

# **SYLLABUS FOR FOUR YEAR UNDER GRADUATE PROGRAMME (FYUGP)**

## **HOME SCIENCE**

**Minor Paper from Vocational Studies/Discipline-2  
As per provision of NEP-2022**

**ACADEMIC SESSION: w.e.f. 2023-2027**



**For  
All Constituent/Affiliated Colleges Under Binod Bihari  
Mahto Koylanchal University,  
Dhanbad.**



**Notification**

In exercise of the powers vested in him under the Jharkhand State Universities Act 2000 as amended up-to-date, the Vice-Chancellor is pleased to constitute a Board of Studies (BOS) for the Department of Home Science, comprising of following members for a period of one year from the date of notification :

**For Under Graduate**


- |   |                   |
|---|-------------------|
| Dr. Seema Kumari<br>Head, University Department of Home Science,<br>BBMKU.              | - Chairperson     |
| Dr. Manju Kumari<br>University Department of Home Science,<br>Ranchi University, Ranchi | - External Member |
| Dr. Reshma Xalxo<br>University Department of Home Science,<br>Ranchi University, Ranchi | - External Member |
| Dr. Chanchala Verma<br>University Department of Home Science, BBMKU.                    | - Member          |
| Mrs. Asha Singh<br>Dept. of Home Science, Bokaro Mahila College,<br>Bokaro              | - Member          |
| Dr. Anju Verma<br>Dept. of Home Science, BSSM College, Dhanbad                          | - Member          |
| Dr. Shanta Badaik<br>Dept. of Home Science, SSLNTM College, Dhanbad                     | - Member          |
| Dr. Susmita Kumari<br>Dept. of Home Science, SSLNTM College, Dhanbad                    | - Member          |


By order of the Vice-Chancellor  
Sd/-

Registrar  
Date 14/07/2023

No. BBMKU/R/ 1231/2023

- To:-
1. Persons concerned.
  2. Dean, Faculty of Science, BBMKU.
  3. Establishment Section, BBMKU, Dhanbad.
  4. P.A. to VC/PVC/F.A./R for Information to VC/PVC/F.A./R.
  5. Guard File.

  
Registrar  
BBMKU, Dhanbad.

  
14.07.23

**Dr. Manju Kumari**

*Ph.D., D.Litt.*

Associate Professor

University Dept. of Home Science

Ranchi University, Ranchi-834008



Residence :

KARNIK COTTAGE

A/5, Gauri Enclave, Maitri Marg,

Bariatu, Ranchi-9 (Jharkhand)

Phone : 0651-2541319

Cell. : 9431585498

Date : 15/04/2024

This is to certify that 4 years under graduate program course in Home Science (Honors) at BBMK University Dhanbad Minor Course (2A to 2D) under U.G.NEP.2022 purposed syllabus is approved.

15/04/2024  
External Member  
Manju Kumari  
Dr. Manju Kumari  
Associate Professor  
University Department of Home Science

Dr. (Mrs.) Reshma Xalxo

Residence :

M.A. Ph.D  
University Department of Home Science  
Ranchi University, Ranchi-834008 Jharkhand



"Ashirwad"  
C/o Mr. Shital Oraon  
209/C, Behind Rahul Automobile  
Karamtoli, Bariatu Road, Ranchi-834009  
(Jharkhand) Ph. -09431103818

Ref. No. 123/2023 dt 14-07-23

Date: 15/04/2024

This is to certify that 4 years under graduate program course in Home Science (Honors) at BBMK University Dhanbad Minor Course (2A to 2D) under U.G.NEP,2022 purposed syllabus is approved

Member

15/04/2024

Dr. Reshma Xalxo  
Associate Professor

Ranchi University, Ranchi

**Members of Board of Studies of Four Years Under-Graduate  
Programme (FYUGP) syllabus as per Guidelines of the (NEP-2022)  
Binod Bihari Mahto Koyalanchal University, Dhanbad**

1. Chairman : Dr. Seema Kumari
2. External expert member : Dr. Manju Kumari
3. External expert member : Dr. Reshma Xalxo
4. Members : Dr. Chanchala Verma

