**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-511-19 Food Chemistry**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Students shall be aware of the underlying chemistry, properties and effects of processing on food components. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Understanding of food components reactions and their impact on sensory, nutritional, and functional properties of foods. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Ability to identify the structure of food constituents and relate the structure to the constituents function and importance in foods with respect to food quality, nutrition, safety, processing, etc. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Evaluation | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Ability to explain influence of factors such as temperature, pH, ionic characteristic and strength, bonding, etc. on chemical changes in food systems and judge how to adjust these conditions to improve or minimize chemical and biochemical deterioration of food systems. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Implication | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Ability to integrate chemistry and biochemistry principles into real-world food science and nutritional problems. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Implication | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-512- 19: PRINCIPLES OF FOOD ENGINEERING**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO 1. Students shall be able to understand Basics of Mass & Energy Conservation as applied to Food Processing Operations. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Students shall be able to understand Basics of Fundamentals of Food Processing Operations. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Students shall be able to understand working of equipments in Food Industry related to transport of Fluids, Thermal Processing and Material Handling along with basics as applied to Food Processing Operations. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Students shall be able to understand Basics of Psychrometrics & Air Conditioning Processes related to Food Processing Operations. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Student shall be able to understand Basics of Mathematical Calculations related to above Engineering Applications as applied to Food Processing Operations. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-513- 19: FOOD MICROBIOLOGY**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Understand the principles involving food spoilage and preservation involving microorganisms and explain why microbiological quality control programmes are necessary in food production. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Ability to identify the characteristics of important pathogens and spoilage microorganisms in foods. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Evaluation | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Understand the role and significance of intrinsic and extrinsic factors on growth of microorganisms in foods and differentiate which organisms would be likely to grow in a specific food product. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Identify the conditions under which the important pathogens and spoilage microorganisms are commonly inactivated killed or made harmless in foods and identify ways to control microorganisms in foods. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analysis | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Describe the beneficial role of microorganisms in fermented foods and in food processing. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Implication | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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Name of the Department: **Food Science & Technology**

Paper UC-MSFT-514- 19: FOOD PROCESSING & PRESERVATION

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. To impart knowledge on the causes of food spoilage. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Fundamentals | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. To learn principles of different techniques used in processing and preservation of foods. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. To identify and select preservation methods appropriate for specific foods. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analysis | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. To learn the effects of preservation methods on the quality of food. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Implication | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. To learn different permitted food additive used in food industry. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Implication | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-515- 19: LAB - I (FOOD MICROBIOLOGY)**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Acquire the practical skills for the sampling of foods to carry out microbial analysis. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Implication | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Ability to carry out various sterilization techniques and to identify the most suitable technique for specific food. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Applicability | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Ability to isolate and identify common food borne microbial pathogens. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Applicability | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Understand microbiological analysis methods for food products and ability to analyze different foods for presence of hazardous microorganisms using food microbiology technology. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Ability to interpret microbiological analysis of food products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding & | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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Name of the Department: Food Science & Technology

Paper UC-MSFT-516- 19: LAB - II (FOOD PRESERVATION & ANALYSIS)

