the course from the academic year 2016-2017 onwards)

(45th SCAA meeting held on 09.02.2017)

Sem	Pt I/ II/ III/ IV	Sub No.	Subject status	Subject Title	Hrs/ week	Cre dits	Marks				
							Maximum			Passing minimum	
							Int.	Ext.	Tot.	Ext	Tot.
V	I	33	Core - 7	Dietetics – I	4	4	25	75	100	30	40
	II	34	Core - 8	Bakery & Confectionery – I	4	4	25	75	100	30	40
	III	35	Elective – 1 (Select any one)	A) Family Resource Management –I B) Hygiene & Sanitation	5	5	25	75	100	30	40
		36	Elective – 2 (Select any one)	A) Functional Foods & Nutraceuticals B) Fundamentals of Textiles & Clothing	5	5	25	75	100	30	40
		37	Practical - 5	Dietetics – I	3	-	50	50	100	20	40
		38	Practical - 6	Bakery & Confectionery – I	3	-	50	50	100	20	40
		39	Practical - 7	Family Resource Management – I	2	-	50	50	100	20	40
	IV	40	Skill Based subject (Common)	Personality Development/ Effective Communication/ Youth Leadership	4	4	25	75	100	30	40
					30	24					

Sem	Pt I/ II/ III/ IV	Sub No.	Subject status	Subject Title	Hrs/ week	Cre dits	Marks				
							Maximum			Passing minimum	
							Int.	Ext	Tot.	Ext.	Tot.
VI	I	41	Core - 9	Dietetics – II	6	4	25	75	100	30	40
	II	42	Core - 10	Bakery & Confectionery – II	6	4	25	75	100	30	40
	III	43	Core - 11	Clinical Biochemistry	5	4	25	75	100	30	40
		44	Elective – 3 (Select any one)	A)Family Resource Management –II B)Food Packaging	5	5	25	75	100	30	40
	IV	45	Practical – 8	Dietetics	3	4	50	50	100	20	40
		46	Practical – 9	Bakery & Confectionery – II	3	4	50	50	100	20	40
		47	Practical -10	Clinical Biochemistry	2	4	50	50	100	20	40
				Subtotal	30	29					

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V/ Ppr.no.33/ Core 7**

DIETETICS-I

Objectives :

1. To gain insight into the national nutritional problems and their implications
2. To obtain knowledge about the methods of assessment of nutritional status
3. Develop skills in organizing and evaluating nutrition projects in the community

UNIT- I

Diseases of GIT

Diet in diseases of the digestive tract – peptic ulcer, diarrhea and constipation.

UNIT - II

Diet in diseases of the liver and biliary tract – hepatitis, cirrhosis, gall bladder diseases

UNIT - III

Febrile and Diabetes Mellitus

Diet in Febrile conditions, causes, types, metabolic changes, diet modification in Influenza, Malaria, typhoid, Tuberculosis.

UNIT -IV

Diet in Diabetes Mellitus – etiology, changes in metabolism, clinical symptoms, methods of treatment- diet, drug, complications and Food Exchange list

UNIT - V

Cardiac disorders:

Diet in Cardiac disorders: Atherosclerosis and hypertension, signs and symptoms, complications, diet modification

References:

1. Sri Lakshmi (2004) Dietetics, Wiley Eastern publishers.
2. Corrine Robinson (1990) Normal and Therapeutic Nutrition, Oxford and IBH publishers.
3. Swaminathan. M. (2003) Principles of Nutrition and Dietetics, Bappco publishers, Bangalore.
4. Gopalan, Ramasastri and Balasubramanian (1996) Nutritive value of Indian food, NIN publication, Hyderabad.
5. Bhavana sabarwal (1999) principles and practices of Dietetics, Ajay verma common wealth publishers, New Delhi.
6. Davidson Passmore (1989) Human Nutrition and Dietetics, London Churchill and Livingston publishers.

BAKERY AND CONFECTIONARY -I

Objectives :

1. Understand basic concept of baking.
2. Acquaint with the role of various major and minor ingredients in bakery products.
3. Familiarize with baking process and operation.
4. Learn the quality parameters of bakery products.

