

NEW SYLLABUS FOR SEMESTER SYSTEM
B.A. (HONOURS)

SUBJECT: B.A. NUTRITION SYLLABUS - 2015

HONOURS ELECTIVE PAPERS SEMESTER WISE

SEMESTER	PAPER No.	TITLE OF PAPERS	PAPER CODE No.	MARKS	MAXIMUM MARKS	
I	I	FUNDAMENTALS OF NUTRITION AND FOOD SCIENCE.	NH101-T	75	100	
		FUNDAMENTALS OF NUTRITION AND FOOD SCIENCE (PRACTICAL)	NH101-P	25		
II	II	NUTRITION: A LIFE TIME APPROACH	NH201-T	75	100	
		NUTRITION: A LIFE TIME APPROACH (PRACTICAL)	NH201-P	25		
III	III	COMMUNITY NUTRITION	NH301-T	75	100	
		COMMUNITY NUTRITION (PRACTICAL)	NH301-P	25		
IV	IV	THERAPEUTIC NUTRITION AND FITNESS	NH401-T	75	100	
		THERAPEUTIC NUTRITION AND FITNESS (PRACTICAL)	NH401-P	25		
V	V	FOOD QUALITY CONTROL AND GOVERNMENT REGULATIONS	NH501-T	75	100	
		FOOD QUALITY CONTROL AND GOVERNMENT REGULATIONS (PRACTICAL)	NH501-P	25		
	VI	VI	FOOD PRESERVATION AND PROCESSING TECHNIQUES	NH502-T	75	100
			FOOD PRESERVATION AND PROCESSING TECHNIQUES (PRACTICAL)	NH502-P	25	
VI	VII	FOOD SERVICE MANAGEMENT	NH601-T	75	100	
		FOOD SERVICE MANAGEMENT (PRACTICAL)	NH601-P	25		
	VIII	VIII	BAKERY SCIENCE	NH602-T	75	100
			BAKERY SCIENCE (PRACTICAL)	NH602-P	25	
GRAND TOTAL					800	

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SEMESTER - I
PAPER- I NH 101 - T
FUNDAMENTALS OF NUTRITION AND FOOD SCIENCE MM - 75

- UNIT-I:** Basic concepts of Food and Nutrition.
Basic terms used in Study of Food and Nutrition.
- Understanding the relationship between Food, Nutrition and Health.
 - Functions of Food - Physiological, Psychological and Social.
 - Definitions and Types of Nutrition - Optimum and Malnutrition.
 - Types and classifications of Nutraceuticals.
- UNIT - II:** Nutrients
- Functions, dietary sources and classification of the following Nutrients:
 - Carbohydrates, Lipids and Proteins.
 - Fat soluble vitamins - A, D, E and K.
 - Water Soluble Vitamins -Thiamine, riboflavin, niacin, pyridoxine folate, Vit-B₁₂ and Vit-C.
 - Minerals (Micro and Macro)
 - Food Guide: Basic Food Groups, how to use Food Guide.
- UNIT - III:** Interrelationship between Nutrition and Health.
- Factors affecting Health; use of food in the body.
 - Digestion, Absorption, Transport and Utilization of Nutrients.
 - Balanced Diet.
- UNIT - IV:** Methods of cooking and preventing Nutrient Losses.
- Meaning and principles of food preparation.
 - Methods of food preparation - Dry, Moist, Frying and Microwave Cooking.
 - Changes in food during preparation - Colour, Texture and Flavour
 - Enhancing the Nutritive Value of Food-Sprouting Germination, Fermentation, Parching and Puffing.
 - Minimizing nutrient losses.

SEMESTER - I
PAPER-I NH 101 - P
FUNDAMENTALS OF NUTRITION AND FOOD SCIENCE (PRACTICAL) MM-25

1. Weights and measures; preparing market order and Table Setting.
2. Preparation of various dishes, nutritional qualities and proportion size. Their sensory evaluation.
 - (i) Cereal preparation (a) Rice preparations - Fried rice, Pea Pulao.
 - (b) Wheat preparation - Chapatti, Purī.

