



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 501	CC	Diet Therapy I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will

- **CEO 1:** understand the foundation sciences which involve therapeutic dietetics practice, the principles of disease prevention and health promotion, the principles of therapeutic intervention practice.
- **CEO 2:** define and memorize the degenerative diseases, role of diet in the management of various types of diseases through various feeding technique.

Course Outcomes (COs): Student should be able to

- **CO1:** comprehend Medical Nutrition Therapy, various nutritional assessment, and dietary modification.
- **CO2:** differentiate between the types of feeding techniques to ensure adequate nutrition among critically ill patients and nutritional management of febrile disorders.
- **CO3:** manage over and undernutrition through nutrition along with clarifying fad diet and associated consequences.
- **CO4:** comprehend various Gastrointestinal Disorder and role of nutrition in the management of Gastrointestinal Disorders.
- **CO5:** comprehend various cardiovascular diseases and hypertension and role of nutrition in the management of Cardiovascular disorders and Hypertension.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 501	CC	Diet Therapy I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

FSN 501: Diet therapy I

Unit I

- Basic Concepts of Diet Therapy: Definition of MNT, role of MNT in the disease management.
- Nutritional - Assessment (ABCD), Diagnosis, Intervention, Monitoring & Evaluation of nutritional care.
- Modifications of the diet – Normal, Soft diet and Liquid Diets and its types.

Unit II

- Types of Feeding: Oral route, entera tube feeding, parenteral feeding and total parental nutrition (TPN).
- Nutrition during Febrile Disorders: Fever and its classification with their general dietary considerations.

Unit III

- Nutrition for Weight Management: Assessment of obesity – BMI, waist hip-ratios, skin fold thickness.
- Dietary Management, Fad diets and their consequences.
- Underweight: Etiology, Health hazards, Treatments.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 501	CC	Diet Therapy I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Unit IV

Nutrition in Gastrointestinal Disorders:

- Peptic Ulcer Disease, Irritable Bowel Syndrome (IBS), Constipation,
- Diarrhea Diseases of the Small Intestine.
- Celiac Disease, Tropical Sprue, Lactose Intolerance.
- Inflammatory Bowel Disease - Crohn's Disease and Ulcerative Colitis.

Unit V

Nutrition in Cardiovascular Diseases.

- Nutrition in Cardiovascular Diseases- Atherosclerosis, Acute Cardiovascular Disease
- Dietary Management Chronic Coronary Heart Disease
- Hypertension: Classification, Risk Factors, Symptoms, Dietary Management.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 501	CC	Diet Therapy I	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Reading Material

- Srilakshmi,B.(2005): *Dietetics*, 5th edition, New Age International(P) Limited Publishers, New Delhi Therapeutic Nutrition,17th Ed.,
- Antia, F.P. (2005): Clinical Nutrition and Dietetics, Oxford University Press, Delhi Mahan, L.K.,
- A. B. Gerorge. Fenaroli's. *Handbook of Flavor Ingredients*. 5/e, CRC Press, 2004.
- Shubhangini A Joshi (2002): *Nutrition and Dietetics*. 2nd edition, Tata Mc Graw-Hill Publishing Company Limited, New Delhi.
- L. Branen, P. M. Davidson and S. Salminen, *Food Additives*. 2/e, Marcel Dekker, 2001.
- Arlin, M.T. (2000): Krause's Food, *Nutrition and Diet therapy*, 11th edition, W.B.Saunders Company, London.
- N. Shakuntalamanay and M. Shadaksharaswam, *Food Facts and Principles*, 3/e, New Age International, 2008.
- B. Gerorge, *Encyclopedia of Food and Color Additives*, Vol. III, CRC Press, 1996.
- D. L. Madhavi, S. S. Deshpande and D. K. Salunkhe, *Food Antioxidants: Technological, Toxicological and Health Perspective*. CRC press, 1995.
- I. D. Morton and A. J. Macleod, *Food Flavours*, Part C, Elsevier, 1990
- Mac Millan Publishing Co Williams's (1989): *Nutrition and diet Therapy*. 6th edition. Times Mirror/Mosby College Publishing, St.Louis.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 501 (P)	CC	Diet Therapy & Functional Foods and Nutraceuticals (P)	60	20	20	0	0	2	0	0	2

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will

- **CEO 1:** understand the foundation sciences which involve therapeutic dietetics practice, the principles of disease prevention and health promotion, the principles of therapeutic intervention practice.
- **CEO 2:** develop comprehensive understanding of different nutraceuticals and functional foods.