UNIT- I

Bakery :

Wheat- type, principles of flour milling.

Flour – types of flour, composition, quality assessment (Biscuit, cake, pastry, self-rising flour, whole wheat flour)

UNIT-II

Other Ingredients and their function in baking :

- a) Yeast : types, function, uses effects of over and under fermentation.
- b) Eggs – Function in bakery.
- c) Sugar – Types uses.
- d) Fats – Classification, function, effect of cooking.
- e) Milk and Milk products, emulsifiers, dried fruits & leaving agent.
- f) Water and salt (Baking soda)

UNIT-III

Baking Process :

Baking process – basic concepts, batch or continuous dough mixing, dividing, molding, proofing, baking. Formation and expansion of gases. Trapping of gases in air cells coagulation of protein, gelatinization of starches, evaporation of water, melting of shortening, browning of the sugar.

UNIT- IV

Cakes :

Preparation of cake, different methods, icings, faults and remedies.

Preparation of biscuits, cookies and its types.

UNIT- V

Bakery Machinery and Equipment :

Bakery machinery and equipments – bulk handling, mixers, forming, molding, cuttings, embossing, ovens, packaging, auxiliary equipments.

References :

1. Kent.N.L. Technology of cereals – with special reference to wheat, pergamon Press, New York, USA, 1975.
2. Sultan.W.J. (1976): Practical baking manual – for students and instructors, AVI Publishing Co.INC, West Port, Connecticut.
3. Matz S.A. Technology for the materials of Baking- Elsevier Science Publishers, Barking, England.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V /Ppr.no.35(A)/ Elective –I (A)**

FAMILY RESOURCE MANAGEMENT – I

Objectives:

- To attain a thorough knowledge of understanding values and goals in house keeping
- To gain a basic knowledge of planning and constructing a house
- To understand a basic designs and art

UNIT – I

Housing:

Function of the house and its environment

House planning – site selection, factors to be considered, features of a house contributing to livability. orientation,

Grouping, roominess, lighting and ventilation, storage facility, privacy, flexibility, sanitation and economy.

Kitchen planning – different types – work triangle.

House plans- low, middle and high income groups.

UNIT- II

Care and maintenance of house

- a . Care and maintenance of house and its surroundings.
- b . Daily, weekly and periodical cleaning to keep the house in good condition.
- c. Insect and pest control- preventive and remedial measures to be adopted.

UNIT-III

Design

a. Elements of design, types of design, characteristics of a good design, principles of design

b. Harmony – meaning, types – repetition, contrast, transition.

- c. Proportion – meaning – means of obtaining good proportion.
- d. Balance – meaning – types and means of obtaining balance.
- e. Emphasis – meaning – means of creating emphasis.
- f. Rhythm – meaning – means of getting rhythm

UNIT -IV

Colour

- a . Qualities of colour – hue, value, intensity of colours and emotions, advancing and receding colours.
- b .How to use colours – proportion, balance, harmony, and rhythm in colour.
- C. Use of colour in interior decoration

UNIT- V

Accessories, furniture, flower arrangement

- a . Selection, use and care of accessories, Picture and wall hangings, basic knowledge of flower arrangements – principles, types of flower arrangement.
- b. Selection and use of furniture – living room, bedroom and dining room – table setting.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V /Ppr.no.35(B)/ Elective –I (B)**

HYGIENE AND SANITATION

Objectives :

This course will enable the students to –

- a. Understand the principles and application of hygiene and sanitation in Food Processing.
- b. Develop good habits of personal and environmental hygiene.
- c. Learn safe handling of food and ensure complete safety of raw and processed foods.

Unit I

Hygiene

- a. Definition of hygiene – its application to everyday life.
- b. Personal hygiene.

Unit II

Safe handling of food

Personal hygiene including uniform, medical check-up, good food handling habits and training. Control and eradication of flies, cockroaches, rodents and other pests.

Unit III

Disinfections

Definition of disinfectant, sanitizer, antiseptic and germicide. Common disinfectants.

