

**FACULTY OF VOCATIONAL STUDIES**  
**SYLLABUS**  
**Of**  
**Bachelor of Vocation (Nutrition Exercise and Health) (Semester: I to VI)**  
**(Under Credit Based Continuous Evaluation Grading System)**  
**(Session 2021-2022)**



**The Heritage Institution**  
**KANYA MAHA VIDYALAYAJALANDHAR**  
**(Autonomous)**

## **Programme Specific Outcomes for Bachelor of Vocation (Nutrition, Exercise and Health)**

### **Session: 2021-22**

PSO (1):- To gain basic knowledge of nutrients.

PSO (2):- To gain knowledge about food preparation.

PSO (3):- To develop knowledge about carbohydrates, proteins, fat.

PSO (4):- To develop the knowledge of different food preparation methods.

PSO (5):- To demonstrate different asan to the students.

PSO (6):- Enable the students to have a proper knowledge about the benefits of posture of different asan.

PSO (7):- To give knowledge about structure and function of human body.

PSO (8):- To provide knowledge about regulation of blood glucose in human body and role of pancreas towards blood glucose level.

PSO (9): To develop the roles and responsibilities of diabetic educator also provide knowledge about first aid and different medical responses.

PSO (10):- To give knowledge about bio medical waste management their categories, color coding and types.

PSO (11): To identify different health care system and functions of hospitals and facilities provided by dietetics department.

PSO (12):- To develop the role and functions of diet assistant.

PSO (13): To develop the knowledge about balanced diet and food groups.

PSO (14): To enhance the knowledge of personnel hygiene of diet assistant. Teach them different aspects of healthy living.

PSO (15): To enhance the soft skills of communication of diet assistant.

PSO (16): Able to provide nutrition counseling and education to individuals, groups and communities throughout the lifespan using a variety of communication strategies.

PSO (17). Able to apply technical skills, knowledge of health behaviour , clinical judgement and decision making skills when assessing and evaluating the nutritional status of individuals and communities and their response to nutrition intervention.

PSO (18). Students can implement strategies for food access, procurement, preparation and safety for individuals, families and communities.

PSO (19). Apply food science knowledge to describe functions of ingredients in food.

**SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE-YEAR DEGREE  
PROGRAMME**

**(Session 2021-2022)**

## Semester I

1. Special Paper in lieu of Punjabi (Compulsory)
2. Special Paper in lieu of Punjabi (Compulsory) (For those students who are not domicile of

Punjab).

C- Compulsory S- Skill Enhancement

\*Grade points and grades of these courses will not be included in SGPA/CGPA of semester programme.

**B.Voc (Nutrition Exercise and Health) (Semester– I)**  
**(Session 2020-2021)**  
**HOSPITAL FRONT DESK COORDINATOR SEM-I**  
**(Theory)**  
**COURSE CODE: BVNL-1283**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

- CO (1): Understand important functions of hospital front desk coordinator
- CO (2): Handle different categories of patients
- CO (3): Understand the concept of quality improvement process
- CO (4): Understand the importance of various types of records to maintain
- CO (5): Understand the importance of consent & and methods of obtaining consent
- CO (6): Understand the importance of medical terminology
- CO (7): Understand the management of different types of spillage and their management
- CO (8): Understand the importance of good etiquettes and communication in hospital

B.Voc (Nutrition Exercise and Health) (Semester– I)  
(Session 2020-2021)

**HOSPITAL FRONT DESK COORDINATOR -I**  
(Theory)

**COURSE CODE: BVNL-1283**

**Time: 3 Hrs.**

**Max. Marks: 100**

**Theory Marks: 80**

**L-T-P**

**CA:20**

**4-0-0**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set; two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- ☐ Candidates are required to attempt five questions, selecting at least one question from each
- ☐ section. The fifth question may be attempted from any Section. Each question Carry 16 marks.

**Contents:**

**Unit – I**

**Introduction to functions of Hospital Front Desk Coordinator**

- Functions of Hospital Front Desk Coordinator such as: Help desk management, Call center / appointment handling/ front office data management; Preventive health program management
- Basics of employee's responsibilities e.g. punctuality, discipline, integrity, grievance redressal process.
- Handling different categories of patients - paid / non-paid, emergency, VIPs etc.
- Understand the basic components required for comfort of patient/carer's/visitors at healthcare organization
- Concept of presenting a positive personal image.
- Concept of Quality improvement process
- OPD Management: OPD timings, schedule, registration, billing etc.

**Unit- II**

**Consent, Reporting & Documentation**

- Scope of practice for hospital front desk coordinator
- Consent and discuss the methods of obtaining consent.
- Understand importance of maintaining various records & how to obtain them.
- Explain various types of records to be maintained by hospital front desk coordinator

- Essential components of various records and method of documentation.
- Special needs of vulnerable clients in the hospitals
- Visible symptoms of ill patients or patients who need immediate attention by medical team.

### **Unit - III**

Introduction to Medical Terminology required related to front desk functioning

- Appropriate use of related medical terminology in daily activities with colleagues, patients and family
- Ability to identify medical terms
- Infection Control & Prevention
- How to identify deviation from normal health
- Understand management of different types of spillage and their management
- Understand hospital/ emergency borne infections
- Understand prevention and treatment of needle stick injury
- Understand about incident reporting
- Vaccinate against common infectious diseases: immunization to reduce the health risks for self, patients.

### **Unit -IV**

Professional Behaviour at work settings

- Factors to establish and maintain peaceful environment
- Specific etiquettes to be observed while working
- Importance of organizational hierarchy and reporting
- Understand the legal and ethical issues
- Importance of conservation of resources
- Importance of promoting and demonstrating good practice at work
- Importance of individuals or team compliance with legislation, protocols and guidelines and organisational systems and requirements
- Reporting and minimising the risk
- When to seek support from others

B.Voc (Nutrition Exercise and Health) (Semester– I)

**(Session 2021-2022)**

**INTRODUCTION TO PSYCHOLOGY**

**(Theory)**

**COURSE CODE: BVNM-1283**

**COURSE OUTCOMES**

- Upon Completion of this Course the student should be able to
- CO (1) – To enable them to understand the personality of an individual
- CO (2) – To gain knowledge about attention and intelligence of an individual
- CO (3) – To understand the emotions of an individual.



Bachelor of Vocation (Nutrition Exercise and Health) (Semester– I)

**INTRODUCTION TO PSYCHOLOGY**

**COURSE CODE: BVNM-1284**

**(Session 2021-2022)**

**Time: 3 Hrs.**

**Max. Marks: 100**

**Theory Marks: 60**

**Practical Marks: 20**

**L-T-P**

**2-0-2**

**CA: 20**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set; two in each of the four Sections (A- D).  
Questions of Sections A-D should be set from Units I-IV of the syllabus respectively.  
Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section. Each question Carry 12 marks.

**(Theory)**

**UNIT -I**

Psychology related concept

Definition of Psychology

Nature of Psychology

Scope of Psychology

Definition of Child psychology

Attention

Meaning of attention, span of attention, distraction in-attention.

Nature of attention.

Factors affecting attention.

**Unit-II**

Memory

Definition

Aspects of Memory

Factors affecting memory and improvement in memory.

Forgetting and its causes.

**Unit-III**

Learning and Motivation

Meaning, nature and types of learning.

Primary and secondary motives.

Role of Motivation in learning

Factors affecting learning.

#### **Unit-IV**

Theories related to different development of human life Span.

Cognitive theory- Jean Piaget.

Psycho-Sexual theory – Sigmund Freud

Psycho-Social theory –Erick-Erickson.

Hierarchy of Needs –Maslow.

#### **Reference Books:**

Brooks, Flower, D & Shaffer, Laurence F child Psychology".

Developmental Psychology, by Elizabeth B Hurlock.

Child Development and personality by Mussen Conger, Kogan.

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– I)  
(Session 2020-2021)

**INTRODUCTION TO PSYCHOLOGY**

**(Practical)**

**COURSE CODE: BVNM-1284**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO (1) – to enable them to understand the personality of an individual

CO (2) – To gain knowledge about attention and intelligence of an individual

CO (3) – To understand the emotions of an individual

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– I)

(Session 2020-2021)

**Introduction to Psychology**

**(Practical)**

**COURSE CODE: BVNM-1284**

**Time: 3 Hrs.**

**Marks: 20**

**Note:** Paper will be set on the spot by the examiner

**Course Contents:**

- ☐ EPQ
- ☐ Maze learning
- ☐ Division of attention
- ☐ Verbal test of attention.

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– I)  
(Session: 2021-2022)

**BASIC FOODS AND NUTRITION**

**(THEORY)**

**COURSE CODE: BVNM- 1285**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1:- To gain basic knowledge of nutrients.

CO2:- To gain knowledge about food preparation.

CO3:- To develop knowledge about carbohydrates, proteins, fat.

CO4:- To develop the knowledge of different food preparation methods.

CO5:- To develop the knowledge of food as source of energy and determine basal metabolism rate

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– I)

**BASIC FOOD AND NUTRITION**

**COURSE CODE: BVNM- 1285**

**(Session: 2021-2022)**

**Time: 3 Hrs.**

**Max. Marks: 100**

**Theory Marks: 60**

**L-T-P**

**Practical Marks: 20**

**2-0-2**

**CA: 20**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section. Each question Carry 12 marks.

**(Theory)**

**Course Contents:**

**UNIT-I**

Introduction to nutrition- Food as a source of nutrients, functions of food, definition of Nutrition, nutrients, adequate, optimum and good nutrition, malnutrition.

Classification of food.

Importance and functions of food.

## **UNIT-II**

Food Preparation

Basic terminology used in Cooking.

Different methods of cooking - Dry heat, moist heat, frying and microwave cooking. Effect of cooking on nutritive value of food.

## **UNIT-III**

Carbohydrates - Composition, classification, functions, food sources, requirement, deficiencies. Fats and Oils- Composition, Classification, Saturated, Unsaturated fatty acids, food sources, Functions, requirement and deficiencies. Role of fiber in food  
Protein - Composition, Classification, Essential and Non- essential amino acids, food Sources, functions, deficiencies.

## **UNIT-IV**

Energy- Unit of energy, food as a source of energy, energy value of food, the body need of energy. Factors affecting energy requirement

1. Determination of energy value of foods using calorimeter
2. Specific Dynamic action
3. Basal Metabolism
4. Determination of basal metabolism
5. Factors affecting the BMR

### **Reference Books:**

1. Nutrition and child development by Dr. Rajwinder K. Randhawa.
2. Nutrition & Dietetics by Kumed Khanna.
3. Therapeutic Nutrition by B. Srilakshmi.

B.Voc ( Nutrition Exercise and Health) (Semester– I)

**(Session 2021-2022)**

**BASIC FOODS AND NUTRITION**

**(Practical)**

**COURSE CODE: BVNM- 1285**

### **COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

Co (1) – To identify the different food stuff, weight and measures and cooking.

CO (2) – To distinguish between different types of cooking methods.

CO (3) – To develop the knowledge about cleaning of kitchen equipment's, utensils, floor and cupboard.

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– I)

**(Session:2021-2022) Basic**

**Food & Nutrition**

**(Practical)**

**COURSE CODE: BVNM- 1285**

**Time: 3 Hrs.**

**Marks: 20**

**Note:** Paper will be set on the spot by the examiner

**Course Contents:**

- 1) Identification of different food stuffs, weight and measures and cooking terms.
- 2) Beverage- e.g., Hot and cold (Tea, Coffee, fruit and milk based, beverage) etc.
- 3) Prepare 5 dishes using following methods
  - (a) Boiling: Pulses, rice, soups, deserts, etc.
  - (b) Shallow Frying: Pancakes, snacks, etc.
  - (c) Deep Frying: Sweet and savory snacks, main dishes, etc.
  - (d) Fermenting and Steaming: Idli, dosa, dhokla, etc.

**B.Voc (Nutrition Exercise and Health) (Semester– I)**

**(Session: 2021-2022)**

**YOGA AND BODY FITNESS**

**(Practical)**

**COURSE CODE: BVNP -1287**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO (1):- To demonstrate different asan to the students.

CO (2):- Enable the students to have a proper knowledge about the benefits of posture of different asan.

CO (3):- To make them understand the use of exercise in daily life.