Course Outcomes (COs): Student should be able to

- **CO1:** formulate therapeutic diet for critically ill patients.
- **CO2:** Formulation of functional food and food product

Diet Therapy II Practical's.

- Planning and preparing diet for NIDDM patients.
- Planning and preparing diet for IDDM patients.
- Planning and preparing diet for Renal Failure Patients, Glomerulonephritis and Nephritic Syndrome.
- Formula feed preparation for Enteral Nutrition.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 501 (P)	CC	Diet Therapy & Functional Foods and Nutraceuticals (P)	60	20	20	0	0	2	0	0	2

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Functional Foods and Nutraceuticals

- Market research analysis of functional foods.
- Market survey of locally available functional foods.
- Formulation of the functional foods and assessment of its nutritional value.
- Formulation of food products using nutraceuticals.
- Shelf-life studies on developed functional foods.

Reference Books:

- N. Shakuntalamanay and M. Shadaksharaswam (2008), *Food Facts and Principles*, 3/e, New Age International, 2008.
- Antia, F.P. (2005), *Clinical Nutrition and Dietetics*, Oxford University Press, Delhi
- Srilakshmi,B.(2005). *Dietetics*, New Age International(P) Limited Publishers, New Delhi
- A. B. Gerorge. Fenaroli's *Handbook of Flavor Ingredients*. 5/e,. CRC Press, 2004.
- Shubhangini A Joshi (2002), *Nutrition and Dietetics*, 2nd edition, Tata Mc Graw-Hill Publishing Company Limited, New Delhi.
- L. Branen, P. M. Davidson and S. Salminen (2001), *Food Additives*. 2/e, Marcel Dekker.
- Mahan, L.K., Arlin, M.T. (2000), Krause's *Food, Nutrition and Diet therapy*, 11th edition, W.B.Saunders Company, London.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 501 (P)	CC	Diet Therapy & Functional Foods and Nutraceuticals (P)	60	20	20	0	0	2	0	0	2

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

- B. Gerorge, Encyclopedia of Food and Color Additives, Vol. III, CRC Press, 1996.
- D. L. Madhavi, S. S. Deshpande and D. K. Salunkhe, Food Antioxidants: Technological, Toxicological and Health Perspective. CRC press, 1995.
- D. Morton and A. J. Macleod, Food Flavours, Part C, Elsevier, 1990
- Robinson, C.H; Lawler M.R., Chenoweth, W.L., and Garwick, A.E.(1986), Normal and Therapeutic Nutrition, 17th Ed., Mac Millan Publishing Co.
- Williams S. (1989), Nutrition and diet Therapy. 6th edition. Times Mirror/Mosby College Publishing.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 504	CC	Functional Foods and Nutraceuticals	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will

- **CEO 1:** develop comprehensive understanding of different nutraceuticals and functional foods.
- **CEO 2:** identify phytochemical components and its management on health and diseases.
- **CEO 3:** interpret the potential of various functional foods in promoting human health.

Course Outcomes (COs): Student should be able to

- **CO1:** understand the basicity of functional food and Nutraceuticals and its application in the development of Dietary supplements.
- **CO2:** differentiate different sources of functional food and its impact on health.
- **CO3:** classify various types of functional foods and associated factors and challenges with respect to its marketing.
- **CO4:** memorize various nutrition, health and functional claims and role of biotechnology.
- **CO5:** develop profound understanding for Nutraceutical compounds.

Unit I

- Functional foods and Nutraceuticals - Definitions, sources, Health benefits, bioactive components of functional foods.
- Development of functional foods, challenges and safety considerations, Future trends of functional foods.
- Dietary supplements and fortified foods- need, health benefits adverse effects.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 504	CC	Functional Foods and Nutraceuticals	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Unit II

- Functional foods of animal origin: Dairy products, sea foods, egg,
- Functional foods of plant origin: fruits, vegetables, nuts, spices, cereals, beverages.
- Probiotics, prebiotics and symbiotic as functional foods and its effects on health.

Unit III

- Types of functional foods: whole foods, enriched foods, enhanced foods, fortified foods, modified foods.
- Market of functional foods, Challenges for Functional food delivery, Factors affecting consumer interest.

Unit IV

- Diet and disease relationship – nutrition and health claims.
- Food component – approved health claims, labeling considerations for functional ingredients.
- Permissible and impermissible functional claims.
- Role of biotechnology in the development of functional foods.