- (ii) Pulse preparation - Dal fry, Sambar, Rajmah Masala.
- (iii) Vegetable preparation - Palak Paneer, Crispy Fried Vegetables.
- (iv) Meat preparation - Murg Masala, Fish Curry.
- (v) Snacks - Sandwiches, Cutlets, Poha.
- (vi) Milk and milk products - Kheer, Custard.
- (vii) Salads - Tossed Salads, Russian Salads.
- (viii) Soups - Egg Drop Soup, Hot and Sour Soup.
- (ix) Bakery Products - Biscuits, Sponge Cake, Tarts and pies.
- (x) Beverages - Fruit Juices, Lassi, Smoothies.
- (xi) Egg preparations - Poached, Omelettes, Egg Puddings.

SUGGESTED READINGS:

- Bamji MS, Rao NP, and Reddy V. Text Book of Human Nutrition; 2009; Oxford & IBH Publishing Co. Pvt Ltd.
- Chopra, Punam, "Food and Nutrition Education", Publication: New Delhi APH Publishers, 2005.
- Dass, Sujata K., "Food and Nutrition" by Publication: New Delhi Isha Books 2003.
- Ebrahim G.J. and Taper "Nutrition in Mother and Child Health" 1988, Macmillan, London.
- Gupta, Padmaia., "Diet: Nutrition and Life Style by Publication", Jaipur RBSA Publishers 1996.
- Jain P et al. Poshan ya swasthya ke mool siddhant (Hindi); First Ed; 2007; Academic Pratihha.
- Khanna K, Gupta S, Seth R, Mahana R, Rekhi T. The Art and Science of Cooking Phoenix Publishing House Private Limited, Delhi 1998.
- Lakra P, Singh MD. Textbook of Nutrition and Health; First Ed; 2008; Academic Excellence.
- Manay MS, Shadaksharaswamy. Food-Facts and Principles; 1998; New Age International (P) Ltd.
- Mudambi, SR and Rajagopal, MV. Fundamentals of Foods, Nutrition and Diet Therapy; Fifth Ed; 2007; New Age International Publishers.
- Mudambi, SR, Rao SM and Rajagopal, MV. Food Science; Second Ed; 2006; New Age International Publishers.
- Mudambi, Sumati R., "Fundamentals of Food and Nutrition by Publication" New Delhi Wiley Eastern, 1990.
- Mudambi, Sumati, "Food Science", Publication: New Delhi New Age International 2006.
- Negi, Jagmohan. "Food and Beverages", Publication: New Delhi Kanishka Publishers, 2004.
- Passmore, R. Eastwood, MA "Human Nutrition and Dietetics" 8th Edition 1989, ELBS Publishers.

- Potter NN. *Hotelkiss III Food Science*; Fifth Ed; 1997. CBS Publishers and Distributors.
- Raina U, Kachyap S, Narula V, Thomas S, Suvira, Vir S, Chopra S. *Basic Food Preparation - A Complete Manual*. Orient Longman, 2005.
- Sethi P and Lakra P. *Aahaar Vigyan, Poshan Evam Suruksha*. Elite Publishing House, 2015.
- Shukla P.K. "The feeding and care of infants and young children." Voluntary Health Association of India, 1977, New Delhi.
- Singh, Tapeswar. "Resource conservation and Food Security", Volume 1 by..(ed) Publication: New Delhi Concept Publishing 2004.
- Singh, Harbans, "Milk and Milk Products", Publication: New Delhi Directorate of Extension, Ministry of Food, Agriculture, Community Development and Cooperation 1968.
- Srilakshmi B. *Nutrition Science*, 2002; New Age International (P) Ltd.
- Srilakshmi B. *Food Science*; Fourth Ed; 2007; New Age International (P) Ltd.
- Suri S. and Malhotra A. *Food Science, Nutrition & Food Safety* Pearson India Ltd. 2014.
- Swaminathan M. *Handbook of Foods and Nutrition*; Fifth Ed; 1986; BAPPCO.
- Swaminathan, M. "Essentials of Food and Nutrition". V. II by Publication: Bangalore Printing and Publishing, 1985.
- Vrinda S. *Aahaar Vigyan (Hindi)*; 2003; Stryam Prakashan
- Vashisht, Meera. "Introduction to Food, Nutrition and Food Processing" by Publication. New Delhi Anmol Publications, 1998.
- Waidia. *GM, Haini JS. Perspectives in Nutrition*; Seventh Ed; 2007; McGraw Hill.
- Yadav, Seema, "Foods Hazards and Food Hygiene" Publication: New Delhi Anmol Publishers, 1997.

SEMESTER - II

PAPER - II NH 201 - T

NUTRITION: A LIFESPAN APPROACH MM - 75

UNIT - I: Principles of Meal Planning:

- Balanced diet,
- Food groups,
- Food exchange list,
- Factors affecting meal planning and food related behavior.
- Dietary guidelines for Indians and food pyramids;

Nutrient requirements:

- Concept of Dietary Reference Intakes,
- Overview of methods for assessment of nutrient needs.

UNIT - II: Nutrition during Pregnancy and lactation:

- Pregnancy - Physiological changes in pregnancy, RDA, nutritional guidelines, nutritional needs, effect of nutritional status on pregnancy outcome, optimal weight gain and its components, nutrition related problems in pregnancy and ways to control them;
- Lactation - Physiology of lactation, RDA and nutritional needs of a nursing mother, nutritional guidelines.

UNIT – III: Nutrition during Childhood:

Growth and development, reference/ standards, RDA, nutritional guidelines, nutritional concerns and healthy food choices;

Infants,
Preschool Children,
School Children,
Adolescents.

UNIT – IV: Nutrition for reference man and woman and old age:

- Adult - Nutrient requirements for adult man and woman, RDA, nutritional guidelines, nutritional concerns, diet and lifestyle related diseases and their prevention;
- Elderly - Physiological changes in elderly, RDA, Nutritional guidelines, nutritional and healthy concerns in old age and their management, factors contributing to longevity.

SEMESTER - II**PAPER-II NH 201 - P****NUTRITION: A LIFESPAN APPROACH (PRACTICAL) MM - 25**

1. Introduction to meal planning:
 - (i) Use of food exchange list.
2. Planning and preparation of diets and dishes for:
 - (i) Pregnant and Lactating woman,
 - (ii) Pre school child,
 - (iii) School age and adolescent.
 - (iv) Reference man/ woman,
 - (v) Elderly.
3. Planning complementary foods for Infants.

SUGGESTED READINGS:

- Anita, F.P., "Clinical Dietetics and Nutrition", Publication: New York Oxford University, 1997.
- Chadha R and Mathur P eds. (2015) Nutrition: A Lifecycle approach. Orient Blackswan. New Delhi.
- Davidson, Stanley...et.al., "Human Nutrition and Dietetics" Publication: New York The English Language Book Society and Churchill Livingstone, 1975.
- Dietetics by Shrilakshmi, B. Publication: New Delhi Wiley Eastern 1993.
- Gopalan C, Rama Sastri BV, Balasubramanian SC (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.
- Human Nutrition and Dietetics by Garrow, J.S...(ed)...et.al. Publication: Edinburg Churchill Livingstone 2000.A. Publication: New Delhi Tata Mcgraw Hill Company Ltd. 2002.

- ICMR (2011) Dietary Guidelines for Indians. Published by National Institute of Nutrition, Hyderabad.
- ICMR (2010) Recommended Dietary Allowances for Indians. Published by National Institute of Nutrition, Hyderabad.
- Jas. P.K. "Food and Nutrition", Publication: New Delhi Rajat Publications, 2006.
- Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. Phoenix Publishing House Pvt. Ltd.
- Krause's Foods, Nutrition and diet Therapy by Mahan, L. Kathleen...et.al. Publication: Saunders.
- Ravinder Chadha and Pulkat Mathur, Nutrition : A Life cycle Approach ,Orient Black Swan Pvt. Ltd, 1/24 Asaf Ali Road, New Delhi : 110002, 2015; 1e.
- Seth V and Singh K (2006). Diet Planning through the Life Cycle: Part I Normal Nutrition: A Practical Manual. Elite Publishing House Pvt. Ltd. New Delhi.
- Text Book of Food, Nutrition and Dietetics by Begum, M Raheena Publication: New Delhi Sterling Publisher 2008.
- Wardlaw GM, Hampt JS, DiSilvestro RA (2004). Perspective in Nutrition, 6th edition McGraw Hill.

SEMESTER - III
PAPER III NH 301 - T
COMMUNITY NUTRITION

MM - 75

- UNIT - I:** Nutritional Problems affecting the community;
Etiology, Prevalence, Clinical features and preventive strategies of:
- Under Nutrition:
 - Protein Energy Malnutrition (PEM);
 - Vitamin - A Deficiency Anaemia (VAD);
 - Iron Deficiency Anaemia (IDA);
 - Iodine Deficiency Disorder (IDD);
 - Zinc Deficiency,
 - Over Nutrition:
 - Obesity;
 - Coronary Heart Diseases;
 - Diabetes;
 - Hypertension;
 - Fluorosis.
- UNIT - II:** Social Health Problems:
- Smoking;
 - Alcoholism;
 - Drug addiction;
 - AIDS including AIDS control programme.
- UNIT - III:** National Nutrition policy and programmes:
Role of Nutrition Agencies, Schemes, Programmes:
- ICDS,

- MDMP,
- National programmes for prevention of Vitamin - A Deficiency, Iron Deficiency Anaemia, Iodine Deficiency Disorder.

UNIT - IV: Assessment of Nutritional Status:

- Objectives and importance,
- Methods of assessment;
- (a) Direct - Clinical Signs, Nutritional Anthropometry,
- (b) Immunization and its importance.

SEMESTER - III
PAPER – III NH 301 - P
COMMUNITY NUTRITION (PRACTICAL) MM-25

Assessment of Nutritional Status:

- (i) Anthropometry - Weight and height measurement.
- (ii) Plotting and interpretation of growth chart for children below 5 years.
- (iii) Identification of clinical signs of common nutritional disorders.
- (iv) Dietary assessment - Food Frequency Questionnaire (FFQ) and 24 hours diet recall.

SUGGESTED READING:

- Bamji MS, Rao NP, and Reddy V. Text Book of Human Nutrition; 2009; Oxford & IBH Publishing Co. Pvt. Ltd.
- Gibney et al. Public Health Nutrition; 2004; Blackwell Publishing.
- Gupta, Padmini, "Nutritional disorders and Community Health", Publication: Jaipur Pointer Publisher, 2003.
- ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- ICMR (2011) dietary Guidelines for Indians - A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- Jain P et al. *Poshan va swasthya ke mool siddhant (Hindi)*; First Ed; 2007; Academic Pratibha.
- Jelliffe DB, Jelliffe ERP, Zerfas A and Neumann CG (1989). Community Nutritional Assessment with special reference to less technically developed countries. Oxford University Press. Oxford.
- Khanna K et al. Textbook of Nutrition and Dietetics; 2013; Phoenix Publisher.
- Lakra P, Singh MD. Textbook of Nutrition and Health; First Ed; 2008; Academic Excellence.
- Maclarea. D.S. "Nutrition in the Community" 1983, John Wiley and Sons.
- Malhan, Gupta, Jain. *Aahar aayojan, khadya sangrakshan evam griha vyavastha (Hindi)*; 1993; Sultan chand & Sons Publishing.
- Mudambi, SR and Rajagopal, MV. Fundamentals of Foods, Nutrition and Diet Therapy; Fifth Ed; 2007; New Age International Publishers.

- Part 3 (2011) Park's Textbook of Preventive and Social Medicine, 21st Edition, M/s. Banu radis Bhanot Publishers, Jabalpur, India.
- Sharma S, Wadhwa A. Nutrition in the Community - A textbook; 2003; Elite Publishing House Pvt. Ltd.
- Srinakshmi B. Dietetics: Fourth Ed; 2002; New Age International (P) Ltd.
- Acheson GJ, Campbell JS. Perspectives in Nutrition, Seventh Ed. 2007; McGraw Hill.
- Wadhwa A and Sharma S (2003) Nutrition in the Community-A Textbook, Elite Publishing House Pvt. Ltd. New Delhi.
- World Health Organization (2006). WHO Child Growth Standards: Methods and development. Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age(d).

SEMESTER - IV
PAPER - IV NH 401 - T
THERAPEUTIC NUTRITION, AND FITNESS MM - 75

UNIT - I: Definition and Principles of Diet Therapy:

- Therapeutic adaptations of the normal diet,
- Special feeding methods:
 - ✓ Tube feeding;
 - ✓ Parenteral feeding;
 - Diet modification for special diets.

UNIT - II: Etiology, Clinical features and nutritional management of the following.

- Fevers: Typhoid, Tuberculosis;
- Diseases of Liver: Jaundice, Cirrhosis;
- Diseases of Kidney: Glumerulonephritis, Nephrosis;
- Ulcers: Peptic ulcer, Gastric ulcer and Duodenal ulcer;
- Diseases of Cardio-Vascular System: Atherosclerosis, Hypertension;
- Diabetes Mellitus - Type - I, Type - II.

UNIT - III: Weight Imbalances - Overweight and Obesity, Underweight; Eating Disorders:

- Anorexia Nervosa,
- Bulimia.

UNIT - IV: Understanding fitness and importance of nutrition in fitness:

- Definition of fitness, health and related terms;
- Role of nutrition and guidelines for health and fitness;
- *Nutritional Supplements:*

Importance of physical activity:

- Importance and benefits of physical activity;
- Physical activity - frequency, intensity, time and type with examples;
- Diet and exercise for weight management.

SEMESTER - IV
PAPER – IV NH 401 - P
THERAPEUTIC NUTRITION, AND FITNESS (PRACTICAL) MM-25

- (i) Plan a diet for a child having diarrhea.
- (ii) Plan a diet for an adult man having Cardio Vascular disease.
- (iii) Plan a diet for an Obese Adolescent girl.
- (iv) Plan a diet for an adult woman having diabetes.
- (v) A Report on Healthy Lifestyle.

SUGGESTED READINGS:

- Human Nutrition and dietetics by Garro, J. S...et.al. Publication, Edinburgh Churchill, Livingstone 2000.
- ICMR (1999). Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- Joshi AS. Nutrition and Dietetics 2010. Tata McGraw Hill.
- Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (@013). Textbook of Nutrition and Dietetics. Phoenix Publishing House Pvt. Ltd.
- Mahan L K and Escott Stump S (2013). Krause's Food & Nutrition Therapy, 13th Edition. Elsevier Mosby.
- Nutrition and Dietetics by Joshi, Shubhangini A. Publication: New Delhi Tata McGraw - Hill Company Ltd. 2002.
- Seth V and Singh K (2007) Diet Planning through the Life Cycle Part II: Diet Therapy. A Practical Manual, 4th edition. Elite Publishing House Pvt. Ltd.
- Text Book of foods, Nutrition and Dietetics by Begum, M. Raheena Publication: New Delhi Sterling Publishers 2008.
- Wardlaw, Smith. Contemporary Nutrition: A Functional Approach, 2nd ed: 2012. McGraw Hill.
- William Melvin. Nutrition for health, fitness and sports. 2004. McGraw Hill.

SEMESTER - V
PAPER – V NH 501 - T
FOOD QUALITY CONTROL AND GOVERNMENT REGULATIONS MM-75

UNIT - I: Food Safety and Storage: Concept of Food safety, Key terms: danger zone, holding temperature, spoilage, foreign body, aerobic, high risk food, freezer storage, Hepatitis-A, thermometer, bacteria, detergent, sanitizer, rodent and pesticides, residues of the insects and small animals, quality, bleaches; factors affecting food safety.

- Food safety, risks and hazards: basic concept of HACCP;
- Safe food handling practices and storing food safely.

UNIT - II

- Food additives: preservatives, colourings, flavouring, antioxidants;
- Food adulteration - Study of adulterants in commonly consumed foods.

- UNIT - III: Government Regulations.
- Prevention of food Adulteration Act definition,
 - Standardization systems for quality control of food: National and International standardization system
- UNIT -IV: Food grades, Food labelling, Food laws: compulsory and voluntary standards (PFA) Agmark, Fruit Product Order (FPO), Meat Product Order(MPO), Bureau of Indian Standards(BIS).

SEMESTER - V
PAPER - V NH 501 - P
FOOD QUALITY CONTROL AND GOVERNMENT REGULATIONS
(PRACTICAL) MM-25

1. Tests for the detection of Food Adulteration for the following food stuffs:
 - (i) Cereals and Pulses.
 - (ii) Condiments and Spices.
 - (iii) Milk
 - (iv) Edible Oil
2. Market Survey of preserved Fruit and Vegetables Products (familiarization of food quality, appearance, colour, flavor, texture and taste).

SEMESTER - V
PAPER - VI NH 502 - T
FOOD PRESERVATION AND PROCESSING TECHNIQUES **MM - 75**

- UNIT - I: Food Preservation and Processing Techniques:
- Definition, principles and methods of Food Preservation.
 - Classification of foods for processing.
- UNIT - II: Formation of Gel: Ketchups and Sauces, Jams, Jellies.
- UNIT - III: Process and Packaged Foods:
- Preservation by using high temperature
 -Pasteurization
 -Sterilization and their types. Canning, Bottling, dehydration.)
 - Preservation by use of low temperature, types - Cold storage, refrigeration. Principles and methods of freezing.
- UNIT - IV: Preservation with Chemicals - Sodium Metabisulphide, Sodium benzoate, Acetic acid, Citric acid, Sodium bicarbonate.
 Preservation by using - salt, sugar and oil.

SEMESTER - V
PAPER – VI NH 502 - P
FOOD PRESERVATION AND PROCESSING TECHNIQUES
(PRACTICAL) MM - 25

- I. Preservation using salt, sugar, oil and chemicals:
- (i) Pickle
 - (ii) Jelly
 - (iii) Jam
 - (iv) Chutney
 - (v) Grape crush
 - (vi) Squash
 - (vii) Ketchup
 - (viii) Sauce.

SUGGESTED READINGS.

- Bamji MS, Rao NP, and Reddy V. Text Book of Human Nutrition; 2009; Oxford & IBH Publishing Co. Pvt Ltd.
- D.K. Sathun Khe, S.S. Kadam - Handbook of vegetable science and technology, Marcel Dekker Inc. New York, 2005.
- Food Science - Norman Potter/Food Hygiene & Sanitation – Roday, 2004.
- Khanna K et al. Textbook of Nutrition and Dietetics; 2013; Phoenix Publisher.
- Mudambi, SR and Rajagopal, MV. Fundamentals of Foods, Nutrition and Diet Therapy; Fifth Ed; 2007; New Age International Publishers.
- Preservation of fruits and vegetables, Siddappa SG, ICAR New Delhi, 2004.
- Sethi P and lakra P Aahaar vigyaan, Poshan evam Suruksha, Elite Publishing house, 2015.
- Sharma S, Wadhwa A. Nutrition in the Community - A textbook; 2003; Elite Publishing House Pvt. Ltd.
- Shirley J. Vangarde and Margy Wood Burn, (1999) food preservation and safety, Surabhi Publications, Jaipur.
- Srilakshmi B. Dietetics; Fourth Ed; 2002; New Age International (P) Ltd.
- Sumetra Roday. Food science and Nutrition; Oxford University Press, YMCA Library Building, 1- Jai Singh Road, New Delhi: 110001, 2013.4e.
- Sumetra Roday. Food Hygiene and Sanitation with case studies, Tata McGraw Hill Education Pvt. Ltd., New Delhi. 2012, 2e.
- The Food Safety and Standards Act along with Rules and Regulations, Delhi: Commercial Law Publishers (India) Pvt Ltd, 2011.
- Wardlaw GM, Hampl JS. Perspectives in Nutrition; Seventh Ed; 2007; McGraw Hill.

SEMESTER - VI
PAPER VII NH 601 T
FOOD SERVICE MANAGEMENT MM-75

- UNIT - I:** Food Service Units: Introduction and Types.
 Menu Planning: Importance and Types

UNIT - II: Food Service Management: Organisation Principles and Functions;
Financial Management: Budgets and Budgeting Process, Cost Concept.

UNIT - III: Food production process:

- Food purchase, receiving and storage,
- Quantity of food production: Standardization of recipes, recipes adjustments and portion control, quantity food production techniques,
- Food service,
- Food hygiene and sanitation;

Space and equipment:

- Types of kitchen area, flow of work and work area relationship.
- Equipment.

UNIT - IV: Personnel management: Kind and number of personnel: menu, type of operations, type of service, job description and job specification; functions of a personnel manager.

UNIT - II: Food Service Management: Organisation, Principles and Functions;
Financial Management: Budgets and Budgeting Process, Cost Concept.

UNIT - III: Food production process:

- Food purchase, **receiving and storage**,
- Quantity of food production: Standardization of recipes, recipes adjustments and portion control, quantity food production techniques,
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Space and equipment:

- Types of kitchen area, flow of work and work area relationship.
- Equipment.