**Bachelor of Vocation Nutrition Exercise and Health (Semester– I)**

**YOGA AND BODY FITNESS**

**(Practical)**

**COURSE CODE: BVNP -1287**

**(Session 2021-2022)**

**Time: 3 Hrs.**

**Max. Marks: 100**

**Practical Marks:80**

**L-T-P**

**CA: 20**

**0-0-6**

**Note:** Paper will be set on the spot by the examiner

**Course Contents:**

- ☐ Eight limbs of ashtang yoga: Yama, Niyama, Asanas, Pranayam, Pratyahara, Dharna, Dhyana, Samadhi.
- ☐ Surya Namaskar: Guiding principles of Surya Namaskar.
- ☐ Meditative asana: Sukh Asana, Vajar Asana, Sidha Asana, Padam Asana
- ☐ Relaxative asana: Shav Asana, Makkar Asana
- ☐ Culture asana: Tad Asana, Trik Tad, Ardh Chakkar, Katti Chakkar, Trikon, Janushir, Kon Asana, Manduk, Ushtar, Bhujang, Shalbh, Uttanpad, Pawanmukt, Makkar, Setubandh.
- ☐ Meditations: Mindful, Cyclic, Awareness of breathe
- ☐ Pranayam : Bhastrika, Kapalbhati, Anulom Vilom, Bhramari, Udgeet
- ☐ Techniques of Bhandhas: Mool, Uddiyan, Jalandhar
- ☐ Shudi kriyas: Jal neti, Sutra neti, Tratak.
  - Role of macronutrients in different types of exercise

**Reference Books:**

1. Yoga Asana by A. G. Mohan & Indra Mohan.

**Kanya Maha Vidyalaya, Jalandhar (Autonomous)**  
**SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE**  
**PROGRAMME**

**Bachelor of Vocation (Nutrition, Exercise and Health)**

**(Session 2021-2022)**

**(Credit Based Continuous Evaluation Grading System)**

| Semester II                             |             |                                                                               |               |           |      |    |    |                             |
|-----------------------------------------|-------------|-------------------------------------------------------------------------------|---------------|-----------|------|----|----|-----------------------------|
| Course code                             | Course type | Course Titles                                                                 | Credits L-T-P | Max Marks |      |    |    | Examination time (in Hours) |
|                                         |             |                                                                               |               | Total     | Ext. |    | CA |                             |
|                                         |             |                                                                               |               |           | L    | P  |    |                             |
| BVNL- 2421/<br>BVNL- 2031/<br>BVNL-2431 | C           | Punjabi Compulsory/<br>*Basic Punjabi/<br>**PHC(Punjab , History and Culture) | 2-0-0         | 50        | 40   | -  | 10 | 3                           |
| BVNM- 2102                              | C           | Communication Skills in English                                               | 2-0-2         | 50        | 25   | 15 | 10 | 3+3                         |
| BVNL- 2283                              | S           | Diabetes Education- I                                                         | 4-0-0         | 100       | 80   | -  | 20 | 3                           |
| BVNL- 2284                              | S           | Role of Diet Assistant                                                        | 4-0-0         | 100       | 80   | -  | 20 | 3                           |
| BVNL-2285                               |             | Hospital Front Desk Coordinator -II<br>NSQF -4                                | 4-0-0         | 100       | 80   | -  | 20 | 3                           |
| BVNM- 2286                              | S           | Advance Nutrition                                                             | 2-0-2         | 100       | 60   | 20 | 20 | 3+3                         |
| BVNP - 2287                             | C           | Entrepreneurial Development                                                   | 0-0-4         | 50        | -    | 40 | 10 | 3                           |
| AECD-2161                               | C           | *Drug abuse: Problem, Management and Prevention (Compulsory)                  | 2-0-0         | 50        | 40   | -  | 10 | 3                           |
| SECM-2502                               | C           | *Moral Education                                                              | 2-0-0         | 25        | 20   | -  | 5  | 1                           |
|                                         |             | Total                                                                         | 30            | 550       |      |    |    |                             |

1. Special Paper in lieu of Punjabi (Compulsory)
2. Special Paper in lieu of Punjabi (Compulsory) (For those students who are not domicile of Punjab).

C- Compulsory S- Skill Enhancement

\*Grade points and grades of these courses will not be included in SGPA/CGPA of semester programme.

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)

**(Session: 2021-22)**

**DIABETES**

**EDUCATION-I**

**(Theory)**

**COURSE CODE: BVNL -2283**

### **COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1:- To give knowledge about structure and function of human body.

CO2:- To provide detail information about digestive system.

CO3:- To give brief introduction to diabetes.

CO4:- To provide knowledge about regulation of blood glucose in human body and role of pancreas towards blood glucose level.

CO5:- To develop the roles and responsibilities of diabetic educator also provide knowledge about first aid and different medical responses.

CO6:- To give knowledge about bio medical waste management their categories, color coding and types.

CO7:- To provide knowledge about standards for bio medical waste and bio medical waste treatment.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)**

**DIABETES EDUCATION-I**

**(Theory)**

**COURSE CODE: BVNL -2283**

**Time: 3 Hrs.**

**Max. Marks:100**

**Theory Marks: 80**

**L-T-P**

**CA: 20**

**4-0-0**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.

□ The fifth question may be attempted from any Section. Each question Carry 16 marks.

**Content:**

**UNIT-I**

Structure and function of human body.

The Digestive system:

Structure and function of the salivary glands, the stomach, the pancreas, the liver, the small intestine and large intestine. Mechanism of digestion and absorption of carbohydrates, proteins and fats.

Introduction to Diabetes:

Types of Diabetes: Type I, Type II and gestational diabetes

- Regulation of blood glucose in human body
- Role of pancreas towards blood glucose levels

**UNIT-II**

Roles and responsibilities of diabetic educator

**UNIT-III**

First aid, emergency medical response

## **UNIT-IV**

### **Bio Medical Waste Management**

- ☐ Bio Medical Waste Management & treatment
- ☐ Categories of bio-medical waste
- ☐ Bio-medical waste- color coding, types of waste etc.
- ☐ Standards for bio-medical waste disposal
- ☐ Means of bio-medical waste treatment

**Note: Students have to Visit healthcare institutions and clinical attachment.**

### **References:**

1. Guthrie, Hele, Andrews, Introductory Nutrition, 6th Ed, St. Louts, TimesMirror/MosbyCollege : 1988.
2. Mudambi S.R. M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd ed.) WilayEasternLtd. 1990.
3. Swaminathan S: Advanced Text Book on Foods Nutrition, Vol. I, II (2nd ed. Revised&enlarged) B. app C-1985
4. Willson, EVAD Principles of Nutrition 4th Ed, New York John Willey & Sons. 1979.

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)

**(Session: 2021-22)**

**ROLE OF DIET ASSISTANT-I**

**(Theory)**

**COURSE CODE: BVNL -2284**

### **COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1:- To identify different healthcare system and functions of hospitals and facilities provided by dietetics department.

CO2:- To develop the role and functions of diet assistant.

CO3:- To develop the knowledge about food and nutrition.

CO4:- To develop the knowledge about balanced diet and food groups.

CO5:- To enhance the knowledge of personnel hygiene of diet assistant. Teach them different aspects of healthy living.

CO6:- To enhance the soft skills of communication of diet assistant.

CO7:- To develop the knowledge about art of effective communication.

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)

**ROLE OF DIET ASSISTANT-I**

**(Theory)**

**COURSE CODE: BVNL -2284**

**Time: 3 Hrs.**

**Max. Marks: 100**

**Theory Marks: 80**

**L-T-P**

**CA: 20**

**4-0-0**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section.
- ☐ The fifth question may be attempted from any Section. Each question Carry 16 marks.

**Content:**

**UNIT-I**

Healthcare system

- ☐ Healthcare service providers (primary, secondary & tertiary)
- ☐ Hospital functions.
- ☐ Food and Dietetics department and it's facilities.

Role of the diet assistant

- ☐ Functions of diet assistant
- ☐ Care of food storage equipment kitchen equipment and articles needed
- ☐ Patient comforts and safety
- ☐ Ethical behavior and understanding of certain administrative functions

**UNIT-II**

Introduction to food and nutrition

- ☐ Balanced diet and food groups

Introduction to dietetics related medical terminology

- Use of dietetics related medical terminology in daily activities with colleagues, patients and family.

### **UNIT-III**

Personnel Hygiene of Diet Assistant

- Personnel Hygiene of Diet Assistant
- Healthy living
- Procedures of hand hygiene
- Techniques of grooming
- Techniques of use of PPE
- Vaccination against common infectious disease

Role of Diet Assistant-Sanitation, Safety& First Aid

- Role of Diet Assistant –Sanitation, Safety and First Aid
- Food hygiene and
- Safety
- Common emergency conditions and what to do in medical emergencies
- Describe the basics of first aid
- Understanding and precautions and precautions to ensure self-safety.

### **UNIT-IV**

Soft Skill and Communication-I

- Art of effective communication
- Effective Communication with patients & family
- Effective communication with peers / colleagues using medical terminology in Communication.

#### **References:**

1. Guthrie, Hele, Andrews, Introductory Nutrition, 6th Ed, St. Louts, TimesMirror/MosbyCollege: 1988.
2. Mudambi S.R. M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd ed.) WilayEasternLtd. 1990.
3. Swaminathan S: Advanced Text Book on Foods Nutrition, Vol. I, II (2nd ed. Revised&enlarged) B. app C-1985.
4. Willson, EVAD Principles of Nutrition 4th Ed, New York John Willey & Sons.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)**

**HOSPITAL FRONT DESK COORDINATOR - II**

**(Theory)**

**COURSE CODE: BVNL-2285**

**COURSE OUTCOME:**

CO (1): Understand the various rights and responsibilities of Patient

CO (2): Understand the ways to make patient comfortable

CO (3): Understand the characteristics and basic functioning of Hospital information system

CO (4): Understand the importance of maintaining records

CO (5): Understand the various bill payment modes, authenticity of currency, importance of providing bill to the carers.

CO (6): Understand the importance of maintaining empathetic relationship with the patient

CO (7): Understand how to maintain proper body language and dress code

CO (8): Understand the principles of Basic life support

CO (9): Understand the protocols of giving life support during choking

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)**

**HOSPITAL FRONT DESK COORDINATOR - II**

**(Theory)**

**COURSE CODE: BVNM-2285**

**Time: 3 Hrs.**

**Max. Marks: 100**

**Theory Marks: 80**

**L-T-P**

**CA: 20**

**4-0-0**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section. Each question Carry 16 marks.

**Content:**

**UNIT- I**

**Rights & Responsibilities of Patient's**

- Various patient rights and responsibilities applicable to work area
- Importance of self-role in maintaining patient's rights
- Things necessary to make the patient feel safe and comfortable
- Impact of comfort on one's health
- Importance and methodology of cleanliness, and hygiene environment
- Variation of patient's environment according to settings: road, home, ambulance, hospital, etc.

**Hospital Information System (HIS)**

- Describe various modalities for Patient Registration in HIS (Hospital information system)
- Characteristics of HIS
- Important information and credentials to be captured by patient/attenders for HIS
- Basic functioning of HIS
- Maintaining database of visitors/patients etc.
- Importance of Electronic Health Records/Medical Records/Computerized patient

**Unit- II**

**(Payment and Billing)**

- Different modes of Payment utilized in healthcare industry
- Handle payment received from careers and submit to authorities as per organizational protocol and process
- Checking authenticity of currency notes
- Provide bill to careers as and when required as per organizational protocol and process
- Describe about receiving foreign currency as a part of payment process
- Describe about various international currencies and their values in terms of INR

### Unit- III

#### Customer Service Excellence and Patient Satisfaction

- Methods to build empathetic relationship with the patient's/ visitors
- Use of appropriate language and tone and listen carefully to the queries
- Importance of showing sensitivity and adequate support for all irrespective to gender/culture/age/social difference/language etc.
- Maintain proper body language and dress code
- Feedback from visitors
- Understanding and precautions to ensure self- safety

### Unit- IV

#### Basic Life Support

- Identification of cardiac arrest
- Understanding Principles of basic life support (Adult chain of survival,CABDs of giving CPR)
- Control correct protocol of chest compression, ventilation and assessment steps
- Differentiate the single rescuer and two rescuer CPR
- Describe the conditions when choking occurs
- Protocol of giving life support during choking.

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)

**(Session: 2020-21)**

**Advance Nutrition**

**(Theory)**

**COURSE CODE: BVNM-2286**

### **COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1:- To develop the knowledge to classify different functions and requirements of fat soluble vitamin and water soluble vitamin.

CO2:- To identify the bio-availability, requirement and deficiency of different vitamins.

CO3:- To develop the knowledge of food preservation, food spoilage and principle of food preservation.

CO4:- To develop the knowledge of food adulteration and standards, toxic effects of food adulteration.