Unit V

- Nutraceutical compounds – Phytochemicals, phytosterols and other bioactive compounds,
- Peptides and proteins, carbohydrates, lipids, vitamins and minerals; their sources and role in promoting human health.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 504	CC	Functional Foods and Nutraceuticals	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Reference Books:

- N. Shakuntalamanay and M. Shadaksharaswam, Food Facts and Principles, 3/e, New Age International, 2008.
- A. B. George. Fenaroli's Handbook of Flavor Ingredients. 5/e,. CRC Press, 2004
- L. Branen, P. M. Davidson and S. Salminen, Food Additives. 2/e, Marcel Dekker, 2001.
- George, Encyclopedia of Food and Color Additives, Vol. III, CRC Press, 1996.
- L. Madhavi, S. S. Deshpande and D. K. Salunkhe, Food Antioxidants: Technological, Toxicological and Health Perspective. CRC press, 1995.
- D. Morton and A. J. Macleod, Food Flavours, Part C, Elsevier, 1990

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 502 E1	DSE	Food Service Management	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will

- **CEO 1:** develop comprehensive understanding for basic principles of management in food services units.
- **CEO 2:** develop skills in setting up food service units.

Course Outcomes (COs): Student should be able to

- **CO1:** differentiate difference in catering services in different domains.
- **CO2:** develop profound understanding regarding interior designing for food service area.
- **CO3:** classify various types of food services and styles of services.
- **CO4:** develop profound understanding for Management Process and work simplification.
- **CO5:** learn management skills.

FSN 502: Food Service Management

UNIT I

- Types of catering: Hotel, Motel, Restaurant, Cafeteria and Chain hotels. Hospital, School lunch, Residential establishment and Industrial catering.
- Transport: Air, Rail, Sea and Space,
- Miscellaneous - Contract and outdoor.

Chairperson

Board of Studies
 Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
 Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 502 E1	DSE	Food Service Management	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

UNIT II

- Objectives of Interior design.
- Design elements, types of design,
- principles of design harmony, proportion, balance rhythm and emphasis.

UNIT III

- Standards for selection of fresh food and quantity food preparation.
- Quantity Food Service, styles of service, waitress service, counter service, snack bar, buffet service, banquet and vending.

UNIT IV

- Management Process - planning, controlling evaluating goals, values and standards. Decision making and Resource Management.
- Management of time, energy and money.
- Work simplification. Personal management, recruitment, and selection.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam	Two Term Exam	Teachers Assessment	End Sem University Exam	Teachers Assessment				
FSN 502 E1	DSE	Food Service Management	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

UNIT V

- Money management: Types of income, cost control, food cost, labor overheads and projects.
- The computer in catering: Use of computer for the control of stock, recipes and menus.

Reference Books:

- Bennion, M. and Hughes D. (2012). *Introductory foods*, Macmillan Publishing Co. Inc-New York.
- Brich, C.G. Spencer, M. and Cameron, A.G.(2005). *Food Science*. Pergamon press, New York.
- Pechkam, G.C. (2005) - *Foundations of food preparation* the Macmillan Publishing Co.,New York.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 502 E2	DSE	Bakery Science	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/
Project/Participation inClass, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will

- **CEO1:** understand about bakery skill and industry.
- **CEO2:** learn processing method of different baked goods.
- **CEO3:** know the faults and remedial measures during making of bakery products.

Course Outcomes (COs): Student should be able to

- **CO1:** understand basic baking ingredients and present trends of baking industry.
- **CO2:** gain knowledge about wheat structure and its chemistry with processing of biscuits andcookies.
- **CO3:** understand technology of bread making with different methods.
- **CO4:** develop skills for cake preparation and cake decoration.
- **CO5:** acquire knowledge about commercial bakery equipment, machinery and quality control ofbaked goods.

Unit I

- Bakery: Introduction, present trends, prospects.
- Nutritional facts of bakery products.
- Importance of different bakery ingredients and types of bakery products.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 502 E2	DSE	Bakery Science	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/
Project/Participation inClass, given that no component shall exceed more than 10 marks.

Unit II

- Wheat grain: composition and its structure.
- Milling of wheat; types of refined wheat flour; composition of refined wheat flour (gluten, amylose/ amylopectin, enzyme activity, moisture) and its storage.
- Biscuits and Cookies: types, processing, faults and remedial measures.

Unit III

- Bread processing steps kneading, knocking, proofing etc. Characteristics of good bread.
- Defects in bread their causes and remedies.
- Yeast: characteristics, types, preparation, handling & storage.

Unit IV

- Cakes - types of cakes, steps in cake making, balancing of cake formula; evaluation of the cake.
- Operational faults in cake processing and the remedial measures.
- Cake decoration.

