**Kurukshetra University, Kurukshetra**

**(Established by the State Legislature Act XII of 1956)**

**(‘A+’ Grade, NAAC Accredited)**



**Scheme of Examination and Syllabus for**

**Under-Graduate Programme**

**Course: Food, Nutrition & Dietetics**

**Under Multiple Entry-Exit, Internship and CBCS-LOCF in accordance to NEP-2020 w.e.f.**

**2022-23 (in phased manner)**

# KURUKSHETRA UNIVERSITY, KURUKSHETRA

**Scheme of Examination for Under-Graduate Programme Under Multi Entry-Exit, Internship and CBCS-LOCF in accordance to NEP-2020 w.e.f. 2022-23(in phased manner)**

**Course: Food, Nutrition & Dietetics**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Semester** | **Course** | **Paper (S)** | **Nomenclature of Paper** | **Credit** | **Internal****Marks** | **External Marks** | **Total marks** | **Duration** | **Hours/Week** |
| Sem-1 | CC 1(Food, Nutrition & Dietetics) | B-FND-N101 | Nutrition Science I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N102 | Nutrition Science II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N103 | Nutrition Science Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| Sem-2 | CC 2(Food, Nutrition & Dietetics) | B-FND-N201 | Communication& Extension education I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N202 | Communication& Extension education II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N203 | Communication& Extension education Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| Sem-3 | CC 3(Food, Nutrition & Dietetics) | B-FND-N301 | Food Science I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N302 | Food Science II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N303 | Food Science Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| Sem-4 | CC 4(Food, Nutrition & Dietetics) | B-FND-N401 | Nutrition in life cycle I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N402 | Nutrition in life cycle II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N403 | Nutrition in life cycle Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| **Sem-5 (For honors only)** | **CC 5****(Food, Nutrition & Dietetics)** | **B-FND-N501** | **Therapeutic Nutrition I** | **2** | **25** | **25** | **50** | **3h** | **2** |
| **B-FND-N502** | **Therapeutic Nutrition II** | **2** | **25** | **25** | **50** | **3h** | **2** |
| **B-FND-N503** | **Therapeutic Nutrition Practical** | **2** | **25** | **25** | **50** | **4h** | **4** |
| Sem-5Choose one DSE from given options of major subjects 1&2 each | DSE-1(Food, Nutrition & Dietetics) | B-FND -N504 | Nutritional Biochemistry | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N505 | Human Physiology | 2 | 25 | 25 | 50 | 3h | 2 |
| B-HS-N506 | Nutritional Biochemistry Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| DSE-2(Food, Nutrition & Dietetics) | B-FND -N507 | Nutraceuticals & Functional Foods I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N508 | Nutraceuticals &Functional Foods II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N509 | Nutraceuticals & Functional Foods Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| DSE-3(Food, Nutrition & Dietetics) | B-FND -N510 | Food Processing & Preservation I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N511 | Food Processing & Preservation II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N512 | Food Processing & Preservation Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| DSE-4(Food, Nutrition & Dietetics) | B-FND -N513 | Food hygiene and sanitation I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N514 | Food hygiene and sanitation II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N515 | Food hygiene and sanitation Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| DSE-5(Food, Nutrition & Dietetics) | B-FND-N516 | MOOC\* (From Swayam Portal)/ any platform | \* | \* | \* | \* | \* | \* |
| Sem-5Opt SEC\* major 1/major 2 with choice | SEC-I\*(Food, Nutrition & Dietetics) | B-FND –S1 | Bakery and confectionery | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND- SP1 | Bakery and confectionery Practical | 4 | 50 | 50 | 100 | 4h | 8 |
| SEC-II\*(Food, Nutrition & Dietetics) | B-FND –S2 | Entrepreneurial techniques in Food & Nutrition | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-SP2  | Entrepreneurial techniques in Food & NutritionPractical | 4 | 50 | 50 | 100 | 4h | 8 |
| **Sem-6****(For honors only)** | **CC 6****(Food, Nutrition & Dietetics)** | **B-FND -N601** | **Clinical Nutrition I** | **2** | **25** | **25** | **50** | **3h** | **2** |
| **B-FND -N602** | **Clinical Nutrition II** | **2** | **25** | **25** | **50** | **3h** | **2** |
| **B-FND -N603** | **Clinical Nutrition Practical** | **2** | **25** | **25** | **50** | **4h** | **4** |
| Sem-6Choose one DSE from given options of major subjects 1&2 each | DSE-6(Food, Nutrition & Dietetics) | B-FND -N604 | Community nutrition and Education I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N605 | Community nutrition and Education II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N606 | Community nutrition and Education Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| DSE-7(Food, Nutrition & Dietetics) | B-FND -N607 | Food standard and quality control I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N608 | Food standard and quality control II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N609 | Food standard and quality control Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| DSE-8(Food, Nutrition & Dietetics) | B-FND -N610 | Institutional Food Management I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N611 | Institutional Food Management II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND -N612 | Institutional Food Management Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| DSE-9(Food, Nutrition & Dietetics) | B-FND-N613 | Nutrition for health and fitness I | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N614 | Nutrition for health and fitness II | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND-N615 | Nutrition for health and fitness Practical | 2 | 25 | 25 | 50 | 4h | 4 |
| DSE-10(Food, Nutrition & Dietetics) | B-FND-N616 | MOOC\* (From Swayam Portal) |  |  |  |  |  |  |
| Sem-6Opt SEC\*of major not opted in 5th sem with choice | SEC-I\*(Food, Nutrition & Dietetics) | B-FND –S1 | Bakery and confectionery | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND- SP1 | Bakery and confectionery Practical | 4 | 50 | 50 | 100 | 4h | 8 |
| SEC-II\*(Food, Nutrition & Dietetics) | B-FND –S2 | Entrepreneurial techniques in Food & Nutrition | 2 | 25 | 25 | 50 | 3h | 2 |
| B-FND- SP2 | Entrepreneurial techniques in Food & NutritionPractical | 4 | 50 | 50 | 100 | 4h | 8 |
| **Sem-7****(for non-honors students)** | **CC 5****(Food, Nutrition & Dietetics)** | **B-FND-N501** | **Therapeutic Nutrition I** | **2** | **25** | **25** | **50** | **3h** | **2** |
| **B-FND-N502** | **Therapeutic Nutrition II** | **2** | **25** | **25** | **50** | **3h** | **2** |
| **B-FND-N503** | **Therapeutic Nutrition Practical** | **2** | **25** | **25** | **50** | **4h** | **4** |
| 7th Sem | RAEC(Food, Nutrition & Dietetics) | B-FND-N701 | Research Ethics | 4 | 50 | 50 | 100 | 3h | 4 |
| B-FND-N 702 | Research Methodology | 4 | 50 | 50 | 100 | 3h | 4 |
| Research Progression Seminar | B-LS-703 | General Seminar & Report | 4 |  |  | 100 | - | - |
| B-LS-704 | Synopsis writings & Seminar | 4 |  |  | 100 | - | - |
| **8th Sem****(for non-honors students)** | **CC 6****(Food, Nutrition & Dietetics)** | **B-FND -N601** | **Clinical Nutrition I** | **2** | **25** | **25** | **50** | **3h** | **2** |
| **B-FND -N602** | **Clinical Nutrition II** | **2** | **25** | **25** | **50** | **3h** | **2** |
| **B-FND -N603** | **Clinical Nutrition Practical** | **2** | **25** | **25** | **50** | **4h** | **4** |
| 8th Sem | RAEC(Food, Nutrition & Dietetics) | B-FND- N804 | Research (Dissertation/Thesis) | 20 | - | - | - | - | - |
| B-FND-N805 | Mid-term Seminar | 2 | - | - | 50 | - | - |
| B-FND-N801 | Pre-submission Seminar | 2 | - | - | 50 | - | - |
| • CC- Core Courses; DSE- Discipline Specific Elective; SEC- Skill Enhancement Courses; RAEC- Research ability enhancement courses • Opt SEC\* Major-1/Major-2 with choice in 5th semester and Opt second SEC\* of Major-1/2 (not opted in 5 semester) in 6th semester with choice • CC-5 & CC-6 are compulsorily in semester 7 & 8, if these courses are not completed as CC-5 & CC-6 in semester 5 & 6• Internal assessment (50%) shall be based on clearly defined components of class attendance and participation (10%), mid-term exam of 2 hour duration (30%) and assignments-presentations (10%) of the credit and the rest (50%) through End term Examination. • Internship@10 credits (450 hours) after 2 nd semester (only for exit options) • Internship@10 credits (450 hours) after 4 th semester (compulsory for all) |

**Programme Outcomes (POs) for UG courses of Faculty of Life Sciences**

1. To develop skills in graduate students to be able to acquire theoretical and practical knowledge in fundamentals of biology in respective disciplines of plants, animals, microbes and environment.
2. To inculcate ability to critically evaluate problems and apply lateral thinking and analytical skills for professional development.
3. To create awareness on ethical issues, good laboratory practices and biosafety.
4. To develop ability in youth for understanding basic scientific learning and effective communication skills.
5. To prepare youth for career in teaching, industry, government organizations and self-reliant entrepreneurship.
6. To make students aware of natural resources and environment and its sustainable utilization.
7. To provide learning experience in students that instills deep interest in biological science for the benefit of society.

**Programme Specific Outcomes (PSOs) for Under-Graduate Programme of Course Food, Nutrition & Dietetics**

1. Teaching of this subject will help to promote a scientific temper and competencies in research in foods and nutrition, dietetics, community nutrition, functional foods, food standards etc.
2. It will help in understanding the basics of food and its relation and importance in maintaining good health and prevention from various diseases.
3. This programme will develop personnel who can develop their future as teachers, as dietician, in food industry or as entrepreneur.
4. It will help to improve the overall personality of students with good knowledge of subject as well as effective communication skills.
5. Students will be capable of using knowledge of subject and analytical methods in identifying and solving complex situations of human beings and environment taking into consideration ethics and responsibilities
6. The students will get knowledge and facilitate the development of skills and techniques in different areas of home science, namely Foods, nutrition & dietetics, Human development and Textile, apparel and fashion designing required for personal, professional and community advancement.

## SEMESTER-I

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Paper** | **Nomenclature of Paper** | **Credits** | **Internal Marks** | **External Marks** | **Total Marks** | **Exam Duration** | **Hours/week** |
| **CC-1****Food, Nutrition& Dietetics** | **B-FND-N101** | **Nutrition Science I** | **2** | **25** | **25** | **50** | **3hrs.** | **2** |

**Objective:** To understand the functions and role of various nutrients, their requirements and effect of deficiency.

**Course Outcomes:** The course learning outcomes for this course are-

1. **CO1:** The students will be able to apply nutrition knowledge in making foods choices and obtaining an adequate diet.
2. **CO2:** To understand the functions, sources, requirements and effects of excess and deficiency of different nutrients.

**Note:** Seven questions are to be set in all and the candidates are required to attempt five questions including compulsory question. Question 1 is compulsory consisting of short answer type 5 parts (1.0 mark each) covering the entire syllabus. Out of remaining six, three questions are to be set from each section A & B, possibly splitting them in parts. Candidate is required to attempt four questions, two from each section. All five questions carry equal marks.

**UNIT-I**

1. Definition of Nutrition, nutrients, undernutrition, malnutrition and terms used in nutrition- recommended dietary allowance, balanced diet, health., reference man & reference woman
2. Energy:
* Units of energy
* Food sources of energy
* RDA of energy for sedentary, moderate & heavy worker (men & women), during pregnancy and lactation
* BMR-Definition and factors affecting BMR
1. Water: Functions and sources of water for human body, effects of excess and low intake of water on human body.
2. Carbohydrates:
* Classification,
* functions,
* sources & requirement,
* effects of deficiency and excess (in brief)

**UNIT-II**

1. Protein:
* Classification.
* functions,
* sources & requirement,
* effects of deficiency and excess (in brief)
1. Fats/ Lipids:
* Classification
* functions,
* Sources & requirement
* health problems associated with lipids

3. Dietary Fiber:

* Types of fiber,
* functions or role of dietary fiber in the human body,
* sources of fiber and
* effect of deficiency of fiber in human beings.

**REFERENCES:**

1. Agarwal,A. and Udipi, S. (2014). Textbook of Human Nutrition, Jaypee Medical Publication, New Delhi.
2. Bamiji, M.S.; Rao, N.P. and Reddy, V. (Editors) (1999). Textbook of Human Nutrition. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.
3. ICMR (2010). Nutrient Requirements and Recommended Dietary Allowance for Indians. A Report of the Expert Group of ICMR. NIN, Hyderabad.
4. ICMR (2010). Dietary guidelines for Indians. ICMR, NIN,Hyderabad.
5. Jim, M. and Stewant, T.A. (2007). Essentials of Human Nutrition. 3rd Edition: New York, Oxford University Press, New Delhi.
6. Joshi, S.A. (2002). Nutrition and Dietetics (2nd ed.) New Delhi: Tata Mc Graw Hill Pub. Co. Ltd.
7. Srilakshmi, B. (2002). Nutrition Science. New Age International Limited, Publishers, New Delhi.

## SEMESTER-I

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Paper** | **Nomenclature of Paper** | **Credits** | **Internal Marks** | **External Marks** | **Total Marks** | **Exam Duration** | **Hours/week** |
| **CC-1****Food, Nutrition& Dietetics** | **B-FND-N102** |  **Nutrition Science II** | **2** | **25** | **25** | **50** | **3hrs.** | **2** |

 **Objective:** To understand the concept, functions and role of various vitamins and minerals, their sources, requirements, and effect of deficiency.

 **Course Outcomes:** The course learning outcomes for this course are-

1. **CO1:** The students will be able to apply basic nutrition knowledge in making foods choices and maintaining good health.
2. **CO2:** To understand the functions, sources, requirements and effects of excess and deficiency of different vitamins and minerals.

**Note:** Seven questions are to be set in all and the candidates are required to attempt five questions including compulsory question. Question 1 is compulsory consisting of short answer type 5 parts (1.0 mark each) covering the entire syllabus. Out of remaining six, three questions are to be set from each section A & B, possibly splitting them in parts. Candidate is required to attempt four questions, two from each section. All five questions carry equal marks.

**UNIT-I**

1. Vitamins: Definition and classification
2. Fat soluble vitamins: Functions, sources, recommended dietary allowances, effects of excess & deficiency (in brief) of
* Vitamin A,
* Vitamin D,
* Vitamin E and
* Vitamin K

3. Water soluble vitamins: Functions, sources, recommended dietary allowances, effects of excess & deficiency (in brief) of

* Vitamin C,
* Vitamin B1 (Thiamine),
* Vitamin B2, (Riboflavin),
* Vitamin B6 (Pyridoxin),
* Vitamin B12 (Cyanocobalamin),
* Niacin and
* Folic acid.

**Unit II**

1. Minerals: Definition and Classification

2. Macro minerals: Functions, Sources, RDA, Effect of Excess and low intake of

* Calcium,
* Phosphorus
* Magnesium,
* Sodium and
* Potassium

3. Micro Minerals:

* Iron,
* Iodine
* Fluorine.
* Zinc

**REFERENCES:**

1. Agarwal,A. and Udipi, S. (2014). Text Bookof Human Nutrition, Jaypee Medical Publication, New Delhi.
2. Bamiji, M.S.; Rao, N.P. and Reddy, V. (Editors) (1999). Textbook of Human Nutrition. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.
3. ICMR (2010). Nutrient Requirements and Recommended Dietary Allowance for Indians. A Report of the Expert Group of ICMR. NIN, Hyderabad.
4. ICMR (2010). Dietary guidelines for Indians. ICMR, NIN,Hyderabad.
5. Jim, M. and Stewant, T.A.(2007). Essentials of Human Nutrition. 3rd Edition: New York, Oxford University Press, New Delhi.
6. Joshi, S.A. (2002). Nutrition and Dietetics (2nd ed.) New Delhi: Tata Mc Graw Hill Pub. Co. Ltd.
7. Srilakshmi, B. (2002). Nutrition Science. New Age International Limited, Publishers, New Delhi.

## SEMESTER-I

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Paper** | **Nomenclature of Paper** | **Credits** | **Internal Marks** | **External Marks** | **Total Marks** | **Exam Duration** | **Hours/week** |
| **CC-1****Food, Nutrition& Dietetics** | **B-FND****-N103** | **Nutrition Science PracticalBasedonB-FND-N101& B-FND-N102** | **2** | **25** | **25** | **50** | **4hrs.** | **4** |

**Objective:** To have practical knowledge about basic cooking and preparation of nutrient rich recipes.

## Course Outcomes:

1. **CO1:** Prepare various nutrient specific rich recipes.
2. **CO2:** To calculate the nutritive value of the recipe prepared and understand its nutritional facts.

## PRACTICALSYLLABUS

1. Laboratory conduct and responsibilities
2. Knowledge of different food stuffs in English, Hindi and local language.
3. Terms used in cookery
4. Weight and measures
5. Identification and listing of various food groups along with their standard weights equivalent to household measures.
6. Planning and preparation of nutrient rich Snacks
* Vitamin A rich snacks
* Iron rich snacks
* Calcium rich snacks
* Protein rich snacks
* Energy rich
* Low fat
1. Main course dish: Any Two
* Cheese Chilly
* Manchurian
* Ghia Kofta
* Dal Makhani
* Vegetable Korma
* Any other two of your choice

8. Beverages: Hot and Cold

9. Salad: Any Two

10. Soups: Any Two

|  |
| --- |
| **CC-1****Food, Nutrition & Dietetics** |
| **B-FND-N101** | **Nutrition Science I** |
| **B-FND-N102** |  **Nutrition Science II** |
| **B-FND-N103** | **Practical Nutrition Science Based on B-FND-N101& B-FND-N102** |
| **CO#** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PSO1** | **PSO2** | **PSO3** | **PSO4** | **PSO5** | **PSO6** |
| **CO-N101.1.** | **3** | **3** | **1** | **2** | **2** | **1** | **3** | **3** | **3** | **2** | **3** | **3** | **3** |
| **CO-N101.2.** | **3** | **2** | **2** | **2** | **3** | **3** | **2** | **2** | **3** | **3** | **2** | **2** | **3** |
| **CO-N102.1.** | **3** | **2** | **2** | **2** | **3** | **3** | **2** | **3** | **2** | **2** | **3** | **3** | **3** |
| **CO-N102.2.** | **2** | **3** | **1** | **1** | **2** | **2** | **2** | **2** | **3** | **3** | **3** | **3** | **3** |
| **CO-N103.1.** | **1** | **2** | **3** | **3** | **3** | **2** | **1** | **3** | **2** | **3** | **2** | **2** | **2** |
| **CO-N103.2.** | **2** | **3** | **2** | **2** | **2** | **2** | **2** | **3** | **3** | **3** | **2** | **3** | **3** |
| **Average** | **2.33** | **2.5** | **1.83** | **2.0** | **2.5** | **2.16** | **2.0** | **2.66** | **2.66** | **2.66** | **2.5** | **2.66** | **2.83** |

## SEMESTER-II

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Paper** | **Nomenclature of Paper** | **Credits** | **Internal Marks** | **External Marks** | **Total Marks** | **Exam Duration** | **Hours/week** |
| **CC-2****Food, Nutrition& Dietetics** | **B-FND-N201** |  **Communication & Extension Education I** | **2** | **25** | **25** | **50** | **3hrs.** | **2** |

 **Objective:** To understand the basics of communication and teaching methods.

**Course Outcomes:** The course learning outcomes for this course are-

1. **CO1:** The students will be able to learn various communication methods.
2. **CO2:** To understand the various extension teaching methods used in facilitating development

**Note:** Seven questions are to be set in all and the candidates are required to attempt five questions including compulsory question. Question 1 is compulsory consisting of short answer type 5 parts (1.0 mark each) covering the entire syllabus. Out of remaining six, three questions are to be set from each section A & B, possibly splitting them in parts. Candidate is required to attempt four questions, two from each section. All five questions carry equal marks.

**Unit I**

1. Concept and Importance of Communication
2. Scope and functions of communication
3. Types of Communication: Formal and informal, Verbal and non-verbal, Written and Visual, Intrapersonal and interpersonal, Grapevine
4. Models of communication: Linear model, Interactive model and Transactional model

**Unit II**

1. Principles and barriers of communication
2. Elements of communication
3. Extension teaching Methods: Its importance and types
4. Individual contact method: Farm & home visit, telephone calls, personal letters
5. Group contact method: Demonstration, Group meeting and discussion,

 Conference, seminars and workshops, field trips and campaigns.

**References**

1. Rogers, Alan (1989); Teaching Methods in Extension Education for Development, WestwoodRow, Tile Hurst, Reading RG 31 LT England, Woodmans.
2. Reddy, A.(1987): Extension Education, Bapatia, India, Sreelakshmi Press
3. Lynton, Roft P. and Pareek, Uday (1967): Training for development, Homewood, Illworis, DorseyPress.
4. Fetter, K. Clark, M. Murphy, C. and Walters, J.(1987); Teaching and learning with Visual Aids,London, U.K.,Macmillan.

## SEMESTER-II

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Paper** | **Nomenclature of Paper** | **Credits** | **Internal Marks** | **External Marks** | **Total Marks** | **Exam Duration** | **Hours/week** |
| **CC-2****Food, Nutrition& Dietetics** | **B-FND-N202** |  **Communication & Extension Education II** | **2** | **25** | **25** | **50** | **3hrs.** | **2** |

**Objective:** To acquire skills in selection, use and preparation of visual aids for non-formal education.

 **Course Outcomes:** The course learning outcomes for this course are-

1. **CO1:** The students will be able to prepare visual aids
2. **CO2:** To understand the role of communication in extension education.