UNIT - IV: Personnel management: Kind and number of personnel: menu, type of operations, type of service, job description and job specification; functions of a personnel manager.

SEMESTER - VI
PAPER - VII NH 601 - P
FOOD SERVICE MANAGEMENT (PRACTICAL) MM- 25

1. Survey of Food Service Units.
2. Market Survey for food items both raw and processed.
3. Plan menu for a College Canteen.
4. Visit to a Food Service Unit and submit a Layout plan.

SEMESTER - VI
PAPER - VIII NH 602 - T
BAKERY SCIENCE MM - 75

UNIT - I: Basic Baking Methods and Techniques: Creaming, adding eggs, folding in, rubbing in, whisking, baking blind, kneading, melting chocolate, frosting and piping.

UNIT - II: Essential Baking Ingredients: Types of flour and constituents; sugar – custard sugar, soft, light and dark brown sugar demerara sugar; syrups – chocolate syrup, black golden syrup; fats – butter, margarine, lard, oil; milk and milk products; salts; spices; raising agents; eggs; fruits and nuts; flavours; colours; chocolate and cocoa powder.

UNIT - III: Essential Baking Equipments – Types, selection, operation and maintenance: ovens, cake tins, greasing and linings, scales, electric mixers, mixing bowls, measuring spoons and jugs, spoons and spatulas, rolling pins, pastry brushes, cookie cutters, graters, large piping bags and noozles, citrus squeezers, balloon whisks.

UNIT – IV: Quality Assessment of Baked Goods: Common bakery faults in Texture, Shape, Colour and Taste. Corrective Measures – Recipe balance: ingredients, methods, time and amount accuracy.

SEMESTER - VI
PAPER – VIII NH 602 -P
BAKERY SCIENCE (PRACTICAL) MM-25

Preparation of bakery items.

- (i) Bread and Buns
- (ii) Cake
- (iii) Cookies
- (iv) Patties
- (v) Rusks
- (vii) Pizza base.

SUGGESTED READINGS:

- Derssler Gary (1987) Personnel Management, Modern Concepts & Techniques Prentice Hall New Jersey.
- Dorothy Thompkins “Table Layout and Decoration”, Wardlock and Co. 1986.
- Dowell P and A. Bailey “the book of ingredients”, Dorling Kindersley Ltd., London, 1980.
- Dubey. S.C. (2007). Basic Baking 5th Ed. Chanakya Mudrak Pvt. Ltd.
- John Fuller, “Modern Restaurant Service”, Hutchinson, 1983.
- Kazarian E A (1977) Food Service facilities Planning 3rd Edition Von Nostrand Reinhold New York
- Khanna K, Gupta S, Seth R, Mahna R, Rekhi T (2004). The Art and Science of Cooking: A Practical Manual, Revised Edition. Elite Publishing House Pvt. Ltd.
- Knight JB &Kotschevar LH (2000) Quantity Food Production Planning & Management 3rd edition John Wiley & Sons
- Kotas Richard & Jayawardardene. C (1994) Profitable Food and Beverage Management Hodder & Stoughton Publication.
- Longree K, Langree K, Longrie K (1996) Quantity Food sanitation, John Wiley & Sons
- Mahmood. A. Khan, “Food Service Operations” Aviv. Publication. Co. 1987.
- Minor. L.J. and R.F. Cichy “Foods Services Management” Avi. Publication. Co. Connection, 1984.
- Pyke, M. “Catering Service and Technology”, London, John Murray: Publishing 1974.
- Raina et.al. (2010). Basic Food Preparation-A Complete Manual. 4th Ed. Orient Black Swan Ltd.
- Roday S (2003) Food Hygiene & Sanitation, Tata McGraw Hill publication Ltd.
- Sethi Mohini (2005) Institution Food Management New Age International Publishers
- Tripathi P C (2000) Personnel Management 15th ed Sultan Chand, New Delhi
- Taneja S and Gupta SL (2001) Entrepreneurship development, Galgotia Publishing.
- The Easy Way Baking. Paragon, Queen Street House 4, UK. 2012.1e.

- West B. Bessie & Wood Levelle (1998) Food Service in Institutions 6th Edition
Revised by Hargat FV, Shuggart SG. & Palgne Palacio June, Macmillian Publishing
Company New York.