*Seema Kumari*  
(Dr. Seema Kumari) 02/05/2024

Head

University Department of Home Science  
BBMKU, Dhanbad

**Dr. Seema Kumari**  
Head of the U.G. Deptt. of Home Science  
B.B.M.K.U. University  
Dhanbad-826001 (Jharkhand)

**UNIVERSITY: Binod Bihari Mahto Koylanchal University, Dhanbad**

**Subject: Home Science**

**Syllabus for Minor from Vocational Studies/Discipline-2**

**Semester wise courses in Home Science for FYUGP 2023 onwards**

Semester wise paper and examination structure for Home Science Minor papers from Vocational Studies/Discipline-2

**Credits: 4** (Theory:3, Practical: 1)

Courses			Examination Structure			Pass Mark	
Sem	Code	Paper Title	Credit	End Sem Theory (F.M.) (Written Exam)	End Sem Prac/Viva Voce/ Demonstration / Skill Test (F.M.)	Theory	Practical/ Demonstration/Skill Test/ Viva Voce
I	MN-2A	Dietetics and Therapeutic Nutrition	4	75	25	30	10
III	MN-2B	Techniques of food preservation	4	75	25	30	10
V	MN-2C	Housing and Interior decoration	4	75	25	30	10
VII	MN-2D	Dyeing, printing and finishing of textile	4	75	25	30	10

**Note : No Internal Examination will be conducted.**

# **Syllabus for Undergraduate Certificate Programme**

## **Home Science**

### **Minor from Vocational Studies/Discipline-2A**

#### **Semester-II**

#### **HSC-MN-2A: Dietetics Therapeutic Nutrition**

**Credit -04 (Theory+Practical/Demonstration/Viva Voce/Skill Test)**

Theory + Practical/ Demonstration/Skill Test/Viva Voce Marks :- 100	Pass Marks : 40
75 Theory + 25 Practical/Demonstration/Viva Voce/Skill Test	
(No Internal Examination)	

#### **Instructions to Question Setter for End Semester Exam (ESE) Theory : 75 Marks**

There will be two group of questions. Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **MN-2A : Theory**

**Lectures : 45**

#### **Objectives:**

1. To understand the role of dietitian and to maintain good nutritional status, correct deficiencies or disease conditions of the patients.
2. To gain knowledge on the principles of diet therapy and designing or formulating different therapeutic diets for various disease conditions.
3. To develop skill to plan and prepare therapeutic diets for prevention of disease conditions.
4. To plan and execute a research plan regarding nutrition and dietitians practice.

#### **Course content :**

##### **Unit-I. Concepts in Diet Therapy:**

Growth and Scope of Dietetics

Purposes and Principles of Therapeutic Diets. Modifications of Normal Diets. Classification of the Therapeutic Diets.

Role of Dietitians characteristics of Dieticians.

Hospital Dietary Food Service, Diet Counseling. Team Approach to Nutritional Care, Principles of Food Prescription, Indian Dietetic Association.

##### **Unit-II. Medical Nutrition Therapy in Obesity, underweight and Diabetes Mellitus:**

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Etiology, pathophysiology, clinical symptoms, metabolic alterations, Assessment/Indicators, Lifestyle & Dietary guidelines for the following conditions.

Obesity

Underweight

Diabetes Mellitus (Acute and Chronic Complications of Diabetes)

### **Unit-III. Medical Nutrition Therapy in Gastro Intestinal Disorders and Diseases of the liver:**

Etiology, pathophysiology, clinical symptoms, metabolic alterations, Assessment/Indicators, Lifestyle & Dietary guidelines for the following conditions.

Diarrhea

Dysentery

Constipation and Peptic Ulcer

Jaundice, Hepatitis, Fatty Liver, Cirrhosis .

### **Unit-IV Medical Nutrition Therapy in Diseases of the Cardio Vascular system and Kidney Diseases**

Etiology, pathophysiology, clinical symptoms, metabolic alterations, Assessment/Indicators, Lifestyle & Dietary guidelines for the following conditions.

Atherosclerosis, Hyperlipidemia,

Hypertension

Acute and Chronic Renal Failure

### **Unit-V Medical Nutrition Therapy for Fever, Food Allergy and Cancer Febrile Conditions Acute and chronic infectious disease –**

Typhoid, Tuberculosis and HIV and AIDS

Guidelines for management of tuberculosis and infectious diseases.

Food Allergy – Definition, Causes, Signs and Symptoms, Types of Allergies, Diagnosis, Dietary Modifications.