Use in case of working surfaces, kitchen equipment, dish washing, hand washing etc.

Sterilization of kitchen and service equipment. Sanitizing of watering equipment

Unit IV

Care of premises and equipment

- a. Impervious washable floors, walls, table tops, floor etc.
- b. Good ventilation and lighting.
- c. Care of dark corner, crevices and cracks.
- d. Garbage disposal – collection, storage and proper disposal from the premises.

Unit V

Food Adulteration and laws

- a. Food adulteration and public health hazards. Prevailing food standards in India –
P.F.A., F.P.O., Agmark and B.I.S.
- b. Legal administration and quality control – laws relating to food hygiene.

References :

1. Hobbs, B.C. and Gilbert, R.J. (1970): Food Poisoning and Food Hygiene, Edward Arnold, London.
2. Rack, B.G: Hygiene in food manufacturing and Handling, Food trade press, London.
3. Longree, K. Blaker, G.G. (1971): Sanitary techniques in food service, John Wiley, New York.
4. Longree. K. (1967): Quantity food sanitation, 2nd Ed. Inter Science Publishers.
5. John Wiley & Sons, New York.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V /Ppr.no.36(A)/ Elective –II (A)**

FUNCTIONAL FOODS AND NUTRACEUTICALS

Objectives

1. Learn the health benefits of functional foods and nutraceuticals
2. Identifying strengths, limitations, and future directions
3. Understand the regulations with respect to functional foods and nutraceuticals.
4. Develop skills in teaching and oral communication by giving a presentation on the topic of functional foods.

UNIT - I

Functional foods and Nutraceuticals

- a Introduction, definition, importance of Functional foods and Nutraceuticals
- b Health attributes of functional foods, Introduction, Health living Index provides information on healthy diet, fitness, emotional wellness

UNIT- II

FFN and other acute infection and probiotic –probiotic immune system, sources of micro algal health supplements

UNIT - III

Phytochemicals

Introduction –Terpenoids, Polyphenolics, Anthocyanins, Isoflavones
Silymarin, Tangeretin, Saponins and other dominant phytochemicals

UNIT - IV

- a. Other Nutraceuticals – PUFAs – Polyunsaturated fatty acid - Source; natural constituents of animal and vegetable lipids, function of PUFA.
- b. Functional foods in the control of aging, mood and performance, medical foods

UNIT -V

- a. Colonic Functional Foods: Introduction to Colonic foods, Metabolism of colonic foods
- b. Probiotics, Symbiotic, Health aspects of functional colonic foods.
- c. Host – microbe interaction.

Reference:

1. Mary K. Schimsl and Theodore P. Labuza; Essentials of functional foods 2000, Culinary and Hospitality industry Publication Services
2. C. Remacle and B. Reusens, Functional Foods, Aging and Degenerative Diseases, Culinary & Hospitality Publications Services.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V /Ppr.no.36(B)/ Elective –II (B)**

FUNDAMENTALS OF TEXTILES AND CLOTHING

Objectives:

1. To understand the characteristics & properties of textile fibers
2. To acquire thorough knowledge on fabric & yarn
3. To understand the construction of yarn and fabric.

UNIT- I

a. Fibres:

Definition, classification, general characteristic of cellulose, protein, thermoplastic and mineral fibres.

b. Major textile fibres:

Manufacturing process, properties, use and care of textile fibres eg cotton, silk and rayon.

c. Minor textiles fibres:

Study of minor fibres – jute, hemp, coir.

UNIT – II

a.yan construction

Definition, twist, types and counts.

b. Fabric construction:

Weaving - definition, types of weave basic

Weave – plain, twill, satin, and decorative weaves [Jacquard weave].

UNIT –III

Fabric finishes

Definition: Boiling, scouring, sizing, carbonizing, bleaching, shearing, singeing, calendaring,

Tendering, weighting, mercerizing.