CO5:- To develop the knowledge of food hygiene in purchasing, preparation, cooking and serving of food.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)**

**ADVANCE NUTRITION**

**(Theory)**

**COURSE CODE: BVNM-2286**

**Time: 3 Hrs.**

**Max. Marks:100**

**Theory Marks:60**

**L-T-P**

**Practical marks:20**

**2-0-2**

**CA:20**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section.
- ☐ The fifth question may be attempted from any Section. Each Question Carry 12 marks.

**Content**

**UNIT -I**

Vitamin- Classification, unit of measurements sources, requirements functions and deficiency of following vitamins.

(a) Fat Soluble vitamins A, D, E and K

(b) Water soluble vitamins- C, B1-B2, B3, B6, B12 and Folic acid.

Mineral- Functions, Sources, Bio-availability requirement and deficiency of following minerals calcium, iron, iodine, fluorine, Sodium, Potassium, Phosphorus, and Magnesium

**UNIT-II**

Food Preservation

Importance and scope of food

Preservation and Spoilage of Food

Causes of Food spoilage

Principles of food preservation

Household Methods of food

preservation .

### **UNIT-III**

Food adulteration and  
standards

Definition

Common adulterants & their test in different food  
stuffs

Toxic Effects of food adulteration

Food standards

### **UNIT-IV**

Food

hygiene

Purchasing

Preparation`

Cooking

Serving

#### **References:**

1. Guthrie, Hele, Andrews, Introductory Nutrition, 6th ed. St. Louts, TimesMirror/MosbyCollege: 1988.
2. Mudambi S.R. M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd ed.) WilayEasternLtd. 1990.
3. Swaminathan S: Advanced text book on foods Nutrition, Vol. I, II (2nd ed. Revised&enlarged) B. app C-1985.
4. Willson, EVAD Principles of Nutrition 4thed New York John Willey



**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)**

**(Session: 2021-22)**

**Advance Nutrition**

**(Practical)**

**COURSE CODE: BVNM-2285**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1:- To develop knowledge about different nutrients.

CO 2:- To develop knowledge about therapeutic diets.

CO3:- To enhance the cooking skills with absorbing more nutrients.

CO4:- To develop knowledge about different food group.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)**  
**(Session: 2021-22)**

**ADVANCE NUTRITION**  
**(Practical)**  
**COURSE CODE: BVNM-2286**

**Time: 3 hrs**

**Marks: 20**

**Note:** Paper will be set on the spot by the examiner

- Prepare 5 dishes using following methods
1. High protein
  2. High fiber
  3. High energy
  4. High iron
  5. Sprouting
  6. Low-cost recipes
  7. Low calorie recipes
  8. Preservation: jams, jelly, pickles, chutney
- Table setting: Types of table settings
  - Napkin folding: methods of napkin folding
  - Find food adulteration with some samples
  - Methods of serving.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– II)**

**(Session: 2021-22)**

**Entrepreneurial Development**

**(Practical)**

**COURSE CODE: BVNP-2287**

**Time: 3 Hrs.**

**Max. Marks:50**

**Practical Marks:40**

**L-T-P**

**CA:10**

**0-0-2**

- Operation of diet clinic and diet counselling
- Computer application in use of nutrition related to software:
- Diet cal
- Online software
- Report and presentations of case study
- Seminars will be based on the topics covering recent advances in the field of nutrition, community nutrition, public health and allied areas
- Reports on visit to food industry.

**Kanya Maha Vidyalaya, Jalandhar (Autonomous)**  
**SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE-YEAR DEGREE PROGRAMME**  
**Bachelor of Vocation Nutrition, Exercise and Health**  
**(Session: 2021-2022)**  
**(Credit Based Continuous Evaluation Grading System)**  
**Semester III**

| Course code | Course type                                                                                                                           | Course Titles                              | Credits L-T-P | Max Marks  |      |     |    | Examination time (in Hours) |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------------|------------|------|-----|----|-----------------------------|
|             |                                                                                                                                       |                                            |               | Total      | Ext. |     | CA |                             |
|             |                                                                                                                                       |                                            |               |            | L    | P   |    |                             |
| BVNL – 3281 | C                                                                                                                                     | Human Physiology                           | 3-0-0         | 75         | 60   | -   | 15 | 3                           |
| BVNL- 3102  | C                                                                                                                                     | Soft Skill and Communication               | 4-0-0         | 50         | 40   | -   | 10 | 3+3                         |
| BVNL – 3283 | C                                                                                                                                     | Nutrition, Exercise and Immunity           | 3-0-0         | 75         | 60   | -   | 15 | 3                           |
| BVNM- 3284  | S                                                                                                                                     | Diabetes Education II                      | 2-0-2         | 100        | 60   | 20  | 20 | 3+3                         |
| BVNM- 3285  | S                                                                                                                                     | Food Science and Quality Control Standards | 2-0-2         | 100        | 60   | 20  | 20 | 3+3                         |
| BVNM- 3286  | S                                                                                                                                     | Community Nutrition                        | 2-0-2         | 100        | 60   | 20  | 20 | 3+3                         |
| BVNI – 3287 | S                                                                                                                                     | Internship                                 | 0-0-6         | 150        | -    | 150 | -  | 3                           |
| SECG-3532   | C                                                                                                                                     | *Gender Sensitization                      | 2-0-0         | 25         | 20   | -   | 5  | 1                           |
|             |                                                                                                                                       | <b>Total</b>                               | <b>30</b>     | <b>650</b> |      |     |    |                             |
|             | C- Compulsory<br>S- Skill based<br>*Grade points and grades of these courses will not be included in SGPA/CGPA of semester/Programme. |                                            |               |            |      |     |    |                             |

**B.Voc. Nutrition Exercise and Health (Semester– III)**  
**(Session 2021-2022)**  
**Human physiology**  
**(Theory)**

**COURSE CODE: BVNL-3281**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to:

- CO1. To develop the knowledge of cell structure and functions of inclusion bodies.
- CO2. To understand the elementary knowledge of structure and functions of cardiovascular system.
- CO3. To develop the knowledge of different types of endocrine glands and its functions.
- CO4. To develop the knowledge about digestive system and its structure, function, digestion and absorption of carbohydrates, proteins and fats.
- CO5. To develop the knowledge of structure and function of urinary system.
- CO6. To develop the knowledge of respiratory system and reproductive system.

**Bachelor of Vocation Nutrition Exercise and Health (Semester– III)**

**Human Physiology**

**(Theory)**

**COURSE CODE: BVNL -3281**

**(Session 2021-2022)**

**Time: 3 Hrs.**

**Max. Marks:75**

**Theory Marks:60**

**CA:15**

**L-T-P**

**3-0-0**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section.
- ☐ The fifth question may be attempted from any Section. Each Question Carry 12 marks

**UNIT-I**

1. Review of cell structure and functions of inclusion bodies.

2. Physiology of lymphatic system

Functions of lymphatic system: lymph nodes, vessels, spleen and thymus.

3. Cardio Vascular System:

Basic properties of the heart, cardiac output, blood pressure and factors affecting it and hypertension.

**UNIT-II**

4. Physiology of Kidneys:

Mechanism of urine formation and the role of the kidneys in water and electrolyte balance.

5. Physiology of nervous system

Structure and function of brain and spinal cord.

6. Physiology of skeletal system

**UNIT –III**

6. Physiology of respiratory system

Knowledge of structure and function of respiratory organs.

7. Physiology of the digestive system:

Secretory and digestive function of the salivary glands, the stomach, the pancreas, the liver and intestine. Mechanism of absorption of carbohydrates, proteins and fats.

8. Physiology of Muscular system

**UNIT -IV**

9. Physiology of endocrine glands:

Functions of the Thyroid, parathyroid, adrenal cortex, adrenal medulla, pancreas, pituitary glands and different syndromes resulting from modules, hypo or hyperactuchy.

10. Physiology of reproductive system

Knowledge of structure and function of male and female reproductive organs.

Menstrual cycle

**Books Recommended:**

1. Bloom, W. And Fawcett, D.W.A. Text Book of Histology W.B.Saunders of Company,1968.
2. Guyton, AC, Text Book of Medical Physiology W.B. Saunders & Company.
3. Strand, F.L. Modern Physiology. Macmillan Publication.
4. Davidson, B. And Smith E., Text Book of Physiology and Biochemistry.

Bachelor of Vocation Nutrition, Exercise and Health (Semester– III)

**(Session 2021-2022)**

**Nutrition, Exercise and Immunity**

**(Theory)**

**COURSE CODE: BVNL-3283**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1. To develop the knowledge about nutrition and its component.

CO2. To understand the elementary knowledge of immune system and role of nutrients in immune functions.

CO3. To develop the knowledge about infections.

CO4. To develop the knowledge about role of nutraceuticals and functional foods.

CO5. To develop the knowledge about HIV, Tuberculosis.

CO6. To develop the knowledge about prebiotics, probiotics and food allergy.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– III)**  
**Nutrition, Exercise and Immunity**  
**(Theory)**

**COURSE CODE: BVNL -3283**

**(Session: 2021-2022)**

**Time: 3 Hrs.**

**Max. Marks:75**

**Theory Marks:60**

**CA:15**

**L-T-P**

**3-0-0**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section.
- ☐ The fifth question may be attempted from any Section. Each Question Carry 12 marks.

**Content**

**UNIT-I**

- ☐ Meaning of Nutrition and Its Elements
- ☐ Positive Health Behaviors
- ☐ Role of antioxidants

**UNIT – II**

- ☐ Immune system: The defense mechanisms of the body.
- ☐ Role of nutrients in immune functions. Under nutrition causes and consequences.
- ☐ Infection: risk of infection, influence of infections on nutrition and susceptibility to infection.

**UNIT-III**

- ☐ Role of nutrients in prevention of risk of infections.
- ☐ Age related immune depression.
- ☐ Role of nutraceuticals and functional foods.

**UNIT –IV**

- ☐ Nutrition, HIV /AIDS and tuberculosis.
- ☐ Probiotics, Prebiotics and immunity
- ☐ Food allergy.
- ☐ Latest Health concerns.

**References:**

Handbook of nutrition and immunity by M. Eric Gershwin. Textbook of physiology - IGNOU

**B.Voc( Nutrition Exercise and Health )(Semester– III)**

**(Session: 2021-22)**

**DIABETES EDUCATION-II**

**(Theory)**

**COURSE CODE: BVNM -3284**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1:- To give detail introduction to diabetes.

CO2:- To provide knowledge about types of Diabetes: Type I, Type II, Prediabetes, Gestational Diabetes, and Impaired Glucose Tolerance (IGT).

CO3:- To give knowledge about pathology of diabetes and complications of diabetes.

CO4:- To provide knowledge about hand care, foot care, eye care for diabetes patients.

CO5:- To provide knowledge about initial assessment and reassessment of diabetic patients.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– III)**

**Diabetes Education -II**

**(Theory)**

**COURSE CODE: BVNM -3284**

**(Session 2021-2022)**

**Time: 3 Hrs.**

**Max. Marks:100**

**L-T-P**

**Theory Marks:60**

**2-0-2**

**Practical marks:20**

**CA:20**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section.
- ☐ The fifth question may be attempted from any Section. Each Question Carry 12 marks.

**Content**

**UNIT -I**

Diabetes overview:

Definition of Diabetes, Types of Diabetes: Type I, Type II, Prediabetes, Gestational Diabetes, Impaired Glucose Tolerance (IGT)

Risk factors for diabetes:

Primary and Secondary factors

**UNIT -II**

Pathology of diabetes:

Causes and Symptoms of Diabetes

Complication of Diabetes:

Nephropathy, Neuropathy, Retinopathy, Diabetic Coma, Insulin Shock etc.

**UNIT- III**

Investigation used for diagnosis of diabetes:

GTT, FBG, PPBG, RBG, HbA1c, Urine Micral, Ketones test, Lipid Profile,

6. Insulin and its types, syringe and pen injection types/ parts, usage techniques and safety measures while using insulin injections.

7. Hypoglycaemia: Definition, complications, treatment and its management

**UNIT -IV**

8. Special care for diabetic patients: Hand care, Foot care, Eyes care and Weight management

Initial assessment of diabetic patients: Biochemical and Anthropometric assessment, Disease history and current status evaluation

Reassessment of diabetic patients and follow ups: Diet counselling, Diet and Drug Insulin management

References:

1. Guthrie, Hele, Andrews, Introductory Nutrition, 6th Ed, St. Louts, TimesMirror/Mosby College : 1988

2. Mudambi S.R. M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd ed.) WilayEastern Ltd. 1990.

3. Swaminathan S: Advanced Text Book on Foods Nutrition, Vol. I, II (2nd ed. Revised& enlarged) B. app C-1985  
Willson, EVAD Principles of Nutrition 4th Ed, New York John Willey & Sons. 1979.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– III)**  
**Diabetes Education -II**  
**(Practical)**

**COURSE CODE: BVNM -3284**  
**(Session 2021-2022)**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1. To make them understand about Biochemical and Anthropometric assessment, Disease history and current status evaluation.