Cancer: Etiology, Metabolic alterations, Types of Cancer, Dietary Recommendation for Cancer Survivors. Nutritional therapy for cancer.

### **Recommended Books:**

1. Srilakshmi, B. Dietetics, New Age International P. Ltd., New Delhi, 2018.
2. Dietary Guidelines of Indians – A manual, National Institute of Nutrition, Hyderabad, 2015.
3. Garg, M. Diet, Nutrition and Health, ABD Publishers, 2006.
4. Krause, M.V. and Mahan, L.K. Food, Nutrition and Diet Therapy, 9<sup>th</sup> Ed., W.B. Saunders Company, Philadelphia, 2019.
5. Maimun Nisha, Diet Planning for Diseases, Kalpaz Publishers, 2016.
6. Dietary Guidelines of Indians – A Manual, National Institute of Nutrition, Hyderabad, 2011.

*Seema*

7. Brown, J (2014). Nutrition now (7<sup>th</sup> ed). Wadsworth, USA, ISBN-13:978-1-33-93653-4, ISBN 10:1-133-93653-9.
8. Nelms M, Sucher K (2015). Nutrition Therapy and Pathophysiology. (3<sup>rd</sup> edition) Cengage Learning, USA. ISBN-13:978-1305111967, ISBN-10: 130511196n, New Delhi.

## **MN-2A: Practical/Demonstration/Skill Test/Viva Voce**

Credit: 01

Lectures-30 (15x2)

Practical/Demonstration/Skill Test/Viva Voce: 25 Marks

(No Internal Exam)

Instruction to Question Setter for End Semester Examination (ESE):

There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination will be as per the following guidelines:

Experiment = 15 marks

Practical record notebook = 05 marks

Viva-voce = 05 marks

### **PRACTICALS**

**Preparation of Hospital Diets with respect to any one disease:**

- Modification of Diets in Obesity
- Modifications of Diets in underweight
- Modifications of Diets in Diabetes Mellitus
- Diets for Febrile conditions – TB, Typhoid
- Modifications of Diets in Peptic Ulcer, constipation and Diarrhoea
- Modifications of Diets in Liver Diseases – Jaundice, Hepatitis and Cirrhosis
- Diets for Nephritis, renal Failure and renal Calculi, Protein Restricted Diets
- Diets for Cardiovascular diseases – Sodium Restricted, Fat controlled
- Modification of Diet for Cancer Patients and HIV Infected Person.

*Seema Kumari*

# **Syllabus for Undergraduate Diploma Programme**

## **Home Science**

### **Minor from Vocational Studies/Discipline-2B**

#### **Semester-IV**

#### **HSC-MN-2B: Techniques of Food Preservation**

**Credit -04 (Theory+Practical/Demonstration/Viva Voce/Skill Test)**

Theory + Practical/ Demonstration/Skill Test/Viva Voce Marks :- 100	Pass Marks : 40
75 Theory + 25 Practical/Demonstration/Viva Voce/Skill Test	
(No Internal Examination)	

#### **Instructions to Question Setter for End Semester Exam (ESE) Theory : 75 Marks**

There will be two group of questions. Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **MN-2B : Theory**

**Lectures : 45**

#### **Objectives:**

1. To learn the principles behind the methods of preservation.
2. To understand the stages of cookery and chemical characteristics in the preservation of fruits and vegetables.
3. To be able to formulate preserved food products.
4. To acquire skills to preserve different types of food items based on their perishability.

#### **Course content :**

##### **Unit-I. Concept of food preservations:**

Principles of food preservation

Importance of food preservation

Types of food spoilage by microorganism and by enzyme.

Food Preservatives : Use of salt, sugar, natural food preservatives and artificial preservatives.

##### **Unit-II. Food Preservation by low temperature:**

Freezing and Refrigeration : Introduction to refrigeration, cold storage and freezing.

Types of Freezing : Slow, quick

Introduction to thawing changes during thawing and its effect on food.

*Seemata*

### **Unit-III. Food Preservation by high temperature:**

Thermal Processing – Commercial heat preservation like sterilization, pasteurization and blanching.

### **Unit-IV Food preservation by moisture control :**

Drying and dehydration : Meaning and definition.

Difference between drying and dehydration.

Different types of dryers used in food industry.

Evaporation : Definition, name of evaporators used in food industry.