UNIT – IV

a. Dyeing – initial dyeing- stock, yarn, piece, cross dyeing tie and dye, batik methods

b. Printing – types block, stencil and screen.

c. Parts and function of sewing machines, use and care- Tools for clothing construction

d. Embroidery – stem, chain, cross, bullion, lazy- daisy, fly, wheel, couching, blanket.

e. Basic hand stitches. Temporary – basting- even, uneven, diagonal.

f. Permanent –hemming, backstitch, whipping, overcasting, run stitch.

UNIT – V

Seams, Neck, Line, Plackets, Gathers, Fasteners, Bias.

a. Seams – Definition, types.

b. Bias – uses, types.

c. Neck line – facing, binding, collar, Peter Pan collar.

d. Fasteners – types, uses and dis advantages.

e. Plackets – uses, types garment constructions.

f. Drafting – panty, A – line frock, six gore skirt, blouse.

References

1. Fundamentals of textiles and their use. (Orient Longman Ltd.,)
2. Textiles fibres and their use – X.P. Hoss.
3. Household Textiles and laundry work Danlkar.
4. Mary Mathew.
5. Clothing for modern – Macmillan & co.
6. Pattern drafting and making up – Bela Kapoor.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V /Ppr.no.37/ Major Practical - 5**

DIETETICS - I

1. Menu planning, Preparation and evaluation of peptic ulcer, hepatitis and Cirrhosis.
2. Menu planning, Preparation and evaluation of typhoid, tuberculosis,
3. Menu planning, Preparation and evaluation of Diabetes Mellitus.
4. Menu planning, Preparation and evaluation of Atherosclerosis and hypertension.
5. Menu planning, Preparation and evaluation of nephritis, nephrosis, renal failure

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V /Ppr.no.38/ Major Practical - 6**

BAKERY AND CONFECTIONARY - I

1. Identify different types of flour.
2. Visit to a bakery unit, Preparation of Pizza.
3. Preparation of different types of cakes, biscuits, cookies and different icings.

MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and Dietetics]/Semester-V /Ppr.no.39/ Major Practical - 7

FAMILY RESOURCE MANAGEMENT – I

1. Draw the house plan and kitchen plan.
2. Visit to hotels to obtain knowledge on interior decoration and housing keeping.
3. Demonstration on mixing colour.
4. Visit to star hotels.
5. Visit to catering institutions to know about its organization.
6. Comparison of cost of different types of hotels.
7. Maintaining hygiene and sanitation in the work place.
8. Visit different types of housing.
9. Demonstration of different designs and create the elements of design in a greeting card.
10. Prepare different models using the principles of design.
11. Colour chart, types of colour and colour in interior decoration.
12. Visit to flower show, demonstration on different types of flower arrangement, wall hangings, picture
13. Steps in making the budget for a family various ways of improving the income of 10 family.
14. Visit to Banks and post offices.
15. Cottage stay.

MSU/ 2016-17/ UG colleges/ Part III[B.Sc Nutrition and Dietetics]/Semester-VI /Ppr.no.41/Core – 9

DIETETICS - II

Objectives :

1. To gain insight into the national nutritional problems and their implications
2. To obtain knowledge about the methods of assessment of nutritional status
3. Develop skills in organizing and evaluating nutrition projects in the community

UNIT- I

Diet in Food Allergy

Definition, classification, diagnostic methods, tests for allergy, diet modification, treatment

UNIT- II

Kidney diseases:

Diet in Kidney diseases: acute, chronic glomerulonephritis, nephrosis, renal failure, urinary calculi- etiology, symptoms, diet modification.

UNIT- III

Burns :

Types, degrees of burns, nutritional requirements and diet management

UNIT- IV

Obesity, Underweight

Diet in obesity & underweight – causes, methods of diagnosis, diet modifications

UNIT – V

Diet in cancer – Types, clinical symptoms, and dietary management.