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. To understand the sampling techniques and preparation of test samples. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding & | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. To understand the effect of various preservation techniques on the quality and safety of food products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding & | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. To design and evaluate a processing procedure used to preserve a food product. | √ | √ | √ | √ | √ | √ | √ | √ | √ | creation & evalu | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. To understand the physical and chemical evaluation of thermally processed food. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. To understand and utilize different food preservation techniques. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding & | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-517- 19: NUTRACEUTICAL & FUNCTIONAL FOODS**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. To understand the concept of nutraceuticals and functional foods towards managing chronic diseases. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. To understand the source of various nutraceuticals and functional foods. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. to understand the role of various nutraceuticals and functional foods towards managing chronic diseases. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Describe a healthy diet and food choices, and explain why such choices will help prevent health problems. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. To learn the marketing and regulatory aspects of nutraceuticals and functional foods. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT–521- 19: DAIRY TECHNOLOGY**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Composition of milk and milk products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Processing of milk and milk products. | √ | -√ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Different milk product development. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Organization and operations involved in milk processing unit. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. To understand legislation for the quality control of milk and milk products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-522- 19: TECHNOLOGY OF FRUITS AND VEGETABLES**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. The students shall be able to understand Biological, Chemical & Physical Properties of Fruits & Vegetables. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. The students shall be able to understand Technologies involved in Processing, Preservation & Value- Addition of Fruits & Vegetables. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Students shall be able to understand Industrial Processes for Commercial Production of Jams, Jellies, Marmalade, Fruit Juices, Concentutes, Fruit Juice Powder, Dehydrated Fruits, and Canning of Fruits & Vegetables. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Students shall be able to understand Basics of New Food Products Development & Ideas Generation for Product Development. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Students shall be able to understand Basics of By Product Utilization & Waste Utilization related to Fruits & Vegetables. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-523- 19: PACKAGING TECHNOLOGY**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Rooney, M.L. (1995). Active Food Packaging: Blackie Academic & Professional, Glasgow, UK. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Coles, R. & Kirwan, M. (2011). Food and Beverage Packaging Technology (2nd ed.): Wiley- Blackwell, UK. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Eiri Board of Consultants. (2007). Food Packaging Technology: Engineers India Research Institute, New Delhi. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Robertson, G. L. (2006). Food Packaging: Principles and Practice (2nd ed.): CRC Press, Boca raton. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Piringer, O. P. & Baner, A. L. (2000). Plastic Packaging Materials for Food: Wiley-VCH, Weinheim. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-524- 19: LAB - III (DAIRY TECHNOLOGY)**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. How to do sampling of milk and milk products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Fundamentals | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Physical, Chemical & Microbial analysis of milk and milk products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analytic skills | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Development of different milk products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Creation and new product development | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Characterization of milk products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analytic skills | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Quality control of milk & milk products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | implications | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-525- 19: LAB - IV (TECHNOLOGY OF FRUITS AND VEGETABLES)**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Ability to assess the quality of fruit and vegetables. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analysis | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Ability to establish the quality specifications for the processing of fruit and vegetables. | √ | √ | √ | √ | √ | √ | √ | √ | √ | applicability | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Ability to develop various fruit and vegetable products with quality assurance and safety. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Creation and new product development | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Understand principles and methods of preservation of fruits and vegetables. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. To develop proficiency skill in preserving fruits and vegetables into various products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | holistic development | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-526- 19: LAB – V (PACKAGING TECHNOLOGY)**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. To identify different types of materials and media used for packaging foods. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analysis | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Quality testing techniques for different packaging materials. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analysis | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Novel packaging used in food industry. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Knowledge upgradation | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Laws and regulation related to labelling of food product. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Knowledge upgradation | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Application of different packing materials for food industry. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Applicability | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-527- 19: BIOPROCESS TECHNOLOGY**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Appreciate the positive role and benefits of microorganisms and enzymes in food production, processing, and preservation. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Understand basic biological and chemical processes of living cells, enzymes, and microbial nutrition in relation to fermentation processes. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Understand principles of inoculum /starter culture development for industrial fermentations and fermenter /reactor design, control and operation. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Understand both upstream and downstream unit operations and technologies used for substrate preparation and recovery and purification of fermentation products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Discuss and evaluate the operational considerations and relative advantages relating to the choice of techniques used in downstream processing of food products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-528- 19: TECHNOLOGY OF BEVERAGES**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Ability to understand the science and technology for processing different types of beverages. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Ability to explain processing of fruit juice beverages, carbonated beverages, citrus beverages, tea and coffee. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Understanding of permitted additives in beverages. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Ability to understand the impact of processing on quality of beverage. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Knowledge of recent high value added beverages and recent trends in beverage industry. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-529- 19: LAB – VI (BIOPROCESS TECHNOLOGY)**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Understand the various concepts of fermentation. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Isolate and identify microorganisms from fermenting fruits, cereals and milk;produce some drinks and foods e.g. bread, beer, wine and vinegar resulting from alcoholic fermentation. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Produce some foods and drinks e.g. yoghurt resulting from acidic fermentation. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Creation and new product development | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Experience in functioning within a team. | √ | √ | √ | √ | √ | √ | √ | √ | √ | leadership | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Understand principles underlying Quality Assurance. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-530- 19: LAB - VII (TECHNOLOGY OF BEVERAGES)**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Ability to use laboratory techniques to analyze and measure important physicochemical parameters of beverages. | √ | √ | √ | √ | √ | √ | √ | √ | √ | analysis | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Ability to assess various quality parameters of beverages including sensory evaluation. | √ | √ | √ | √ | √ | √ | √ | √ | √ | evaluation | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Ability to understand regulatory requirements regarding quality of water for beverages. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Ability to acquire skill for development of high value added tea and coffee beverages. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Creation and new product development | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Ability to acquire skill for standardization of methods for developing beverages. | √ | √ | √ | √ | √ | √ | √ | √ | √ | introspection | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-611- 19: TECHNOLOGY OF CEREALS, PULSES AND OILSEEDS**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Student will acquire the understanding of the technology for Wheat Milling & Wheat based Food Products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Student will acquire the understanding of the technology for Rice Milling & Rice based other Food Products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Student will acquire the understanding of working of equipments related to Wheat & Rice Milling along with equipments related to Wheat based & Rice based Food Products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Student will be able to understand technology for Milling of Corn & Corn based other Food Products along with equipments. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Student will be able to understand technology for Oil Extraction & Oil Seed Processing along with equipments. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**PaperUC-MSFT–612- 19: FOOD SAFETY, STANDARDS AND QUALITY CONTROL**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. To create understanding of quality control and assurance system in food industry. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. To understand the risk assessments procedure for food sector. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. GMPs and GHP regulations in the food sector. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. To understand the different food safety management used worldwide. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. To understand the sensory evaluation methodology used in food industry. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT- 613- 19: AGRI BUSINESS MANAGEMENT**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Ability to understand the basic concepts of marketing of food items. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Ability to understand market types, the procurement, marketing and management of raw and processed agricultural produce meant for human consumption. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Acquire knowledge of the legal and ethical environment impacting agriculture organizations and effectively evaluate the impact of trade policy. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Understand the need for careful management of a business human resources. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Understand the impact of planning, decision making and risk taking on an agri-business. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-614- 19: LAB – VIII (TECHNOLOGY OF CEREALS, PULSES AND OILSEEDS)**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Student shall be well versed with Processing Techniques of Cereals. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Student shall be well versed with quality parameters of cereals. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Student will be able to understand practical implication of Milling of Wheat & Rice. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding and implications | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Student will be able to get acquaintance with machinery being utilized in Milling of Wheat & Rice. | √ | √ | √ | √ | √ | √ | √ | √ | √ | knowledge updra | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Student will be able to understand Lab SOPs for above. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-616- 19: NUTRITION AND HEALTH**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Utilize knowledge from the physical and biological sciences as a basis for understanding the role of food and nutrients in health and disease processes. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Describe the digestion and metabolism of the energy nutrients (carbohydrates, lipids, protein) and non-energy nutrients (vitamins/minerals). | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Distinguish sound nutritional information from unreliable nutritional information. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Describe a healthy diet and food choices, and explain why such choices will help prevent health problems. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Review Biochemistry of Energy Transfer particularly the lactic acid system and the aerobic systems. | √ | √ | √ | √ | √ | √ | √ | √ | √ | | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-618- 19: LAB - X (NUTRITION AND HEALTH)**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Describe methods used to assess nutrition status. | √ | √ | √ | √ | √ | √ | √ | √ | √ | understanding | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Describe the methods used to carry out nutrition research. | √ | √ | √ | √ | √ | √ | √ | √ | √ | skill development | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Understand how nutrition science studies are designed, analyzed and interpreted. | √ | √ | √ | √ | √ | √ | √ | √ | √ | analysis and interpretation | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Experience in functioning within a team. | √ | √ | √ | √ | √ | √ | √ | √ | √ | leadership | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Students will be able to demonstrate critical thinking skills to analyze data and interpret results in the nutritional sciences. | √ | √ | √ | √ | √ | √ | √ | √ | √ | analysis and interpretation | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT-621- 19: SNACK FOOD TECHNOLOGY**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Students shall be able to understand Basics of Preparing Extruded Snack Foods Items along with working of equipments related to extrusion of Food Products. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Students shall be able to understand preparation of Breakfast Snacks in particular cereal based Snacks Food Items. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Students shall be able to understand preparation of Grain based Snacks Food Item. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Students shall be able to understand preparation of Fruits & Vegetables based Snack Item along with introduction of related equipments. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Students shall be able to understand Basics Kitchen Recipe with scaling up to Commercial Level of all above. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**

**Paper UC-MSFT–623- 19: TECHNOLOGY OF MEAT, FISH AND POULTRY**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Student shall know about the significance & necessity of organized animal product sector. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Students shall acquire the ability of value- addition to Meat, Poultry, Egg & Fish. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Student shall be well versed with processing, preservation & quality control of Meat, Egg & Fish in Food Industry. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Student shall be well versed with manufacturing practices of egg based, fish based and meat based by products & their processing techniques. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Student will be having broad knowledge of status & scope of Meat, Egg, & Poultry industry world wide. | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**(M.Sc. Clinical Research)**

**Paper UC-MSCR102-19 Fundamentals of Clinical Research**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1. Understand the strategies and techniques involved in drug discovery process | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Appreciate the impact of pharmaceutics science in new drug development and clinical use of drugs | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. Understand the preclinical phase of drug development | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Understand different phases of clinical trials | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5. Understand the importance of use of placebo controls and placebo response in clinical trials | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**(M.Sc. Clinical Research)**

**Paper UC-MSCR 104-19 Clinical Research Lab I**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Prepare standard drug solutions of various concentrations | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Perform common biochemical test of clinical significanc | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Prepare clinical trial protocol | √ | √ | √ | √ | √ | √ | √ | √ | √ | Create | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Perform validation and prepare standard operating procedures of laboratory equipments | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Understand the different routes of drug administration and pre-clinical non-invasive techniques for drug testing | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Paper UC-MSCR 105-19 Professional Communication**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Acquire basic proficiency in reading, comprehension and writing | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Understand spoken and written English language, particularly the language of their chosen technical field | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Produce on their own clear and coherent texts | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Learn about the standard organization of the essay | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Develop the skills to master in the writing formal e-mails and letters | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Paper UC-MSCR 106-19 Journal Club**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Critically review the literature | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Develop an approach to analyse the various types of articles | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Become familiar with sources of bias and types of study designs | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Comprehend how results of study are clinically significant | √ | √ | √ | √ | √ | √ | √ | √ | √ | Evaluate | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Demonstrate skill in scientific communication both orally and in writing | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**(M.Sc. Clinical Research)**

**Paper UC-MSCR 111-19 Intellectual Property Rights**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Understand of the core doctrines of intellectual property law | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Understand the appropriate procedures for obtaining intellectual property protection | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Describe the international treaties, conventions on IPR | √ | √ | √ | √ | √ | √ | √ | √ | √ | Remember | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Appreciate importance of compulsory licensing | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Understand the patent infringement related issues | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

**Understand the patent infringement related issues**
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**Paper UC-MSCR201-19 Pharmacotherapeutics-1**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Develop an understanding of the basic concepts of common diseases prevalent in the society | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Apply their knowledge and understanding of the pathophysiology and management (pharmacological and non-pharmacological) of diseases | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Choose and justify appropriate drug and treatment duration to a given patient with regard to current recommendations and patient-related factors such as other diseases, age, organ functions and other drug treatment | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Integrate pharmacology, pathophysiology, pharmacodynamic, pharmacokinetics and other biomedical and pharmaceutical sciences as they pertain to clinical therapeutics of certain disorders | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Identify the need for further knowledge and formulate relevant learning outcomes | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Paper UC-MSCR202-20 Clinical Research Regulations & Ethics**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Comprehend clinical trial regulations and appreciate their importance | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Understand the practical use and evolution of these regulations | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Be familiar with the documents required to be compiled for an ethical & regulatory clinical trial application | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Appreciate the importance of quality system and SOPS | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Make comparison between the regulatory guidelines applicable in different regions | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Paper UC-MSCR203-19 Clinical Research Lab II**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Understand the practical application of clinical trial regulations for conduct of clinical trials | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Trained about the sample collection and analysis and interpretation of lab data in compliance with GLP | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Develop SOPs and various documents required for conduct of quality clinical studies | √ | √ | √ | √ | √ | √ | √ | √ | √ | Create | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Apply GCP in collection of clinical data | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Appreciate the significance of statistical analysis in clinical research | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Paper UC-MSCR 204-19 Professional Communication Lab**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Acquire basic proficiency in listening and speaking English language | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Understand spoken and written English language, particularly the language of their chosen technical field | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Produce on their own clear and coherent texts | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Develop the skills to communicate in English language with clients at work place | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Identify the need for further knowledge and formulate relevant learning outcomes | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Paper UC-MSCR 205-20 Medical Writing**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Improve medical writing skills and better understanding the biomedical publication process | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Demonstrate writing, reading, editing, and reviewing skills | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Become ready to be absorbed Professionals | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Understand about clinical research and the latest techniques and trends in the industry | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Understand career prospects in the medical writing | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Paper UC-MSCR 206-19 Journal Club**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Critically review the literature | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Develop an approach to analyse the various types of articles | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Become familiar with sources of bias and types of study designs | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Comprehend how results of study are clinically significant | √ | √ | √ | √ | √ | √ | √ | √ | √ | Evaluate | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Demonstrate skill in scientific communication both orally and in writing | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
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**Paper UC-MSCR 212-19 International Regulatory Affairs**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Understand the regulatory guidance's and guidelines for filing and approval process applicable in different regions | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Participate as an effective member in pharmaceutical regulatory affairs team | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Understand preparation of dossiers and their submission to regulatory agencies in different countries | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Understand clinical trials requirements for approvals for conducting clinical trials | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Make comparison between the regulatory guidelines applicable in different regions | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**M.Sc. Clinical Research**

**Paper UC-MSCR 213-19 Biostatistics in Clinical Research**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Apply an appropriate statistical test | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Demonstrate skills in the analysis of clinical research data | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Demonstrate skills in interpreting and communicating the results of statistical analysis, orally and in writing | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Acquire practical understanding of parametric and nonparametric assumptions and tests | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Understand and apply statistical considerations when preparing a protocol | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
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**Paper UC-MSCR301-19 Pharmacotherapeutics-II**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Develop an understanding of the basic concepts of common diseases prevalent in the society | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Apply their knowledge and understanding of the pathophysiology and management (pharmacological and non-pharmacological) of diseases | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Choose and justify appropriate drug and treatment duration to a given patient with regard to current recommendations and patient-related factors such as other | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Integrate pharmacology, pathophysiology, pharmacodynamic, pharmacokinetics and other biomedical and pharmaceutical sciences as they pertain to clinical therapeutics of certain disorders | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Identify the need for further knowledge and formulate relevant learning outcomes | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Paper UC-MSCR302-20 Clinical Study Design**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Develop an understanding of the basic concepts of different types of clinical study designs | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Apply their knowledge and understanding in choosing the appropriate study design | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Understand the key study design elements for preventing bias | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Understand what are the essential documents required to conduct a clinical trial | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Learn about the trial design for special population | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**M.Sc. Clinical Research**

**Paper UC-MSCR303-19 Research Methodology**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Develop an understanding of the basic concepts of research methodologies | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Apply their knowledge and understanding in defining specific research problems | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Develop an understanding about different research designs | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Differentiate between primary and secondary data and significance of each type of data | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Understand the basics of writing and presenting scientific data | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**M.Sc. Clinical Research**

**Paper UC-MSCR304-19 Pharmacovigilance**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Develop an understanding of early detection of new adverse reactions and to introduce measures to manage those risks | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Define and classify ADRs, detection, reporting and causality assessment | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Demonstrate basic tools used in pharmacovigilance safety studies | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Develop practical understanding of signal detection and communication of safety signals with stakeholders | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Understand drug monitoring, risk management studies and apply statistical considerations when preparing a protocol | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**M.Sc. Clinical Research**

**Paper UC-MSCR 305-19 Clinical Research Lab III**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Understand the practical application of clinical trial regulations for conduct of clinical trials | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Develop SOPs and various documents required for conduct of quality clinical studies | √ | √ | √ | √ | √ | √ | √ | √ | √ | Create | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Develop various documents essential in clinical research | √ | √ | √ | √ | √ | √ | √ | √ | √ | Create | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Develop clinical study protocols | √ | √ | √ | √ | √ | √ | √ | √ | √ | Create | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Comprehend the significance of documentation in clinical research | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**M.Sc. Clinical Research**

**Paper UC-MSCR 306-19 ICT Skills Lab**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Understand the basics of ICT and the terminologies used in ICT | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Appreciate the potential of technologies in modern society | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Learn about and using different kinds of IT tools suitably and safely | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Search information on the internet in digital encyclopedias, repositories, etc., or using search engines, in a systematic and coherent fashion | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Understand basic functions of a search engine and implement search criteria definition strategies for filtering the results obtained | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**M.Sc. Clinical Research**