CO2. To develop the knowledge of diet counseling, diet and drug insulin management.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM –III**  
**Diabetes Education –II**  
**(Practical)**

**COURSE CODE: BVNM-3284**  
**(Session 2021-2022)**

**Time: 3 Hrs.**

**Marks: 20**

**CONTENTS:**

**NOTE:** Students have to visit healthcare institutions and clinical attachments.

- Biochemical and Anthropometric assessment, Disease history and current status evaluation
- Diet counselling, Diet and Drug Insulin management.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM -III**  
**Food science and quality control Standards**  
**(Theory)**  
**COURSE CODE: BVNM-3285**  
**(Session 2021-2022)**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

- CO1. To knowledge about principal of food science.
- CO2. To develop the knowledge about starchy food, flours, fats and oils.
- CO3. To develop the knowledge about meat structure, egg, milk and milk products.
- CO4. To develop the knowledge about pulses, legumes, fruits and vegetables.
- CO5. To develop the knowledge about sampling procedure and sensory evaluation.
- CO6. To develop the knowledge about grading and marketing standards.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM -III**  
**Food science and quality control Standards**  
**(Theory)**

**COURSE CODE: BVNM-3285**  
**(Session 2021-2022)**

**Time: 3 Hrs.**

**L-T-P**  
**2-0-2**

**Max. Marks:100**  
**Theory Marks:60**  
**Practical marks:20**  
**CA:20**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section. Each Question Carry 12 marks.

**CONTENTS**

**UNIT- I**

Importance of quality control and assurance.

Food Adulteration: common food adulterants, consumer awareness, domestic methods of identification and prevention.

Food laws and regulations – Prevention of Food Adulteration Act, Fruit Product Order, Agmark, Essential commodity Act and Consumer Protection and Bureau of Indian Standard, Codex standard, hazard analysis and critical control point.

**Unit-II**

Meat structure, constituents of meat, post mortem changes, methods of cooking and changes in meat during cooking, tenderness, and juiciness

Egg; - structure, composition and selection coagulation of egg protein, eggs cooked in shells and parched eggs.

Milk and milk products; - composition and constituents of milk, coagulation of milk protein, curd cream, butter and cheese

Pulses and legumes, composition, method of processing and cooking, effect of processing such as, roasting, parching, soaking, germination and fermentation

Fruits and vegetables;- structure, texture, pigments and acid and fruits and vegetables, browning reactions, pectin's substances theory of pectin gel formation, testing of pectin factors effecting gel formation

**UNIT- III**

Sampling procedure.

Application of food standards, sampling and specifications for raw foods and food products for additives, preservatives, colouring matters, antioxidants, emulsifying and stabilizing agents.

Various methods for the assessment of quality of different foods.

Selection of secondary panel and sensory valuation of food products

Grading and marketing standards, specification of finished products

**Unit -IV**

Visit to quality control laboratory and food processing industries.

Market survey of processed foods for quality assurance

**References:**

1. Guide to food safety and quality during transportation: controls, standards practices by john M. Ryan Kindle Edition
2. International standards for food safety, by Naomi rees
3. ISO 22000 Standard procedures for food safety management system by bizmanualxz.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM -III**  
**Food science and quality control Standards**  
**(Practical)**  
**COURSE CODE: BVNM-3285**  
**(Session 2021-2022)**

**COURSE OUTCOME**

Upon Completion of this Course the student should be able to

CO1. To knowledge about evaluation of food grains.

CO2. To develop the knowledge about chemistry of cereals.

CO3. To develop the knowledge about chemistry of colloidal particles.

CO4. To develop the knowledge about food colours, preservation of food and new product development.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM -III**  
**Food science and quality control Standards**  
**(Practical)**  
**COURSE CODE: BVNM-3285**  
**(Session 2021-2022)**

**Time: 3 Hrs.**

**Marks: 20**

**Contents:**

- Evaluation of Food grains for their physical appearance
- Evaluation of milk sample
- Food colors
- Preservation of food
- Honey, fats and oil
- New product development
- Visit to quality control laboratory and food processing industries.
- Market survey of processed foods for quality assurance.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM –III**

**Community Nutrition  
(Theory)**

**COURSE CODE: BVNM-3286  
(Session 2021-2022)**

**COURSE  
OUTCOMES**

Upon Completion of this Course the student should be able to

CO1. To understand the factors affecting food consumption and malnutrition.

CO2. To gain knowledge about agricultural production and socio- economic and psychological factors related to malnutrition and family size and composition.

CO3. To understand the measures to overcome malnutrition and to apply basic principle of nutrition to improve the dietary practices of community.

CO4. To gain knowledge about economics of sanitation of food nutrition.

CO5. To understand the national and international organization engaged in food and nutrition activity.

CO6. To understand the role of voluntary agencies their state programmes community development and extension programmes.

CO7. To understand the principles of planning, executing and evaluating the nutrition education programme.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM -III**

**Community Nutrition**

**(Theory)**

**COURSE CODE: BVNM -3286**

**(Session 2021-2022)**

**Time: 3 Hrs.**

**Max. Marks:100**

**Theory Marks:60**

**Practical marks:20**

**CA:20**

**L-T-P**

**2-0-2**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section.
- ☐ The fifth question may be attempted from any Section. Each Question Carry 12 marks.

**Contents**

**UNIT -I**

Nutrition and National Development.

Major Nutritional Problem. Economic of Nutrition.

Nutrition adaptation.

Economic of sanitation of food nutrition – loss of food nutrients on contamination with chemical poisons, parasitic and microbial.

Health care system

Health care service providers (primary, secondary and tertiary system)

**UNIT-II**

Nutrition and infection.

National and international organization engaged in foods and nutrition activities.

National: Role of voluntary agencies and state programmes. Community Development and extension programmes. State nutrition councils and bureaus, contribution of ministries of agriculture and health, ICMR, NIN, CSIR, CFTRI and ICAR.

International: FAO, WHO, UNICEF.

**UNIT-III**

Assessing the food and nutritional problems in the community. Methods for assessment of

(c) Nutritional status of an individual and community:-

Direct Assessment: Clinical sign, nutritional anthropometry, biochemical tests, and biophysical methods.

Indirect Assessment: Vital statistics nutritionally relevant diseases, assessment of ecological survey, technique of diet and nutrition survey.

Objectives and operations of feeding programmes in the country:-

(a) Pre-School feeding programmes.

(b) School lunch programmes.

(c) Programmes for other vulnerable sections of population.

#### **UNIT-IV**

Food Adulteration: Laws governing the food standards. Common methods of detecting food adulteration at home

Current Nutrition Programmes – Provision for nutrition in the IXth five years plan.

#### **Reference Books:**

- Community Nutrition, Textbook of Public nutrition IGNOU
- Institutional Food Administration, Mohini Sethi
- Bloom, W. And Fawcett, D.W.A. Text Book of Histology W.B.Saunders of Company,1968.
- 2. Guyton, AC, Text Book of Medical Physiology W.B. Saunders & Company.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM -III**  
**Community Nutrition**  
**(Practical)**  
**COURSE CODE: BVNM -3286**  
**(Session 2021-2022)**

**COURSE OUTCOME**

Upon Completion of this Course the student should be able to

- CO1. To understand the planning and conducting nutrition education programmes.
- CO2. To develop the knowledge about standardization of cheap, nutritious recipes using food suitable for vulnerable groups.
- CO3. To enable them to conduct survey regarding vulnerable groups.
- CO4. To understand the preparation of teaching aids for imparting nutrition education programmes.

**Bachelor of Vocation (Nutrition Exercise and Health) SEM -III**  
**Community Nutrition**  
**(Practical)**

**COURSE CODE: BVNM -3286**  
**(Session 2021-2022)**

**Time: 3 Hrs.**

**Marks: 20**

**Contents:**

1. Planning and conducting nutrition education programmes (Project).
2. Evolving and standardization of cheap, nutrition recipes using various food suitable for vulnerable groups.
3. Surveys (class project).
4. Preparation and use of projected and non-projected teaching aids for imparting nutrition education programmes.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– III)**  
**Internship**  
**(Practical)**  
**COURSE CODE: BVNI -3287**  
**(Session 2020-2021)**

**COURSE OUTCOME**

CO1:- To understand the importance of quality control and assurance

CO2:- To get understanding of various Food Acts

CO3:- To get the information about composition and structure of various food groups.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– III)**  
**Internship**  
**(Practical)**

**COURSE CODE: BVNI -3287**  
**(Session 2020-2021)**

**Time: 3 Hrs.**  
**L-T-P**  
**0-0-6**

**Max.Marks:150**  
**Practical marks:150**

- ☐ Internship in of any of the food industry for a min. period of 30 days.

**Bachelor of Vocation (Nutrition, Exercise and Health)**  
**(Session:2021-2022)**  
**(Credit Based Continuous Evaluation Grading System)**

C- Compulsory  
S- Skill Enhancement  
\*Grade points and grades of these courses will not be included in SGPA/CGPA of semester.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– IV)**  
**(Session: 2021-22)**  
**Diabetes Education -III**  
**(Theory)**  
**COURSE CODE: BVNL -4281**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1:- To give detail introduction to diabetes.

CO2:- To provide knowledge about glucometer.

CO3:- To give knowledge about treatment plan for type I and II Diabetes.

CO4:- To provide knowledge about weight management for diabetes patients.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– IV)**

**(Session: 2021-22)**

**Diabetes Education -III**

**(Theory)**

**COURSE CODE: BVNL -4281**

**Time: 3 Hrs.**

**Max. Marks:100**

**Theory Marks:80**

**CA:20**

**L-T-P**

**4-0-0**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section. Each question carry 16 marks.
- ☐ The fifth question may be attempted from any Section.

**CONTENTS**

**UNIT-I**

1. Glucometer: History, Equipment attachments, Calibration, Invasive and non-invasive Technique, Characteristics, Method of Usage, Safety measures while using glucometer.
2. CGMS –Continuous Glucose monitor and Insulin Pump.
2. Infection control and prevention at the insulin injection site, Diabetic Foot Care,

**UNIT-II**

3. Professional behavior of diabetes educator, patient dealing, effective communication
4. Treatment plan for type 1 diabetes
5. Recent Advancement /Scope in Diabetes Management

**UNIT-III**

5. Treatment plan for type 2 diabetes
6. Treatment plan for gestational diabetes

**UNIT-IV**

7. Diabetes awareness campaigning: weight management, diet management, regular Checkups, lifestyle modification
8. Patient's rights

**References:**

1. Guthrie, Hele, Andrews, Introductory Nutrition, 6th Ed, St. Louts, Times Mirror/Mosby College : 1988
2. Mudambi S.R. M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd ed.) WilayEastern Ltd. 1990.
3. Swaminathan S: Advanced Text Book on Foods Nutrition, Vol. I, II (2nd ed. Revised &enlarged) B. app C-1985
4. Willson, EVAD Principles of Nutrition 4th Ed, New York John Willey & Sons. 1979.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– IV)**

**Food Microbiology**

**(Theory)**

**COURSE CODE: BVNL -**

**COURSE OUTCOME**

Upon Completion of this Course the student should be able to

- CO1. To knowledge about brief introduction to industrial hygiene, sanitation, public health.
- CO2. To knowledge about types of disinfection and different surfaces and materials.
- CO3. To knowledge about brief history of microbiology and sub disciplines of microbiology.
- CO4. To develop the knowledge about harmful bacteria, methods of transmission and antimicrobiology agents: antibiotics, germicides.
- CO5. To understand the knowledge about types of food spoilage and food preservation.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– IV)**  
**Food Microbiology**  
**(Theory)**  
**COURSE CODE: BVNL -**

**Time: 3 Hrs.**

**Max. Marks:100**

**Theory Marks:80**

**CA:20**

**L-T-P**  
**4-0-0**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Each question carry 16 marks.
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section.

**UNIT-I**

1. **Hygiene:** A brief introduction to industrial hygiene, environment, sanitation and public health.
2. Hygiene
  - a) Personal hygiene
  - b) Procedure of hand hygiene
  - a) Food hygiene (purchasing, preparation, cooking and serving).
3. Control of infection in catering establishment.
  - (a) Immunity types and their effect.
  - (b) Disinfecting types of disinfection – Concurrent and terminal: methods of disinfection and different surfaces and materials – floor, walls, utensils, crockery, cutlery, clothing, wedding rooms, water closets, physical, chemical and mechanical methods.

**UNIT-II**

**Microbiology:**

1. Discovery and brief history of microbiology, sub disciplines of microbiology.
2. Ant microbiology Agents: Antibiotics, germicides, antiseptics, qualification of antimicrobial agents.
3. Food hazard of microbial origin and occurrence and growth of micro organism in food

**UNIT-III**

4. Sources of harmful bacteria and their methods of transmission.
  - (a) Bacterial food poisoning characteristics of bacteria, sources of infection in susceptible, food, sign and symptoms of the following:-Salmonella FP, Staphylococcal FP , Clostridium preferences FP, Clostridium botulinum FP

- (b) Micro-organisms used in food biotechnology. Prebiotics and Probiotics.
5. Food contaminants: - naturally occurring toxicants, environmental contaminants and miscellaneous contaminants.

#### **UNIT-IV**

6. General types of food spoilage and food preservation according to following food groups:-
- Cereal And Pulses
  - Milk And Meat Products
  - Fruits And Vegetables
7. (a) Food additives: classification , functional role and safety issues
- (c) Food packaging, concepts significance and functions, classification of packaging material and packaging methods.

#### **References:**

- Food Microbiology – William c. Frazier
- Microbiology – pelzar

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**

**SESSION 2020-21**

**Patient Relation Associate**

**(Theory)**

**COURSE CODE: BVNL -4284**

**COURSE OUTCOME:**

- CO (1): Understand functions of patient relation associate,
- CO (2): Understand the concept of report delivery process, employee's responsibility
- CO (3): Understand the concept of quality improvement process
- CO (4): Understand the basic procedures and policies of hospital
- CO (5): Understand the patient leaving policy such as LAMA
- CO (6): Understand the various standards of NABH
- CO (7): Understand the cash management system and fundamentals of accounting

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**

**SESSION 2020-21**

**Patient Relation Associate**

**(Theory)**

**COURSE CODE: BVNL -4284**

**Time: 3 Hrs.**

**Max. Marks:100**

**Theory Marks:80**

**CA:20**

**L-T-P**

**4-0-0**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Each question carry 16 marks.
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section.
- ☐ The fifth question may be attempted from any Section.

**UNIT -I**

**Orientation to Patient Relations Associate Key functions**

- Functions of patient relations associate
- Needs of patient in hospital
- Report delivery process
- Employees responsibilities e.g. punctuality, discipline, integrity, grievance redressal process
- Process involved during admission and discharge of patients
- Managing and handling visitors of different categories such as Patients - Paid / Non-Paid, Emergency, VIPs etc.
- Patient satisfaction contribution of the front office
- Basic components required for comfort of patient/carer's/visitors at healthcare organization
- Importance of presenting a positive personal image.
- Quality improvement process
- Patient flow management in hospital area for availing services such as OPD/IPD/Diagnostics etc in coordination with Healthcare team

**Unit – II**

**Introduction to Hospital Policies and Procedures**

- Hospital policies and procedures of healthcare organization
- Hospital departments/diagnostic available with HCO/services available and direct patient to accurate unit.
- Various schemes/ tariffs/discounts/promotions which can be advised to relevant patients/carer's or visitors in accordance with healthcare team
- Leaving policies of patient such as LAMA (Leave against medical advice etc.)

- Techniques to deal with cases such as thefts, misappropriation, report mix-ups, damage to property, abuse etc.
- Factors to establish and maintain peaceful environment in work area with all
- Various etiquettes while working with team
- Skills to assist supervisors for duty roster creation, skills to explain policies and procedures to others including patients.
- Importance of feedbacks in process improvement
- Understand need for compliance of organizational hierarchy; legal and ethical issues and criticality of Medico Legal Cases; importance of team work and how to facilitate it;
- Risks to quality and safety if you do not keep up to date with best practice.

### **Unit- III**

#### **Quality in Healthcare – Service and Medical Quality**

- Various standards of NABH and their implications for quality control and quality assurance
- Quality assurance and quality control
- Quality control and assurance tools which can be utilized for effective functioning
- Risk assessment process
- Patient behaviour and psychology
- Patient's rights and responsibilities applicable to work area
- Self-role in maintaining patient's rights
- Maintain conducive environment in Emergency Situations
- Things necessary to make the patient feel safe and comfortable
- Impact of comfort on one's health
- Importance and methodology of cleanliness, and hygiene environment
- Prepare patient for admission, discharge and referral services

### **Unit -IV**

- TPA operations and Cash Management
- Fundamentals of accounting
- Finance and credit management applicable to healthcare industry
- Different modes of Payment utilized in healthcare industry and process flow of cash/payment modes
- Check and coordinate to determine authenticity of payment received
- Various TPA/Insurance services available in the country/ National Health Insurance Scheme and applicable beneficiaries
- Regulatory bodies/process and compliance to receive foreign currency as a part of payment process
- Various international currencies and their values in terms of INR
- Customer Service Excellence and Patient Satisfaction
- Identify needs of the patients/carers to find resolution

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– IV)**

**Nutritional Biochemistry**

**Session: 2021-2022**

**(Theory)**

**Course code: BVNM:4285**

**Course Outcome:**

CO (1): To Understand the knowledge of Classification and properties of bio molecules.

CO (2): To Understand the concept of Intermediary Metabolism of Carbohydrates, Proteins and lipids

CO (3): To review the knowledge of Enzymes, Hormones and Inborn errors of metabolism

CO (4): to Understand the Concept of Vitamins, Minerals and Antioxidants

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– IV)**

**Nutritional Biochemistry**

**Session: 2021-2022**

**(Theory)**

**COURSE CODE: BVNM -4285**

**Time: 3 Hours**

**L-T-P**

**2-0-2**

**Max. Marks: 100**

**Theory: 60**

**Practical: 20**

**CA: 20**

**Instructions for the Paper Setter**

- ☐ Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Each question carry 12 marks.
- ☐ Candidates are required to attempt five questions, selecting at least one question from each section.
- ☐ The fifth question may be attempted from any Section.

**UNIT - I**

**1. Classification and properties of biomolecules:**

- Carbohydrates- Classification and importance of Monosaccharide, Disaccharides and Polysaccharides (without structures)
- Classification of lipids (without structures)
- Classification of amino acids and proteins- Essential and non-essential amino acids (without structures)

**UNIT- II**

**2. Intermediary Metabolism: Overview (no structures)**

- Carbohydrates- Glycolysis, Gluconeogenesis, TCA cycle.
- Proteins- Urea cycle
- Lipids-  $\beta$ -oxidation and de novo synthesis of fatty acids, ketone bodies

**UNIT-III**

**3. Enzymes:**

- Definition and classification of enzymes; Coenzymes
- Factors affecting enzyme catalysis

**4. Hormones:**

- Introduction to hormones
- Mechanism of hormone action; Biological role of Insulin and Glucagon

**UNIT- IV**

**5. Vitamins: Vitamins- Biochemical role**

- Fat soluble vitamins – A, D, E & K
- Water soluble vitamins– (B1 and B2 only) and C

6. Minerals (elementary aspects):

- Macrominerals– Calcium, Sodium, Potassium, Magnesium
- Microminerals– Iron, Copper, Zinc, Iodine.

References:

- Berg JM, Tymoczko JL and Stryer L. (2002) Biochemistry 5th ed. W.H. Freeman.
- West ES, Todd WR, Mason HS and Van Bruggen JT: Textbook of Biochemistry, 4th Ed. Amerind Publishing Co. Pvt. Ltd.
- Murray RK, Granner DK, Mayes PA and Rodwell VW, (2003) Harper's Illustrated Biochemistry, 26th ed. McGraw-Hill (Asia).
- Nelson DL and Cox MM. (2005) Principles of Biochemistry, 4th ed. Freeman and Company.
- Voet D and Voet JG. (2004) Biochemistry 3rd ed. John Wiley and Sons.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**

**Nutritional Biochemistry**

**(Practical)**

**COURSE CODE: BVNM:4285**

**Course Outcome:**

CO (1): To knowledge about Qualitative analysis of monosaccharide, disaccharide and polysaccharide.

CO (2): To knowledge about Quantitative estimation of glucose.

CO (3): To knowledge about test the reaction of protein fats and carbohydrate in bread, milk and egg.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**  
**Nutritional Biochemistry**  
**(Practical)**

**Course code: BVNM: 4285**

**Time: 3hrs**

**Marks: 20**

**CONTENTS:**

1. Qualitative analysis of monosaccharide, disaccharide and polysaccharide.
2. Quantitative estimation of glucose.
3. To test the reaction of protein fats and carbohydrate in bread, milk and egg.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**

**Meal management**

**Session: 2021-2022**

**(Theory)**

**COURSE CODE: BVNM -  
4286**

**COURSE OUTCOME**

Upon Completion of this Course the student should be able to

- CO (1): To understand the concept of recommended dietary allowances, food groups, exchange list and balanced diet.
- CO (2): To discuss principal of meal planning and nutritional requirements of men and women with different conditions
- CO (3): To get the insight of the concept growth and development of preschooler, school going children and adolescent boys and girls.
- CO (4): To understand the nutritional requirement during infancy.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**

**Meal Management**

**(Theory)**

**COURSECOD:BVNM:4286**

**Time: 3 Hours**

**L-T-P  
2-0-2**

**Max. Marks: 100**

**Theory:60**

**Practical: 20**

**CA: 20**

**INSTRUCTION FOR THE PAPER SETTER:**

- Eight questions of equal marks are to be set; two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section. Each question carry 12 marks.
- The fifth question may be attempted from any Section.

**COURSE CONTENT:**

**Unit-I**

- Balanced diet: Concept of Balanced Diet, Food Groups, Exchange Lists.
- Definition and Objectives of RDA, RDA for different age groups. (ICMR). Calorie consumption units in planning meals for a family.

**Unit-II.**

- Meal planning: Introduction and Principles of Meal planning.
- Nutritional requirement for adult male & female, Sedentary, moderate & heavy worker.

**Unit-III**

- Physiological changes and nutritional requirement during pregnancy and lactation.
- Physiological changes during old age and meeting their nutritional requirements.

**Unit- IV**

- Growth development, food habits and nutritional requirement of preschoolers, school going children & adolescent boy and girl.
- . Growth & development and nutritional requirement during infancy breast feeding/vs bottle feeding and weaning.

**References:**

1. Guthrie, Hele, Andrews, Intoductory Nutrition, 6th Ed, St. Louts, Times Mirror/Mosby College : 1988
2. Mudambi S.R. M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd ed.) Wilay Eastern Ltd. 1990.
3. Swaminathan S: Advanced Text Book on Foods Nutrition, Vol. I, II (2nd ed. Revised & enlarged)B.app C-1985
4. Willson, EVAD Principles of Nutrition 4th Ed, New York John Willey & Sons. 1979.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**

**SESSION: 2021-22**

**MEAL  
MANAGEMENT  
(Practical)**

**COURSE CODE: BVNM-4286**

**COURSE OUTCOME:**

- CO (1): To understand the concept of Standardize Proportion Size.
- CO (2): To discuss meal planning and nutritional requirements of men and women with different conditions
- CO (3): To get the insight of the concept growth and development of preschooler, school going children and adolescent boys and girls.
- CO (4): To understand the nutritional requirement during infancy with their Calculations.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**

**SESSION: 2021-22**

**MEAL  
MANAGEMENT  
(Practical)**

**COURSE CODE: BVNM- 4286**

**Time: 3 Hours**

**Max. Marks: 20**

**Note:**

- ☐ Paper will be set on the spot by the examiner
- ☐ Planning of diet
- ☐ Cooking of 2 dishes from the diet plan
- ☐ Viva
- ☐ Files

1. Cook following dishes for different meals. Standardize portion size and calculate their nutritive value.

- ☐ Breakfast dishes- Stuffed Paranthas, Pancakes, Poha, Dalia etc.
- ☐ Lunch & Dinner dishes- Main Dishes- Dal, Channa, Rajmah, Koftas etc., Rice- Pulaos, Paneer dishes, Side dishes, Dry. Vegetables, Stuffed Vegetables etc. Dessert - Puddings, Kheer etc. Salads, Soups etc.
- ☐ Evening Sweet & Salty snacks - at least 5 each.

2. Plan balanced diet for the following age groups calculating calories, protein, one important vitamin and mineral as per requirement for the given age group.