References:

1. Sri Lakshmi (2004) Dietetics, Wiley Eastern publishers.
2. Corrine Robinson (1990) Normal and Therapeutic Nutrition, Oxford and IBH publishers.
3. Swaminathan. M. (2003) Principles of Nutrition and Dietetics, Bappco publishers, Bangalore.
4. Gopalan Etal., (1996) Nutritive value of Indian food, NIN publication, Hyderabad.
5. Bhavana sabarwal (1999) principles and practices of Dietetics, Ajay verma common wealth publishers, New Delhi.
6. Davidson Passmore (1989) Human Nutrition and Dietetics, London Churchill and Livingston publishers.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-VI /Ppr.no.42/Core 10**

BAKERY AND CONFECTIONARY - II

Objectives :

1. Understand basic concept of baking.
2. Acquaint with the role of various major and minor ingredients in bakery products.
3. Familiarize with baking process and operation.
4. Learn the quality parameters of bakery products.

UNIT – I

Commercial bread making methods:

Recent advances, chemical dough development, mechanical dough development, sheeting extrusion, other rapid methods. Methods of preparing bread and bread rolls. Evaluation of bread and quality control. Methods of preparation of pizza.

UNIT- II

Pastries

Types, principles and working techniques- recipes for short cut pastry, puff pastry, sweet pastry, choux pastry, suet pastry. Reason for fault in the above preparation. Products made from the above pastries.

UNIT - III

Tarts

Tartlets – preparation and types. Pies – types, mixing pie dough, pie crusts, procedure for making small fruit tart, assembling, baking and filling, common problems in fruit pies.

UNIT- IV

Chocolate

Chocolate – manufacture and processing of chocolate, types and uses of chocolate, cocoa, butter, white chocolate , liquor chocolate, fondant chocolates and toffees

UNIT- V

Microbial infection in bakery products

Microbial aspect of different bakery product: Prevention of bacterial rope and mold infection.

Reference :

1. Kent.N.L. Technology of cereals – with special reference to wheat, pergamon Press, New York, USA, 1975.
2. Sultan.W.J. (1976): Practical baking manual – for students and instructors, AVI Publishing Co.INC, West Port, Connecticut.
3. Matz S.A. Technology for the materials of Baking- Eisevier Science Publishers, Barking, England.

MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and Dietetics]/Semester-VI / Ppr.no.43/Core - 11

CLINICAL BIOCHEMISTRY

Objectives:

1. To study different tests for diseases
2. To know the biochemical composition of bloods and different parts of the body

UNIT- I

Blood Sugar

Level of blood glucose in normal and abnormal conditions- Ketosis – Diabetic coma.

UNIT-II

Inborn Errors of carbohydrate metabolism

Pentosuria, Galactosemia Glucose Urea, Glycogen storage disease, Glucose tolerance test

UNIT- III

Blood Lipids

Types and level of lipids in blood disorder of lipoproteins – Hyper and Hypocholesteremia, Atherosclerosis, Inborn errors of fat metabolism

UNIT – IV

Plasma protein:

Plasma –types- functions – inborn errors of amino acid metabolism- phenylketonuria Albinism - Alkaptonuria and maple syrup disease.

UNIT – V

Gastric disorders:

Bile salt- Functions – formation of bile acids and bile salts – bile pigments from haemoglobin. Test for kidney function –clearance test.

References :

1. Cantrow A and Trumper, Clinical Bio-Chemistry, M.W.B. Saunders co-1975.
2. Swaminathan, m. Bio-Chemistry for medical teachers.
3. Harold valley, Clinical, Bio-Chemistry (1986).
4. Saunder's Clinical Bio-Chemistry.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and Dietetics]/
Semester-VI /Ppr.no.44(A)/ Elective – 3(A)**

FAMILY RESOURCE MANAGEMENT – II

Objectives:

1. To enable the students to understand the importance of home management in family and personal living
2. To improve their ability in family resource management
3. To understand and apply basic principles of art in interior designing

UNIT- I

Management:

- a. Definition and meaning of management – characteristics of a good home maker - management process – planning, organizing, controlling and evaluating
- b. Motivating factors in management – values, goals and standards. Decision making – steps in decision making- steps in decision making.

UNIT – II

Resources:

- a. Resources – classification and characteristics.
- b. Time and Energy Management – Importance of time management, guidelines in planning time schedule, fatigue- types and overcoming fatigue – work simplification – Mundel’s Law.