**Paper UC-MSCR 307-19 Journal Club**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 Critically review the literature | √ | √ | √ | √ | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2 Develop an approach to analyse the various types of articles | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3 Become familiar with sources of bias and types of study designs | √ | √ | √ | √ | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4 Comprehend how results of study are clinically significant | √ | √ | √ | √ | √ | √ | √ | √ | √ | Evaluate | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5 Demonstrate skill in scientific communication both orally and in writing | √ | √ | √ | √ | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**B.Sc. (Hons) Food Technology**

**Paper - BSFT112-21 Tech. of Food Preservation**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|
| 1. To impart knowledge on the causes of food spoilage. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 2. To learn principles of different techniques used in processing and preservation of foods. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 3. To identify and select preservation methods appropriate for specific foods. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 4. To learn the effects of preservation methods on the quality of food. | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 5. To learn different permitted food additive used in food industry | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**B.Sc. (Hons) Food Technology**

**Paper -BSFT113-21 Lab Intro. to Food Science**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|
| CO1: To acquaint the students to the work in the food analysis laboratory. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2: Introduction to fundamentals of food processing and evaluation. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3: Evaluation of composition and functionality of food products. | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4: Explaining different methods used for food analysis. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO5: Evaluation of food products by qualitative and quantitative methods | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**B.Sc. (Hons) Food Technology**

**Paper - BSFT114-21 Lab Tech. of Food Preservation**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|
| 1. To understand the sampling techniques and preparation of test samples. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 2. To understand the effect of various preservation techniques on the quality and safety of food products | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 3. To design and evaluate a processing procedure used to preserve a food product. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 4. To understand the physical and chemical evaluation of thermally processed food. | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 5. To understand and utilize different food preservation techniques. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**B.Sc. (Hons) Food Technology**

**Paper - BTHU103-18 English**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|
| 1. To help the students become the independent users of English language. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 2.To develop in them vital communication skills which are integral to their personal, social and | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 3. The syllabus shall address the issues relating to the Language of communication. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 4. Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**B.Sc. (Hons) Food Technology**

**Paper - BTHU104-18 Lab English**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|
| 1. To help the students become the independent users of English language. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 2.To develop in them vital communication skills which are integral to personal, social and professional interactions. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 3.The syllabus shall address the issues relating to the Language of communication | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 4. Students will become proficient in professional communication such as interviews, group discussions and business office environments, important reading skills as well as writing skills such as report writing, note taking etc | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**B.Sc. (Hons) Food Technology**

**Paper - BSFT123-18 Lab Food and Nutrition**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|
| 1. Determination of various food nutrients, sources, and associated deficiencies | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 2. Understanding about concept of nutritious snack, their preparation for different income groups. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 3. Understanding the concept of nutrition labelling. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 4. Understanding about food assimilation and malnutrition. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**B.Sc. (Hons) Food Technology**

**Paper - BSCSEC-101-21 Enterpreneuship Dev**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|
| 1.To help the students to become the food entrepreneur. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 2. To develop the ability to entrepreneurial skills. | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 3. To develop the skills related to Business feasibility analysis such as technical Feasibility,economic Feasibility, organizational feasibility and legal Feasibility. | √ | √ | √ | √ | √ | Analyze | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| 4.To able to develop Food Processing Business plan | √ | √ | √ | √ | √ | Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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**Name of the Department: Food Science & Technology**
**Ph.D. : Food Science & Technology (Batch 2020 onward)**

**Paper PHDFT-101-20: Research Methodology**

| Course Outcome | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | Skill | Focus on Employability / Entrepreneurship | Assessment Tools to Measure Attainment of CO |
|---|---|---|---|---|---|---|---|---|
| CO1. The students would be acquainted with knowledge related to concept, types and objective of research. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO2. Knowledge of fundamentals of planning and hypothesising a research problem anddesigning the experiments would be helpful in effective pursuance of the research objectives. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO3. The students would be acquainted with the effective means of writing, compiling,presenting and discussing the findings of the experiments and their further publications in the reputed journals. | √ | √ | √ | √ | √ | Understand | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |
| CO4. Knowledge of statistical tools would be instrumental in drawing inferences and conclusive reports from the laboratory experiment results. | √ | √ | √ | √ | √ | Analyze,Apply | Yes | MST, Comprehensive Continuous evaluation Quiz,Assignment,Seminar,Presentation Case Studies, Attendance,Class Participation) End semester exam |

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