### **Unit-V Food Preservation by irradiation:**

Introduction, units of radiation. kinds of ionizing radiation and mechanism of action.

### **Recommended Books:**

- |                        |                   |
|------------------------|-------------------|
| 1. Food & Nutrition    | : MS. Swaminathan |
| 2. Food Science        | : Mudambi, S.R.   |
| 3. Nutritional Science | : B. Srilakshmi   |
| 4. Ahhar & Poshan      | : Barma & Pandey  |
| 5. Poshan Vigyan       | : S.P. Sukhiya    |
| 6. Aahar Postan Vigyan | : Dr. Asha Kumari |

### **MN-2B: Practical/Demonstration/Skill Test/Viva Voce**

Credit: 01

Lectures-30 (15x2)

Practical/Demonstration/Skill Test/Viva Voce: 25 Marks

(No Internal Exam)

**Instruction to Question Setter for End Semester Examination (ESE):**

There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination will be as per the following guidelines:

Experiment = 15 marks

Practical record notebook = 05 marks

Viva-voce = 05 marks

### **PRACTICALS**

1. Preparation of salted, dehydrated preserves (Traditional Indian varieties of chips, papads, khakhra, masala powder, onion, garlic and ginger powder) .
2. Preparation of Jam, Jelly, marmalades, sauce and squash, sakarpara.
3. Preparation and preservation of fruits juices.
4. Food preservation by fermentation technology (Idle, Dhokla)
5. Visit to food industry.

*Seema*

# Syllabus for Undergraduate Bachelor's Degree

## Home Science

### Minor from Vocational Studies/Discipline-2C

#### Semester-VI

#### **HSC-MN-2C: Housing and Interior Decoration**

**Credit -04 (Theory+Practical/Demonstration/Viva Voce/Skill Test)**

Theory + Practical/ Demonstration/Skill Test/Viva Voce Marks :- 100	Pass Marks : 40
75 Theory + 25 Practical/Demonstration/Viva Voce/Skill Test	
(No Internal Examination)	

#### **Instructions to Question Setter for End Semester Exam (ESE) Theory : 75 Marks**

There will be two group of questions. Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **MN-2C : Theory**

#### **Lectures : 45**

#### **Objectives:**

1. To know about the different aspects of housing.
2. To gain knowledge and interpret the elements and principles of art in interior design.
3. To get acquaint with different types of flower arrangement and floor decoration.
4. To get acquaint with furniture and furnishing materials.

#### **Course content :**

#### **Unit-I. Housing:**

Need of a house, difference between house and home. Ways to acquire house (own & rented). Factors influencing selection and purchase of house and site for house building.

#### **Unit-II. House Planning:**

Principles of house planning, planning different residential spaces in a house, planning house for different income groups.

#### **Unit-III. Interior Designing:**

Introduction to interior designing, importance of good taste.

Objectives of interior decoration.

Elements of Art: Line, shape, texture, colour, pattern, light and space, types of design.

*Seema*

#### **Unit-IV Colour:**

Importance of colours in home decoration, meaning, functions, principles of colour. Factors affecting selection of colour in home decoration.

Colour schemes.

Principle of design : Proportion, balance, rhythm, emphasis, harmony.

#### **Unit-V Home Decors:**

Furniture : History, Importance, Selection of furniture, types of furniture, quality of furniture.

Furnishing Materials : Curtains and curtain styles, draperies, floor covering, lighting.

Accessories : Wall painting, mirrors, wall art, sculpture, antiques, flower arrangement etc.

#### **Recommended Books:**

- |                                  |                    |
|----------------------------------|--------------------|
| 1. Grih Prabandh                 | :Dr. G.P. Shairi   |
| 2. Grih Sazza & Grih Vayvastha   | : Dr. S.P. Sukhiya |
| 3. Parivarik Sadhno ki vavyastha | : Verma & Pandey   |
| 4. Home Management               | : Vargesa M.A.     |

### **MN-2C: Practical/Demonstration/Skill Test/Viva Voce**

Credit: 01

Lectures-30 (15x2)

Practical/Demonstration/Skill Test/Viva Voce: 25 Marks

(No Internal Exam)

**Instruction to Question Setter for End Semester Examination (ESE):**

There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination will be as per the following guidelines:

Experiment	= 15 marks
Practical record notebook	= 05 marks
Viva-voce	= 05 marks

#### **PRACTICALS**

1. Preparation of colour wheel and colour schemes.
2. Flower arrangement and floor decoration (Rangoli & Alpana): Application of design, principles and elements of art, innovation of new styles.
3. Plans and elevation of different furniture pieces.
4. Preparing drawing for furniture arrangements considering income size and need of family.
5. Draw house plans with standard specifications and furniture layout.

*Beema*

**Syllabus for Undergraduate Bachelor's Degree with Hons/Hons with Research**

**Home Science**

**Minor from Vocational Studies/Discipline-2D**

**Semester-VIII**

**HSC-MN-2D:Dyeing Printing & Finishing of Textiles**

**Credit -04 (Theory+Practical/Demonstration/Viva Voce/Skill Test)**

Theory + Practical/ Demonstration/Skill Test/Viva Voce Marks :- 100	Pass Marks : 40
75 Theory + 25 Practical/Demonstration/Viva Voce/Skill Test	
(No Internal Examination)	

**Instructions to Question Setter for End Semester Exam (ESE) Theory : 75 Marks**

There will be two group of questions. Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

**MN-2D : Theory**

**Lectures : 45**

**Objectives:**

1. To introduce the basics of dyeing, printing and finishing.
2. To inculcate the knowledge of accessories and chemicals used for dyeing and printing.
3. To acquaint students with the importance of finishing of textiles.
4. To develop the skills in doing dyeing and printing of textiles.

**Course content :**

**Unit-I. Introduction of Dyeing and Printing**

History of dyeing and printing.

Different terminologies relating to colour: Dyes, pigment, light, hue, value, density, colour wheel and schemes.

**Unit-II.** Difference between dyes and pigments, preparation of fabrics before dyeing and printing – designing, scouring, bleaching, mercerization, carbonization.

Heat setting: Processing method.

**Unit-III. Basics of Dyeing.**

Classification of dyeing.

Auxiliaries and machineries used for dyeing, factors affecting dyeing

Dyeing of cotton, wool and silk.

Dyeing of viscose and polyester.

Natural dyeing methods and limitation after treatments.

*Beema/Ami*

#### **Unit-IV Basics of Printing.**

Preparation of print paste and printing table.

Pigments and dyes used for printing.

Types of printing : Direct style, resist style, discharge style, novel techniques of printing, fixation and after treatment process.

Dyes for digital textile printing.

#### **Unit-V Finishes**

Classification of finishes.

Physical, Chemical and Functional objectives of textile finishing.

Factors affecting the finishing of textile: fibre, weave, physical properties, and use, susceptibility to chemical modification.

Finishes for achieving different texture.

Finishes for enhancing specific characteristics.

#### **Recommended Books:**

- |   |                    |
|---|--------------------|
| 1. Vastr Vigyan ke Sidhant                  | : Dr. Rani Khanuja |
| 2. Vastr Vigyan                             | : Barma & Pandey   |
| 3. Textile Technology                       | : N.N. Mahapatra   |
| 4. Introduction of Textile Science          | : S.J. Kadolph     |
| 5. Fundamentals of Textiles<br>& their care | : S. Dantyagi      |

#### **MN-2D: Practical/Demonstration/Skill Test/Viva Voce**

Credit: 01

Lectures-30 (15x2)

Practical/Demonstration/Skill Test/Viva Voce: 25 Marks

(No Internal Exam)

**Instruction to Question Setter for End Semester Examination (ESE):**

There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination will be as per the following guidelines:

Experiment = 15 marks

Practical record notebook = 05 marks

Viva-voce = 05 marks

#### **PRACTICALS**

1. Preparation of fabric for dyeing and printing : Colouring, designing, bleaching.
2. Dyeing of yarn and fabric with different classes of dyers :
  - (a) Dyeing of cotton yarn and fabric with dyes, vat and reactive dyes.
  - (b) Dyeing of silk, wool and nylon yarn and fabrics with basic and acid dyes.
  - (c) Dyeing of polyester yarn and fabric with disperse dyes.
3. Making design for blocks & stencil. Preparation of blocks and stencil.
4. Printing of fabrics using :
  - (a) Direct style : block, stencil
  - (b) Resist Style : Tie & Dye, Batik
5. Application of starch by varying concentration and material: Natural starch, synthetic starch.
6. Printing of garments by different styles.

*Geema*