UNIT –III

Standard of living – constituents – factors affecting, causes for low living standards in India.

UNIT – IV

Money Management:

- a. Family income – types, sources methods of augmenting family income.
- b. Family expenditure – budget – meaning – types of budget – planning a family budget- steps in planning, advantages of budgeting – Engel’s law of consumption.
- c. Saving – meaning – need, saving institutions- Bank, Post office, Insurance, Chit fund, Unit trust of India.

UNIT – V

Purchase pattern and consumer protection:

a. The home maker as a wise consumer – rights of a consumer – consumer education – consumer aids – advertisement – standards. Labels – price tag.

b. Residence courts – need, objectives planning, organization and evaluation of the course – role of supervisor and staff advisor.

References:

1. Deshpande, R.S. Modern Ideal Homes for India – United Book corporations, Pune – 1971.
2. Paulena Nickell, Jean Muir Dorsey – Management in Family Living, Wiley Eastern Private Ltd.,
3. Mc.Call's Editiors – Mc Call's Decorating book – Random House, Mc calls.
4. Van Dommolen, D.B. Designing and Decorating Book – John Wiley & Son.
5. Mann, M (1980) home Management for Indian families, New Delhi Kalyan Publishers.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and Dietetics]/
Semester-VI /Ppr.no.44(B)/ Elective – 3(B)**

FOOD PACKAGING

Objectives :

This Course is designed to enable students to:

- Gain knowledge about various packaging materials and importance of packaging.
- Be familiar with testing and evaluation of packing media.
- Be familiar with packaging laws and regulations.
- Be able to select appropriate packaging material for a variety of foodstuffs vis-à-vis the need for preventing environment degradation.

UNIT – I

- a. Packaging – concepts, definition, significance, classification.
- b. Application in packaging.

UNIT –II

- a. Primary packaging media – Properties and applications.
- b. Paper boards, metals, plastic, wood, and ply wood, glass, flexible, tin, aluminium can, foil.
- c. Labels, caps and closures and wads, adhesives, inks and lacquers, cushioning materials, reinforcements.

UNIT – III

Testing and evaluation of packaging media – retail packs [include shelf life evaluation] and transport packages.

UNIT –IV

Packaging systems and methods for food products – vacuum packaging, gas packaging, Aerosol packaging, Shrink

Packaging, Aseptic and retort packaging, Bag - in Box, MAP, BOPP.

UNIT- V

- a) Storage, handling and distribution of packages (foods) – Effect of improper packaging – Preventive techniques.
- b) Branding and labelling.
- c) Packaging laws and regulations.

References :

1. Sachrow & Griffin, Food Packing – AVI Publications.
2. Hotchikess Food & Packaging Interaction – American Chemical Society.
3. Darry, R. & T, Blackie: Principles & Applications of MAP – Academic & Professions.
4. Bhatia S.C. Canning & Preservations of Fruits & Vegetables – New Delhi, India.
5. Robertson G.L. Food Packaging – New York, Marcell Dekker, INC.
6. Bureau of G & Multon J.K. Food Packaging Technology (Vol.1 & 2) – VCH, Publishers, INC, New York.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V /Ppr.no.45/Major Practical -8**

DIETETICS - II

1. Menu planning, Preparation and evaluation of glomerular nephritis, renal failure, urinary calculi.
2. Menu planning, Preparation and evaluation of obesity & underweight.
3. Visit to hospitals for diet counselling.

**MSU/ 2016-17/ UG colleges/ Part III[B .Sc Nutrition and
Dietetics]/Semester-V / Ppr.no.46/Major Practical -9**

BAKERY & CONFECTIONARY – II

1. Bread making demonstration.
2. Preparation of pizza.
3. Preparation of different types of pies, sweet meats, chocolates – demonstration

CLINICAL BIOCHEMISTRY

1. Identification of carbohydrates.
2. Identification of proteins.
3. To study the general properties of the enzyme urease and achromatic time of salivary amylase.
4. Estimation of glucose in urine .by Benedict s method
5. Urine Analysis – Normal and constituents of urine.
6. Blood glucose estimation.