**Note:** Seven questions are to be set in all and the candidates are required to attempt five questions including compulsory question. Question 1 is compulsory consisting of short answer type 5 parts (1.0 mark each) covering the entire syllabus. Out of remaining six, three questions are to be set from each section A & B, possibly splitting them in parts. Candidate is required to attempt four questions, two from each section. All five questions carry equal marks.

**Unit I**

1. Mass contact method: Print media, electronic media, Internet based media and Exhibition
2. Print media: Types, nature and characteristics
3. Electronic Media: Radio, Television and Internet
4. Types of ICT in communication: educational networking; mobile learning, web-based learning; classroom equipment and learning

  2. Methods and media of community outreach: Meaning, classification and functions of following:

* Audio aids: Radio, Tape recorder
* Visual Aids: Charts, Posters, Leaflets/pamphlet, PPT, Flash cards, Models, booklet, white

 board, graphic designs

* Audio-visual aids: Demonstrations, Films, Printed material with recorded sound, Drama, cartoon videos, LCD projector, use of social media.

**Unit -II**

1. Relation between communication and extension education
2. Concept, philosophy, principles, and objectives of Extension education
3. Responsibilities of extension worker
4. Qualities of a good extension worker
5. Programme planning in extension education

 **References**

1. Rogers, Alan (1989); Teaching Methods in Extension Education for Development, Westwood

Row, Tile Hurst, Reading RG 31 LT England, Woodmans.

2. Reddy, A.(1987): Extension Education, Bapatia, India, Sreelakshmi Press

3. Lynton, Roft P. and Pareek, Uday (1967): Training for development, Homewood, Illworis, Dorsey

Press.

4. Fetter, K. Clark, M. Murphy, C. and Walters, J.(1987); Teaching and learning with Visual Aids,

London, U.K.,Macmillan.

## SEMESTER-I

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Paper** | **Nomenclature of Paper** | **Credits** | **Internal Marks** | **External Marks** | **Total Marks** | **Exam Duration** | **Hours/week** |
| **CC-1****Food, Nutrition& Dietetics** | **B-FND****-N203** | **Communication & Extension Education PracticalBasedonB-FND-N201& B-FND-N202** | **2** | **25** | **25** | **50** | **4hrs.** | **4** |

**Objective:** To impart practical knowledge about various means of communication in the society.

## Course Outcomes:

1. **CO1:** To prepare various audio-visual aids for education the population.
2. **CO2:** To prepare power point presentation and puppets as means of communication

## PRACTICAL SYLLABUS

1. Preparation of non-projected aids (any 4)-

* chart,
* posters,
* leaflets,
* pamphlets,
* flash card

These aids should be prepared for education of specific target group (For adolescent girls/rural women/school going children/pregnant women/ lactating women)

2. Preparation of puppets as a media of communication, writing stories for puppets.

3.Preparation of Power Point Presentation on some topic and its presentation

4. Preparing a radio talk on any topic

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| **CC 2****Food, Nutrition & Dietetics** |
| **B-FND-N201** | **Communication and Extension Education I** |
| **B-FND-N202** | **Communication and Extension Education II** |
| **B-FND-N203** | **Practical Communication and Extension Education Based on B-FND-N201& B-FND-N202** |
| **CO#** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PSO1** | **PSO2** | **PSO3** | **PSO4** | **PSO5** | **PSO6** |
| **CO-****N201.1.** | **3** | **2** | **2** | **2** | **2** | **1** | **1** | **2** | **3** | **2** | **3** | **3** | **3** |
| **CO-****N201.2.** | **2** | **2** | **2** | **1** | **3** | **3** | **2** | **3** | **2** | **2** | **3** | **3** | **2** |
| **CO-N202.1.** | **2** | **2** | **1** | **2** | **2** | **3** | **3** | **3** | **2** | **3** | **3** | **2** | **3** |
| **CO-N202.2.** | **2** | **2** | **2** | **1** | **2** | **2** | **2** | **3** | **2** | **3** | **3** | **3** | **2** |
| **CO-N203.1.** | **3** | **3** | **3** | **3** | **2** | **3** | **1** | **3** | **3** | **2** | **2** | **3** | **2** |
| **CO-****N203.2.** | **2** | **2** | **2** | **2** | **2** | **2** | **2** | **3** | **3** | **3** | **3** | **3** | **3** |
| **Average** | **2.33** | **2.16** | **2.00** | **1.83** | **2.16** | **2.33** | **1.83** | **2.83** | **2.5** | **2.5** | **2.83** | **2.83** | **2.5** |