- (a) Infancy-Weaning foods
- (b) Pre-schooler
- (c) School going child.
- (d) Adolescent girl and boy
- (e) Adult male and female (sedentary moderate and heavy worker)
- (f) Pregnant and lactating Women

Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)

**(Session: 2021-22)**

**INTERNSHIP**

**(Practical)**

**COURSE CODE: BVNI -4287**

COURSE OUTCOMES:

CO1. To understand about roles and responsibilities of diabetes educator  
CO2. To get the concept of first aid and emergency medical response.

**Bachelor of Vocation (Nutrition Exercise and Health) (Semester– IV)**

**(Session: 2021-22)**

**INTERNSHIP**

**(Practical)**

**COURSE CODE: BVNI -4287**

**Time: 3 Hours**

**L-T-P**

**0-0-3**

**Max. Marks: 100**

**Practical: 100**

- Internship of any of the multi speciality Hospital for a min. period of 30 days as diabeticeducator.

**Kanya Maha Vidyalaya, Jalandhar (Autonomous)**  
**SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE-YEAR DEGREE PROGRAMME**  
**Bachelor of Vocation (Nutrition, Exercise and Health)**  
**(Session: 2021-2022)**  
**(Credit Based Continuous Evaluation Grading System)**  
**Semester V**

| Course code  | Course Titles                                         | Course Type | Credits L-T-P | Marks      |        |    |    | Examination time (in Hours) |
|--------------|-------------------------------------------------------|-------------|---------------|------------|--------|----|----|-----------------------------|
|              |                                                       |             |               | Total      | Ext. L | P  | CA |                             |
| BVNL-5281    | Fundamentals of Dietetics                             | S           | 4-0-0         | 100        | 80     | -  | 20 | 3                           |
| BVNL-5102    | Soft skills and communication                         | C           | 4-0-0         | 50         | 40     | -  | 10 | 3                           |
| BVNL-5283    | Duty manager<br><b>NSQF-6</b>                         | S           | 4-0-0         | 100        | 80     | -  | 20 | 3                           |
| BVNL-5284    | Introduction to Sports Nutrition                      | C           | 2-0-0         | 100        | 80     | -  | 20 | 3                           |
| BVNM-5125    | Computer (Internet Applications)                      | S           | 1-0-1         | 50         | 25     | 15 | 10 | 3+3                         |
| BVNM-5286    | Extension education and AV Aids                       | C           | 2-0-2         | 100        | 60     | 20 | 20 | 3                           |
| BVNM-5287    | Food Service management                               | S           | 2-0-2         | 100        | 60     | 20 | 20 | 3+3                         |
| BVNM-5288    | Diet therapy and applied nutrition                    | S           | 2-0-2         | 100        | 60     | 20 | 20 | 3+3                         |
| BVNP-5289    | Cafeteria                                             | C           | 0-0-2         | 50         | -      | 40 | 10 | 3                           |
| SECI-5541    | *Innovation, Entrepreneurship and venture Development | C           | 0-0-2         | 25         | -      | 20 | 5  | 3                           |
| <b>Total</b> |                                                       |             | <b>30</b>     | <b>750</b> |        |    |    |                             |

C- Compulsory

S- Skill based

\*Grade points and grades of these courses will not be included in SGPA/CGPA of semester.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session 2021-20)  
Fundamentals of dietetics  
(Theory)  
Course code: BVNL -5281

COURSE OUTCOMES

- (CO)1.To gain the knowledge about Indian dietetic association and its membership.
- (CO)2. To gain insight into objectives and concept of therapeutic diet.
- (CO)3. To develop adaptations of normal diets into therapeutic diets.
- (CO)4. To understand the concept about hospital dietary department and patient education.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)**

(Session 2021-22)

Fundamentals of Dietetics

(Theory)

Course code: BVNL -5281

**Time: 3 Hrs.**

**L-T-P**

**3-0-0**

**Max. Marks:100**

**Theory Marks:80**

**CA:20**

**INSTRUCTIONS FOR THE PAPER SETTER:**

- Eight questions of equal marks are to be set, two in each of the four sections (A-D). Questions of sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any section.

**Unit I**

Indian dietetic association: History of dietetics origin of the association, membership and registration Board.

**Unit II**

Dietician: Definition, Qualification, classification, responsibilities, Code of Ethics and Obligations, Dietician in India (Present Status). Dietetics: classification of foods & preparation of normal diets Principles in formulation of therapeutics diets and classification and factors to be considered for therapeutic diets.

**Unit -III**

Regular hospital Diet and Types: Standard hospital diets suitable for general, maternal, child and specialty hospital and modification of normal diets in consistence and nutrients.

**Unit VI**

Hospital dietary department: its role in patient care, organization of the dietary department and role of health team members in patient care.

Dietary Prescriptions: Patient education, counseling at dietary clinics and follow up.

**REFERENCES:**

Anderson L., M. V. Dibble, P. R. Turkki, H. S. Mitchell and H. J. Rynbergen Nutrition in Health and Disease, 17th ed., J. B. Lippincott Co., Philadelphia, 1982.

Antia F. P.: Clinical Dietetics and Nutrition, 3rd ed., Oxford University, Press, Delhi, Reprinted in 1989.

Bennion M.: Clinical Nutrition, Harper and Row Pub. New York, 1979.

Frances, D. E. M.: Diets for sick children, Blackwell Scientific, Publications, 1974.

Hui, Y. H.: Human Nutrition and Diet Therapy, Wadsworth Health ScL Divs. 1983.

Karran, S. J. and K. G. M. M. Alberti (ed): Practical Nutritionsl Support, John Wiley and Sons. Inc. N. Y. 1980.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)**  
(Session 2021-22)

Duty Manager  
(Theory)  
Course code: BVNL -5283

Course outcomes:

- (CO)1.To gain the knowledge about health care and referral system of India.
- (CO)2. To gain insight into objectives and concept of Quality in health care service.
- (CO)3. To develop the knowledge about fundamentals of accounting.
- (CO)4. To understand the concept about fire safety, security , hand hygiene , grooming, biomedical waste management and hospital management system.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)**

(Session 2021-22)

**Duty Manager**

(Theory)

Course code: BVNL -5283

**Time: 3 Hrs.**

**L-T-P**

**3-0-0**

**Max. Marks:100**

**Theory Marks:80**

**CA:20**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set; two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section

**CONTENTS:**

**Unit -I**

Health disease and well being.

Referral system of India.

Health care system :Primary , secondary and tertiary system

Program and national health policy .

Personnel management

**Unit -II**

Quality in health care service and medical quality :Various standards about NABH ,Quality control and quality assurance ,Patient behaviour and psychology .

Safety and first aid.

**Unit- III**

Infection control and prevention :Understanding the concept of hand hygiene, Develop techniques of self grooming and maintenance .

Fundamentals of accounting : basic principles of accounting ,how to conduct analysis of financial statements , common size and ratio analysis.

**Unit -IV**

Hospital administration work rules: Turn around time (TAT) , external and internal audit process with respect to various disciplines such as NABH.

Fire safety and security : emergency codes, how to use fire extinguisher

Biomedical waste management :

Hospital management system : various characteristic of hospital management system , basic functioning of hospital management system , maintain database of patients and visitors.

References:

Bennion M.: Clinical Nutrition, Harper and Row Pub. New York, 1979.

Frances, D. E. M.: Diets for sick children, Blackwell Scientific, Publications, 1974.

Hui, Y. H.: Human Nutrition and Diet Therapy, Wadsworth Health ScL Divs. 1983.

Karran, S. J. and K. G. M. M. Alberti (ed): Practical Nutritionsl Support, John Wiley and Sons. Inc. N. Y. 1980

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session :2021-22)

**Introduction to Sports Nutrition  
(Theory)**

**COURSE CODE: BVNL-5284**

Course outcomes:

CO1. To develop the knowledge about concept of sports Nutrition .

CO2. To understand the knowledge about carbohydrate , fat and protein intake during exercise.

CO3. To develop the knowledge about concept of energy balance and energy requirement in athletic performance.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session :2021-22)

**Introduction to Sports Nutrition  
(Theory)**

**COURSE CODE: BVNL-5284**

**Time: 3 Hrs.  
L-T-P  
2-0-0**

**Max. Marks:100  
Theory Marks:80  
CA:20**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section.

**CONTENTS :**

**UNIT-I**

**Macronutrient need of team sport athletes:**

**Carbohydrate Intake and performance:** Type; and function of Carbohydrate and its utilisation in the body; Type, timing and quantity of carbohydrate intake in training; Food sources from different types of carbohydrate; Pre, during and post event/training intake

**Fat Intake and performance:** Function of fat and its utilisation in the body; Intensity of training impacting fat utilisation; Type, timing and Quantity of fat intake in training; sources of fat; pre, during and post event/training intake,

**Protein Intake and performance:** Type and Quality of protein and its utilisation in the body; Specific role of amino acids for performance; sources of protein; pre, during and post event/training intake

.

**UNIT-II**

**Macronutrients and Energy balance**

**Energy balance concept for athletic performance:** Contribution of macronutrients to Energy; Factors affecting energy expenditure (age, gender, ethnicity, level of training, training intensity, type of sport and phase of training); Energy balance; Consequences of Energy imbalance in performance.

Contribution of Resting metabolic Rate, Thermic effect of food and Exercise and Non-exercise activity thermogenesis (NEAT) towards energy expenditure

### UNIT-III

#### **Use of Nutritional supplements**

**Macro nutrient supplements:** Pure protein (eg; whey, casein, egg albumen, soy protein, pea protein) & protein bars and weight gainers

Amino acid supplement: Glutamine, Arginine

Carbohydrate supplement & EFA,s: Glycerol, Meal replacement powders, ready to drink protein shakes (RTD),

Sports drink & sports gels

#### **Micronutrient supplements:**

Benefits, mechanism and application of:

Vitamins: ergogenic role of vitamin B complex vitamins, vitamin B12, Folic acid, vitamin D supplements, multivitamin supplements

Mineral supplement: Magnesium, iron supplements, electrolyte replacement drinks,

Antioxidant vitamin & mineral supplements

### UNIT-IV

#### **Nutrient periodization, meal timing and hydration among athletes**

**Nutrient periodization and Meal timing:** Importance of periodisation and meal timing related to the type of training; Importance of timing of carbohydrate intake; Type of carbohydrates and proteins beneficial for maximum refueling post exercise sessions; Gender differences in carbohydrate, protein and fat refueling strategies.

**Dehydration:** Causes; Symptoms and its effects on cardiovascular system and muscle metabolism.

**Hydration strategies:** Beverage composition and formulation (isotonic, hypotonic and hypertonic); Only fluid versus fuelling with other macronutrients and electrolytes for exercise benefits; Factors that influence fluid intake; Gastric emptying and absorption of fluids; Beverage palatability and fluid intake.

#### **References:**

Sports nutrition by Nancy clark, MS,RD.

Health education and sports nutrition by Dr. Lalita ishwarn punnya

Sports nutrition : A handbook for professionals by christine karpinski , PhD,RD,CSS.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)(Session :2021-22)

**Extension education and AV Aids**

**(Theory)**

**COURSE CODE: BVNM-5286**

**Course outcomes:**

(CO)1. To understand the knowledge about communication skills and its functions.

(CO)2. To gain the knowledge about audio visual Aids.

(CO)3. To develop the knowledge about programme planning.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)

(Session :2021-22)

**Extension education and AV Aids**

**(Theory)**

**COURSE CODE: BVNM-5286**

**Time: 3 Hrs.**

**L-T-P**

**2-0-2**

**Max. Marks:100**

**Theory Marks:60**

**CA:20**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section.

**UNIT-I**

Communication-definition, importance process model, scope, function and problem in communication.

**UNIT-II**

Selection of channel and teaching tools.  
Feedback in communication.

**UNIT-III**

Audio-visual Aids – Meaning, types, choice planning and selecting theme, layout and design. Brief introduction of commonly used aids, posters, charts, flipcharts, exhibition, power- point presentation, bulletin, puppet, drama & talks, power-point presentation.

**UNIT-IV**

Programme planning – meaning and principles.  
Development & plan of work, importance format & elements, selection of subject matter

**Reference Book :-**

1. Education and Communication for development by O.P. Dhama and O.P. Bhatnagar13

Bachelor of Vocation (Nutrition, Exercise and Health)(Semester –V)  
(Session :2021-22)

**Extension education and AV Aids  
(practical)**

**COURSE CODE: BVNM-5286**

**Course Outcomes:**

- (CO)1. To enable them to make posters, templates , flashcards, pamphlets and PowerPoint presentation.
- (CO)2. To gain the knowledge about how to prepare lesson plan.
- (CO)3. To gain the knowledge about field visits and imparting extension education to rural people.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session :2021-22)

**Extension education and AV Aids  
(Practical)**

**COURSE CODE: BVNM-5286**

**Time : 3 hours**

**Marks: 20**

**Note :-** Paper will be set on the spot by the examiner.

1. Preparation of Visual Aid. Posters, charts, flash cards, pamphlets, power-point presentation.
2. Prepare a lesson plan on any subject matter to impart knowledge to the rural people.
3. Field visit to imparting extension education to rural people, submit the report that will be judged by the external examiner.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session 2021-22)  
Food service management  
(Theory)  
Course code: BVNM -5287

**COURSE OUTCOMES :**

(CO)1. To gain in depth knowledge of food service management .

(CO)2. To understand basic managerial skills.

CO3. To develop the knowledge about meal planning in institution , menu types and standardization of common food preparation.

CO4. To understand the knowledge about management, organization and communication process and method.

CO5. To develop the knowledge about personnel management, methods of recruitment, welfare provision for employees- health, safety and recreation.

CO6. To understand the knowledge about types of equipment, kitchen unit, storage units, serving units and dishwashing.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session 2021-22)

**FOOD SERVICE MANAGEMENT**  
(Theory)

Course code: BVNM -5287

**Time: 3 Hrs.**  
**L-T-P**  
**2-0-2**

**Max. Marks:100**  
**Theory Marks:60**  
**CA:20**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set; two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section

**CONTENTS:**

**Unit I:**

**Introduction to Food Service Systems and catering industry:** Evolution of the food service industry. Types of Services as affected by changes in the environment.

1. Hospital food service as a specialty –
2. Characteristics, rates and services of the food production of the various
3. Types of food service units – Canteens, Hostels, Hospitals and Restaurants. Role of kitchen Dietitian.

**Principles of Institutional food Management:** Management functions

**Management tools:** Tangible, Intangible tools

**Unit II:**

**Organizations** – Types of organizations and characteristics. Organizational charts. **Catering Management** – Definition, Principles and Functions, Tools of

**Human Resource Management:** Employment procedures: Recruitment Selection, Induction, Employee Benefits, Job description, Job specifications, Job evaluation, and Personnel appraisal. Training and Development

**Unit III:**

**Financial Management:** Elements of Financial management, Budget Systems and accounting, Budget preparation, Cost concept, cost control and pricing.

**Legal Aspects:** Labor Laws, Welfare policies and schemes for employees

**Space Organization:** Space requirements for kitchen and service areas, Types of Kitchens, Layout of service areas

**Unit IV:**

**Equipment:** Types of equipment, Selection of equipment, Maintenance of equipment.

**Time and Energy Management:** Importance of time and energy management, Types of energy,

Measures for utilization and conservation

**Purchase and store room management** – Purchase systems, specifications, food requisition and inventory systems, Record keeping

**REFERENCES:**

1. Ronald kinton and victor cesarani (1992), 'the theory of Catering', Bulter and Tanner Ltd., France and London.
2. Mohinisethi and surjeet Mohan (1993), catering management – An integrated approach, second edition, wiley esteem limited, New Delhi.
3. Food Service in Institutions – Wood
4. Food Service in Institutions – West, Bessin, Brooks.
5. Handbook of Food Preparations – A.M. Home Economics Association.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session :2021-22)

**Food service management  
(Practical)**

**COURSE CODE: BVNM-5287**

Course outcomes:

CO1. To develop the knowledge about standardization and cost calculation of recipes.

CO2. To enhance the supervising quality of a student in which they have to plan cafeteria and calculate its cost.

CO3. To gain the knowledge about market survey of food service equipment.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)

**FOOD SERVICE MANAGEMENT**

**(Practical)**

**Course code :BVNM-5287**

**Time: 3 Hrs.**

**Max. Marks: 20**

**CONTENTS:**

Market survey of Food service equipment.

Layout analysis of Kitchens of different food service Institutions.

Standardizing recipes for 100 servings/ persons

Cost analysis of menus in

-College canteen

-Hostel mess

-Hospitals (private, charitable, govt.)

Cafeteria (To be evaluated internally by a committee of three teachers.)

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session 2021-22)

**Diet Therapy and Applied Nutrition  
(Theory)**

**COURSE CODE: BVNL-5288**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1. To knowledge about principles of therapeutic diets.

CO2. To develop the knowledge about diet in metabolic and chronic disorder – diabetes , gout, cardiovascular disease.

CO3. To develop the knowledge about nutrition and cancer.

CO4. To develop the knowledge about AIDS and skin disease.

CO5. To develop the knowledge about Drug – Nutrient interaction.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session 2021-22)

**Diet Therapy and Applied Nutrition  
(Theory)**

**COURSE CODE: BVNL-5288**

**Time: 3 Hrs.**  
**L-T-P**  
**2-0-2**

**Max. Marks:100**  
**Theory Marks:60**  
**CA:20**

**Instructions for the Paper Setter**

- Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section.
- The fifth question may be attempted from any Section.

**UNIT -I**

Drug – Nutrient interaction.

**1. Principles of therapeutic diets.**

Introduction – Intravenous feeding, soft, liquid and post operative feedings.

Modifications of Diet. Surgical conditions.

Diets in Fever and Infections–Types, metabolism in fevers, general dietary considerations.

Diet in Typhoid, Tuberculosis

Calories – Under nutrition, over nutrition.

**UNIT-II**

Gastro intestinal diseases – Peptic ulcer spastic and stomic constipation, diarrhoeas, Ulcerative colitis–symptoms and dietary treatment, Sprue-coeliac diseases, Lactose intolerance dietary treatment

Liver disease – jaundice, cirrhosis and hepatic coma, gall bladder disease (cholecystitis and cholelithiasis, and pancreatitis)

Kidney disease – Nephritis, nephrotic syndrome acute and chronic renal failure, Urinary calculi kidney failure and Dialysis

**UNIT-III**

Chronic disorder like gout.

Cardiovascular disease – Hypertension and heart disease (Artherosclerosis,Hyperlipidemia)

Elimination diets in allergy.

**UNIT-IV**

Obesity and its management

Nutrition and Cancer.

Nutrition and AIDS and skin diseases.

**Books Recommended:**

- (i) Davidson and Passmor – Human Nutrition and Dietetics.
- (ii) Whole and Good Heart – Modern Nutrition in Health and Disease.
- (iii) Cooper, Barber and Micholl – Nutrition in health and disease.
- (iv) Anita – Nutrition in health and disease

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session : 2021-22)

**Diet therapy and applied nutrition  
(Practical)**

**COURSE CODE: BVNL-5288**

**COURSE OUTCOMES**

Upon Completion of this Course the student should be able to

CO1. To develop the knowledge about planning, preparation and serving diets for all the conditions.

CO2. To develop knowledge functioning of hospital in patient care and to plan diet for different patients.

CO3. To develop the knowledge of preparing innovative recipes for therapeutic conditions such as diabetes, hypertension.

Bachelor of Vocation (Nutrition, Exercise and Health) (Semester –V)  
(Session : 2021-22)

**Diet Therapy and Applied Nutrition  
(Practical)**

**COURSE CODE: BVNL-5288**

**Time : 3 hours**

**Marks: 20**

As related to theory planning preparation and serving diets for all the conditions mentioned in the theory keeping in mind the economic, regional and cultural factors. Family nutrition counseling.

Innovation of at least 2 recepies for therapeutic conditions e.g. diabetes, hypertension etc.

As related to theory planning preparation and serving diets for all the conditions mentioned in the theory keeping in mind the economic, regional and cultural factors. Family nutrition counseling.

Innovation of at least 2 recepies for therapeutic conditions e.g. diabetes, hypertension etc.

Bachelor of Vocation Nutrition, Exercise and Health (Semester –V)  
(Session :2021-22)

**Cafeteria  
(Practical)**

**COURSE CODE: BVNL-5289**

Course outcomes:

Upon Completion of this Course the student should be able to

CO1. To knowledge about preparation of recipes suitable for cafeteria.

CO2. To develop the knowledge about standardization and cost calculation of recipes selected for cafeteria.

CO3. To enhance the supervising quality of a student in which they have to plan cafeteria and calculate its cost.

Bachelor of Vocation Nutrition, Exercise and Health (Semester –V)  
(Session :2021-22)

**Cafeteria  
(practical)**

**COURSE CODE: BVNL-5289**

**Time : 3 hours**

**Max. Marks: 50**

**CA: 10**

**INSTRUCTION FOR THE PAPER SETTER:** There will be eight questions in all.  
Question no. One will be compulsory: students will attempt five questions in all.

**CONTENTS**

1. Bulk Cooking for atleast 25 persons.
2. Students have to cook min. 4 dishes .
3. The cooking should be Theme based.

**Bachelor of Vocation (Nutrition, Exercise and Health)**  
**(Session 2021-2022)**  
**(Credit Based Continuous Evaluation Grading System)**

|                      |
|----------------------|
| C- Compulsory        |
| S- Skill Enhancement |

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**Session: 2021-22**

**Nutrition and Fitness**

**(Theory)**

**COURSE CODE: BVNL -6281**

**COURSE OUTCOME**

Upon completion of this course the student should be able to

CO (1)- To Understand the basic concept of fitness and its assessment.

CO (2)- To understand the role of nutrition in fitness.

CO (3)- To understand the nutritional guidelines for fitness and nutritional supplements.

CO (4)- To understand the importance of physical activity.

CO (5)- To understand the assessment, etiology and complications of overweight and obesity.

CO (6)- To understand the concept of fad diets.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**Session: 2021-22**

**Nutrition and Fitness**

**(Theory)**

**COURSE CODE: BVNL -6281**

**Time: 3 Hours**

**Max. Marks: 100**

**Theory:80**

**CA:20**

**L-T-P**

**4-0-0**

**INSTRUCTION FOR THE PAPER SETTER:**

- Eight questions of equal marks are to be set; two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section. Each question carry 12 marks.
- The fifth question may be attempted from any Section.

Content:

**Unit-I**

Understanding Fitness

- Definition of fitness, health and related terms
- Assessment of fitness
- Approaches for keeping fit

**Unit-II**

Importance of nutrition

- Role of nutrition in fitness
- Nutritional guidelines for health and fitness
- Nutritional Supplements

**Unit-III**

Importance of Physical activity

- Importance and benefits of physical activity
- Physical Activity- Frequency, Intensity, Time and type with examples
- Physical Activity Guidelines and physical activity pyramid

**Unit-IV**

Weight Management

- Assessment, etiology, health complications of overweight and obesity
- Diet and exercise for weight management
- Fad diets
- Principles of planning weight reducing diets.

## RECOMMENDED READINGS-

- Wardlaw,Smith,Contemporary Nutrition:A Functional Approach 2nd Ed .2012.Mc Graw Hill.
- Williams Melvin,Nutrition for health,fitness and sports .2004.Mc Graw Hill.
- Joshi AS ,Nutrition and Dietetics 2010.Tata Mc Graw Hill

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**Session: 2021-22**

**Food Safety**

**(Theory)**

**COURSE CODE: BVNL -6282**

**COURSE OUTCOME**

Upon completion of this course the student should be able to

CO (1)- To Understand the concept of food safety and hygiene.

CO (2)- To understand the concept of food borne illness and food hazards.

CO (3)- To understand the food laws and regulations (National as well as International).

CO (4)- To understand the design and implementation of food safety management system such as ISO, HACCP.

CO (5)- To understand the concept of food safety management.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**Session: 2021-22**

**Food Safety  
(Theory)**

**COURSE CODE: BVNL -6282**

**Time: 3 Hours**

**Max. Marks: 100**

**Theory:80**

**CA:20**

**L-T-P**

**4-0-0**

**INSTRUCTION FOR THE PAPER SETTER:**

- Eight questions of equal marks are to be set; two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section. Each question carry 12 marks.
- The fifth question may be attempted from any Section.

Content:

**UNIT-I**

- Introduction to Food Safety: Definition, Types of hazards and their impact on health ,biological, chemical, physical hazards ,and their control measures.Factors affecting food safety ,Hygiene.
- Food handling,Purchasing and Receiving Safe Food.
- Food-Important points to be observed for receiving various foods.
- Sanitary procedures while preparing ,cooking and holding food, Safety of left over foods ,Food Storage -Guidelines for storage of foods at various temperatures,Storage of Specific Foods.

**Unit-II**

- Food Borne Illness and Food Hazards
- Food Borne illnesses caused by Bacteria ,Virus and Parasites .Natural Toxicants in foods,Chemicals,Antibiotics,Hormones and Metal Contamination

**Unit-III**

- Food Safety Management; Basic Concept, Prerequisites-GHP's, GMP's, and SSOP's, HACCP ,ISO Series ,TQM-Concept and need for quality ,Components of TQM, Kaizen. Risk Analysis, Accreditation and Auditing.
- Safety concerns in food packaging: Principles in the development of safe and protective packaging, Product labelling, Nutritional Labelling and safety assessment of food packaging materials.

#### **Unit-IV**

- Food Laws and Standards : Indian Food Regime ,Global Scenario ,Other laws and standard related to food ,FPO,PFA,FSSAI,AGMARK,BIS,GRAS and permissible limits for chemical preservatives .
- Recent concerns in food safety: New and Emerging Pathogens. Genetically modified foods/Transgenic/ Organic foods. Newer approaches to food safety.

#### **References:**

##### **Text books**

- First Aid, CPR and AED, 5th ed. (2006). A. Thygeson, B. Gulli& J.R. Krohmer. Jones & Bartlett. ISBN: 0763742090

##### **Suggested Books:**

- Food Science & Nutrition-RodaySunetra, Oxford University Press
- Ali, Inteaz, Food Quality Assurance
- Hester and Harrison, Food Safety and Food Quality

##### **Web Links:**

- [https:// www.hanoverhornets.org/pe/wp-content/uploads/2017/01/nutritionnotes-2.pdf](https://www.hanoverhornets.org/pe/wp-content/uploads/2017/01/nutritionnotes-2.pdf)
- <https://download.nos.org/srsec321newE/321-E-Lesson-4.pdf>
- <https://testbook.com/blog/nutrition-and-deficiency-static-gk-notes-pdf-3/>
- <https://www.wasatch.edu/cms/lib/UT01000315/Centricity/.../exsci%20lecture%20notes.pdf>
- <https://academic.oup.com/nutritionreviews/article-pdf/45/.../nutritionreviews45-0319.pdf>

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**Session: 2021-22**

**(Theory)**

**Paediatric Nutrition**

**COURSE CODE: BVNL -6283**

**COURSE OUTCOME**

Upon completion of this course the student should be able to

CO (1)- To Understand the concept of anthropometric measurements.

CO (2)- To understand the concept of Childhood obesity; Underweight and Under nutrition.

CO (3)- To understand the Nutritional screening and nutritional status assessment of the critically ill.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**  
**Session: 2021-22**  
**(Theory)**  
**Pediatric Nutrition**

**COURSE CODE: BVNL -6283**

**Time: 3 Hours**

**Max. Marks: 100**  
**Theory: 80**

**L-T-P**  
**4-0-0**

**CA: 20**

**INSTRUCTION FOR THE PAPER SETTER:**

- Eight questions of equal marks are to be set; two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).
- Candidates are required to attempt five questions, selecting at least one question from each section. Each question carry 12 marks.
- The fifth question may be attempted from any Section.

Contents:

**Unit –I**

- Paediatric nutrition. Paediatric nutrition assessment: Anthropometric measurements, Biochemical parameters, clinical and dietary data.
- Measuring, recording and plotting growth
- Normal nutrition for infants – requirements, importance of breast feeding, bottle feeding , commercial formulas, weaning foods, other family foods, physiology and care of the preterm infant.
- Nutritional considerations for LBW children and children with development disabilities. Nutrition in childhood; Growth and development; nutrient needs
- Assessment of nutritional status of children. Providing an adequate diet - Factors affecting food intake.

**Unit -II**

- Feeding the preschool child, the school- aged child.
- Nutritional concerns
- Childhood obesity; Underweight and Undernutrition- shortterm and long-term consequences in brief, Failure to thrive.
- Growth faltering and detection Mineral and vitamin deficiencies.
- Dental caries
- Allergies
- Attention-deficit hyperactivity disorder
- Neurological disease in children i.e. epilepsy (ketogenicdiets)
- Pulmonary disease in children, cystic fibrosis.

### **Unit -III**

#### **Children and Gastrointestinal Disease**

- Celiac disease
- Colitis
- Constipation
- Crohn's disease
- Esophagitis
- Gallbladder diseases
- Gastrointestinal bleeding
- Gastroparesis
- GERD, or gastroesophageal reflux disease
- Irritable bowel syndrome
- Inflammatory bowel disease
- Liver disease
- Pancreatic diseases
- Peptic ulcers
- Short bowel syndrome

### **Unit -IV**

- Nutritional Requirements- Water, Energy proteins, carbohydrate, Fats, Minerals, Vitamins
- Diet for later childhood and adolescent
- Nutrition Values of Indian Foods, Recipes.
- Complementary foods
- Inborn errors of Metabolism, Chronic Illness, Surgery, critically ill child.

#### **References:**

- Pediatric Nutrition by Suraj Gupte
- Nutrition and child development by KE Elizabeth
- Infant , child and adolescent Nutrition by judy More.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**Therapeutic Nutrition  
(Theory)**

**COURSE CODE: BVNM -6284**

Course outcomes:

- 1.To gain insight into objectives and concept of therapeutic Diets
2. To develop adaptations of normal diets into therapeutic.
3. To understand the concept of therapeutic nutrition in different diseases infections and fevers.
4. To gain knowledge of dietary modifications and management techniques.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**Session: 2021-22**

**Therapeutic Nutrition**

**(Theory)**

**COURSE CODE: BVNL -6285**

**Time: 3 Hours**

**Max. Marks: 100**

**Theory:60**

**Practical:20**

**CA:20**

**L-T-P**

**2-0-2**

**INSTRUCTION FOR THE PAPER SETTER:**

□ Eight questions of equal marks are to be set; two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four).

□ Candidates are required to attempt five questions, selecting at least one question from each section. Each question carry 12 marks.

□ The fifth question may be attempted from any Section.

**Content:**

**Unit-I**

- Basic concept of Therapeutic diet - meaning, importance, objectives, Therapeutic adaptations of the normal diet.
- Nutrient and drug interaction. Effect of drug therapy on intake, absorption and utilization of nutrients.

**Unit-II**

- Nutrition in Diabetes Mellitus - Type's etiology, symptoms metabolic changes, life style modification, Dietary management, Hypoglycemic agents, Medication, Insulin therapy, Acute Complication of diabetes.
- Nutrition in obesity - assessment of obesity, Hazards of obesity, etiology, nutritional management and other approaches. Brief knowledge of Dash Diet.
- Food Allergy - Causes, symptoms & dietary management.

**Unit -III**

- Critical care Nutritional screening and nutritional status assessment of the critically ill.
- Nutritional support system and other life - saving measures for the critically ill.
- Enteral and parenteral nutrition support. Role of immune enhancer, conditionally essential nutrients, Immune suppressants, and special diets in critical care

- Complications of nutritional support system including re-feeding syndrome and rehabilitation diets.

#### **Unit -IV**

- Enteral nutrition: Various sites for enteral nutrition. In brief, discussion on Ryles tube and its care. Types of feeds, advantages and disadvantages of home-based feed.
- Commercial formula feed – incorporation of easily digestible food. Requirement of nutrients according to problems e.g. renal, respiratory etc. Total parental nutrition. The importance of TPN Long term effect of its use Site of TPN and its care Composition.

#### **Reference books**

1. Food and Nutrition - by Dr. M.Swaminathan
2. Text book of Nutrition & Dietetics - by Kumeed Khanna & others.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**  
**Therapeutic Nutrition**  
**(Practical)**

**COURSE CODE: BVNM -6285**

Course outcomes

1. To develop therapeutic diets according to special requirements of nutrients.
2. To calculate the nutritive value of diets.
3. To study the nutritive value of diets given in different diseases.
4. To develop entrepreneurship skills in students.
5. To encourage the students to set up a diet clinic.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**  
**Therapeutic Nutrition**  
**(Practical)**

**COURSE CODE: BVNM -6285**

**Marks: 20**

**Note: Paper will be set on the spot by the examiner.**

1. Prepare following therapeutic recipes and calculate their nutritive value.
  - a. Prepare 5 recipes of liquid and soft diet.
  - b. Prepare 5 high protein and high energy recipes.
  - c. Prepare 5 high carbohydrate, moderate protein & low fat recipes.
  - d. Prepare 5 high fiber and low glycemic index recipes.
  - e. Prepare 5 low sodium, low fat and high fiber diet.
2. Plan and calculate nutritive value of diet for the following diseases. Typhoid, Diarrhoea, Constipation, Jaundice, peptic ulcer, Diabetes, Hypertension, atherosclerosis, renal disease and obesity.
3. Students are required to run Diet Clinics in the college.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**SESSION: 2021-22**

**QUANTITY FOOD PRODUCTION & SERVICE**

**(Theory)**

**COURSE CODE: BVNM-6286**

**COURSE OUTCOME:**

CO (1). To understand about different food services.

CO (2). To get the concept of menu planning and importance of personal hygiene of food handlers.

CO (3). To discuss about food management, food purchasing and preparation of different foods.

CO (4). To understand the effective use of leftover food, food production system and effect of cooking method on nutritional quality of food.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**SESSION: 2021-22**

**QUANTITY FOOD PRODUCTION & SERVICE**

**(Theory)**

**COURSE CODE: BHSM-6286**

**Time: 3 Hours**

**L-T-P**

**2-0-2**

**Max. Marks: 100**

**Theory: 60**

**Practical: 20**

**CA: 20**

**INSTRUCTION FOR THE PAPER SETTER:**

□ Eight questions of equal marks are to be set; two in each of the four Sections (A- D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Each question carry 12 marks.

□ Candidates are required to attempt five questions, selecting at least one question from each section.

□ The fifth question may be attempted from any Section.

**COURSE CONTENT:**

**UNIT- I**

□ Aims and objectives of different food service and beverage outlets (a) Hospitality industry, (b) institutional/welfare.

□ Food and Beverage service methods Table service Assisted service Self service-Types Single point service Specialized service.

**UNIT- II**

□ Menu Planning- importance, factors, construction writing and display.

□ Importance of personal hygiene of food handler – clothes, personality, health, attitude towards customers.

□ Cost Control- Standardization and portion size of recipe-calculating cost of dish, meal and event. Methods of calculation - Gross profit ratio food cost ratio. Methods of controlling cost.

**UNIT- III**

□ Characteristics of Food- Quality in food service, Quantitative, sensory and nutritional quality.

□ Food Management- Food Purchasing, receiving, storage, handling and preparation.

□ Food production – Food production system, food production process, effect of cooking methods on the nutritional quality of foods. Some large quantity cooking technique, Effective use of leftover, holding techniques.

**UNIT-IV**

□ Waste product handling: Planning for waste disposal. Solid wastes and liquid wastes

□ Control of Infestation - rodent, flies, cockroaches control, use of pesticides.

□ Service Areas- Planning of service area, Table sizes and decor of service area.

**References:**

1. Mohini Sethi, Surjeet Malhan, Catering Management An Integrated Approach.  
New Age International (P) Limited Publisher Jalandhar.
2. Mohini Sethi, Surjeet Malhan - Institutional food management.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester– VI)**

**SESSION: 2021-22**

**QUANTITY FOOD PRODUCTION & SERVICE  
(PRACTICAL)**

**COURSE CODE: BVNM-6286**

**COURSE OUTCOME:**

CO 1: To prepare them for event management.

CO 2: To give hands on training for commercial cooking

CO 3: To make them clear about the nutritive calculations of various recipes.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester-VI)**

**SESSION: 2021-22**

**QUANTITY FOOD PRODUCTION & SERVICE  
(PRACTICAL)**

**COURSE CODE: BHSM-6286**

**Time: 3 Hours**

**Max. Marks: 20**

**Note: Paper will be set on the spot by the examiner.**

- 1) Standardization and cost calculation of a snacks & meals.
- 2) Preparation of High Teas/Lunches/Dinners for special occasions.
  - ☐ Kitty party
  - ☐ New Year
- 3) Holi/Diwali
- 4) Lohri
- 5) Anniversary
- 6) Birthday
- 7) Picnic
- 3) Arrange one small party
- 4) Daily and occasional cleaning of kitchen equipment's, utensils, counters, floor and cupboards.

**Bachelor of Vocation (Nutrition, Exercise and Health) (Semester-VI)**

**SESSION: 2021-22**

**Internship**

**(PRACTICAL)**

**COURSE CODE: BHSP-4288**

**Time: 3 Hours**

**L-T-P**

**0-0-4**

**Max. Marks: 100**

- Internship of any of the multi-specialty Hospital for a min. period of 30 days as Dietician.