UNIT V

- Bakery equipment and machinery - Different types of mixers, kneaders, cutters, and ovens.
- Packaging machinery for bread and biscuits.
- Quality control in bakery industry.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 502 E2	DSE	Bakery Science	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
 ***Teacher Assessment** shall be based following components: Quiz/Assignment/
 Project/Participation inClass, given that no component shall exceed more than 10 marks.

Suggested reading.

- Dubey, SC. (2017). *Basic Baking-Science and Craft*. Delhi: Society of Indian Bakers.
- Khanna, K. Gupta, S. Seth, R. Mahana, R. and Rekhi, T. (2014). *The Art and Science of Bak-ing*. Delhi: Phoenix Publishing House Private Limited.
- Edward, P. (2012). *The Science of Bakery Products*. Cambridge: RSC Publishing.
- Ketrappaul, N. Grewal, B. and Jood S. (2005). *Bakery Science and Cereal Technology*. Delhi:Daya Publishing House.
- Matz A. (2004). *The Chemistry and Technology of Cereals as Food and Feed*. Delhi: CBSPublishers.

Chairperson

Board of Studies
 Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
 Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 503	CC	Food Science III	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The Student will:

- **CEO1:** gain knowledge pertaining unit operations, food safety and toxicology.
- **CEO2:** understand different aspects of sensory science and evaluation and their application.

Course Outcomes (COs): Student should be able to:

- **CO1:** gain knowledge of basic unit operations involved in food industry as well as food toxins and labelling of food.
- **CO2:** familiarize with importance of food toxicology, naturally occurring and chemical toxins.
- **CO3:** utilized the gained knowledge regarding the importance of food labelling.
- **CO4:** Acquainted with various sensory evaluation and its importance in food product development.
- **CO5:** Developed profound understanding regarding Food Adulteration and methods for adulteration detection.

FSN 404: Food Science III

UNIT I:

- Operations in the food industry
- Common unit operations – Basic principles- Heat transfer, Fluid Flow, Material Handling, Cleaning, Separating, Peeling, Size reduction, Mixing, Forming etc.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 503	CC	Food Science III	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

UNIT II:

- Food Toxicology-Introduction and Importance of Food toxicology.
- Toxins in foods- Naturally occurring toxins in foods, seafood toxins,
- Toxins from processed foods – melamine, biogenic amines, acrylamide, Chemical Toxins- Pesticides, Heavy metals, Microbial Toxins.

UNIT III:

- Food labelling- Introduction and utility of food labels,
- Types of labelling, Nutrition facts labelling, Nutrition and Health claims, Nutrient profiling, Ingredients list – guidelines for listing of ingredients, additives, allergens, Logos and symbols – their significance, Regulations.

UNIT IV:

- Sensory Evaluation of foods- Sensory Analysis: Definition, use of sensory analysis in product evaluation. Sensory

Chairperson

Board of Studies
 Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
 Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
 Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSN 503	CC	Food Science III	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

- Characteristics of Food Sense of Taste, Olfaction: Odour classification, Visual, auditory, tactile and other senses, Factors influencing sensory measurements.
- Taste Panels: Selecting panelists, environment for sensory evaluation, sample preparation, Presentation, score cards, and recording and reporting. Types of sensory tests.

UNIT V:

- Food adulteration: Definition, types of adulterants common adulterants in different foods,
- Effect of adulterant and methods of detection.

Reference Books:

- Srilakshmi, B. (2015). Food Science. New Age International (P) Limited, New Delhi
- Manay, M. and Manay, S.N. (2014). Food Facts and Principles. New Age International (P) Limited, New Delhi.
- Potter, N.N. (2007). Food Science. C.B.S Publishing, New Delhi, India
- Mudambi S. (1997). Food Science. New Age International (P) Limited, New Delhi.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
FSNP 505	Dissertation	Dissertation I	0	0	0	60	40	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Part A: Product Formulation

Course Objectives: To gain hands on training regarding product development.

Part B: Survey Conduction

Course Objectives:

To understand the nuances of scientific writing, develop skills for questionnaire development and identification and collection of scientific information and learn the techniques of presenting inferred information.

Course Learning Outcomes: Student will be able to:

- CO1: Demonstrate knowledge of scientific writing methods and styles.
- CO2: Develop a research design on a topic relevant to their field.
- CO3: Prepare a systematic literature review on a selected topic.
- CO4: Present a presentation of collected information.

Chairperson

Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson

Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examinations

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar

Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore