

# FACULTY OF SCIENCES

## SYLLABUS

### FOR

#### **Bachelor of Vocation (B.Voc.) (NUTRITION AND DIETETICS) (SEMESTER: V-VI)**

**Examinations: 2019-20**



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## **GURU NANAK DEV UNIVERSITY AMRITSAR**

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Bachelor of Vocation (B.Voc.)  
(Nutrition and Dietetics) (Semester System)

**SEMESTER-V**

<b>Paper Code.</b>	<b>Subject</b>	<b>Theory Marks</b>	<b>Duration</b>	<b>Practical Marks</b>	<b>Duration</b>	<b>Total Marks</b>
Paper-I	Community Nutrition	50	3 Hrs	50	3 Hrs	100
Paper-II	Food Hygiene and Sanitation	75	3 Hrs	-	-	75
Paper-III	Therapeutic Nutrition-I	75	3 Hrs	50	4 Hrs	125
Paper-IV	Social Welfare	50	3 Hrs	-	-	50
Paper-V	Entrepreneurship and Small Business	50	3 Hrs	-	-	50
<b>GRAND TOTAL</b>						<b>400</b>

**SEMESTER-VI**

<b>Paper Code.</b>	<b>Subject</b>	<b>Theory Marks</b>	<b>Duration</b>	<b>Practical Marks</b>	<b>Duration</b>	<b>Total Marks</b>
Paper-I	Therapeutic Nutrition-II	75	3 Hrs	50	4 Hrs	125
Paper-II	Diet Counseling	-	-	100	4 Hrs	100
Paper-III	Personality Development	70	3 Hrs	30	3 Hrs	100
Paper-IV	Internship	-	-	75	4 Hrs	75
<b>GRAND TOTAL</b>						<b>400</b>

**Paper-I: COMMUNITY NUTRITION  
(THEORY)**

**Time: 3 Hours  
(Theory Paper )**

**Total Marks: 100  
Theory: 50  
Practical: 50**

**Instructions for paper setters**

1. There will be 7 questions in all. Students are required to attempt 5 questions. (10 Marks each)
2. Question no. 1 (short answer type) is compulsory.

**Course Content**

- Nutrition and health in national development.
- Malnutrition: Meaning, factors contributing to malnutrition, over nutrition, under nutrition.
- Nutritional disorders: Epidemiology, clinical features, prevention and dietary treatment for protein energy malnutrition, nutritional anemia, vitamin A deficiency, iodine deficiency and fluorosis.
- Methods of assessing nutritional status:
  - (a) Sampling techniques-identifications of risk groups.
  - (b) Direct assessment- diet surveys, anthropometric, clinical and biochemical estimation.
  - (c) Indirect assessment: food balance sheet, ecological parameters and vital statistics.
  - (d) Use of growth charts.
- Improvement of nutrition of a community:
  - (a) Modern methods to improve nutritional quality of food- food fortification, enrichment and nutrient supplementations.
  - (b) Nutrition education themes and messages in nutrition and health, antenatal and postnatal care.
- National and International agencies in uplifting the nutritional status: WHO, UNICEF, CARE, ICMR, ICAR, CSIR, CFTRI. Various nutrition related welfare programmes, ICDS, SLP, MOM and others (in brief).
- Community nutrition programme planning: Identification of problem, analysis of causes, resources, constraints, selection of interventions, setting a strategy, implementations and evaluation of the programme.

**Suggested readings:**

1. McLaren, D.S. (1983). Nutrition in the Community. John Wiley and Sons.
2. Jelliffe, D. B. (1996). The Assessment of Nutritional status on the community-WHO Monograph series No. 53-geneva.
3. Shukla, P.K. (1982). Nutritional Problem of India. Prentice Hall of india Pvt. Ltd., New Delhi
4. Ibrahim, G.J. (1983). Nutrition in Mother and Children Helath. London, macmillan.
5. Ritchey, S.J. and Thaper, J. (1983). Maternal and Child Nutrition. Harper and Row Publishers, New Delhi.

**Paper-I: COMMUNITY NUTRITION  
(PRACTICAL)**

**Time: 3 Hours**

**Total Marks: 50**

**Instructions for examiners**

1. Preparation of a chart/poster/leaflet to impart nutrition education. (20 Marks)
2. Evaluation of charts, posters and leaflets prepared during course work to impart nutrition education. (10 Marks)
3. File. (10 Marks)
4. Viva. (10 Marks)

**Course content**

- Preparation of chart, poster and leaflet to impart nutrition education (balanced diet, obesity and malnutrition).
- Assessment of nutritional status of five individuals using
  - a) anthropometry
  - b) dietary survey
  - c) clinical signs and symptoms.
- Evaluation of diet of above mentioned five individuals and give guidelines for improvement.

**Paper-II: FOOD HYGIENE AND SANITATION  
(THEORY)**

**Time: 3 Hours**

**Total Marks: 75**

**Instructions for paper setters**

1. There will be 7 questions in all. Students are required to attempt 5 questions. (15 Marks each)
2. Question no. 1 (short answer type) is compulsory.

**Course Content**

- Concept, significance and interrelationship of health, hygiene and sanitation. Characteristics of good health and factors affecting it.
- Kitchen hygiene and sanitation.
- Hygiene of food handling during receiving, storage, preparation, cooking, serving, holding, cleaning and disposal.
- Personal hygiene of food handlers – Dress, grooming, health and habits.
- Sources of water contamination and its purification at domestic level.
- Causes of air pollution and its ill effects on health.
- Causes, symptoms and control of food borne diseases-diarrhea, dysentery, cholera, typhoid, jaundice.
- Soil impurities, their effect on health and its prevention and control.
- Accidental and bacterial food poisoning. Symptoms and prevention of food poisoning.
- Municipal health services and mobile units. Prevention and control of infectious diseases. Notification, quarantine, segregation and dis-infection.
- Health services at fairs and festivals. Removal and disposal of refuse and excreta.
- Waste product handling: Planning for waste disposal, solid wastes and liquid wastes.
- Control of infestation – Rodent, flies and cockroaches control, use of pesticides.

**Suggested readings:**

1. Muller, H.G. (1981). Fundamentals of Foods and Nutrition. New Delhi, Wiley Eastern Pvt Ltd.
2. Anderson, L. (1982). Nutrition in Health and Disease. 17<sup>th</sup> ed. Philadelphia, J B Lippincott.
3. Barasi Mary, E. (1997). Human Nutrition-A health perspective. Arnold International Student's edition, U.K.
4. Calloway, D.H. (1981). Nutrition and Health. Philadelphia, Saunders College Publication.

**Paper-III: THERAPEUTIC NUTRITION-I  
(THEORY)**

**Time: 3 Hours  
(Theory paper)**

**Total Marks: 125  
Theory: 75  
Practical: 50**

**Instructions for paper setters**

1. There will be 7 questions in all. Students are required to attempt 5 questions. (15 Marks each)
2. Question no. 1 (short answer type) is compulsory.

**Course Content**

- Role of dietician: The hospital and community.
- Basic concepts of diet therapy.
- Principles of diet therapy and therapeutic nutrition for changing needs.
- Modification of normal diet: Liquid diet (clear liquid and full fluid), soft diet, bland diet.
- Basic concepts of:
  - a) Oral feeding
  - b) Tube feeding
  - c) Parental nutrition
  - d) Intravenous feeding
- Obesity-causes, complication, health effects, dietary treatment and other recommendations.
- Underweight- causes, dietary treatment and other recommendations.
- Diet in fevers and infections-metabolism in fever, general dietary considerations, diet in influenza, typhoid fever and tuberculosis.
- Diet in Diabetes mellitus:
  - a) Incidence and predisposing factors.
  - b) Symptoms-types and tests for detection.
  - c) Metabolism in diabetes.
  - d) Dietary treatment & meal management.
  - e) Complication of diabetes.

**Suggested readings:**

1. Anita, F.P. (1989). Clinical Dietetics and Nutrition. Bombay, Oxford Press.
2. Williams, S.R. (1994). Nutrition and Diet Therapy. New York, Mosby Mirror Publishing Co.
3. Sri Lakshmi, B. (2002). Dietetics. New Delhi, New Age International Pub. Ltd.
4. Malhan, K.N. and Arlim. (2002). Krauses Food Nutrition and Diet Therapy. W.B. Saunders Company, Philadelphia.
5. Passmore, P. and Eastwood, M.A. (1986). Human Nutrition and Dietetics. London, ELBS and Co.

**Paper-III: THERAPEUTIC NUTRITION-I  
(PRACTICAL)**

**Time: 4 Hours**

**Total Marks: 50**

**Instructions for examiners**

- 1) Planning of any one diet and calculation of two nutrients important for that particular condition. (30 Marks)
- 2) File. (10 Marks)
- 3) Viva. (10 Marks)

**Course content**

- Planning diets in the following conditions:
  - a) Obesity
  - b) Underweight
  - c) Fever and infections
  - d) Diabetes mellitus.
- Planning snacks, deserts and beverages for diabetes.
- Preparation of clear liquid diet, full fluid diet, soft diet, bland diet.



**Paper-IV: SOCIAL WELFARE  
(THEORY)**

**Time: 3 Hours**

**Total Marks: 50**

**Instructions for paper setters**

1. There will be 7 questions in all out of which students are required to attempt any 5 (10 marks each).
2. Question no. 1 (short answer type) is compulsory.

**Course Content**

**1. Concept of Social Welfare:**

- a) Meaning, Importance.
- b) Social welfare as distinguished from social work, social service, social reform and social action.
- c) Broad fields of social welfare.
  - Family and child welfare
  - Medical and psychiatric welfare
  - Correctional service
  - Labour welfare service
  - Tribal Welfare

**2. Social welfare agencies and institutions involved in social welfare:**

- a) Social welfare administration
- b) Functioning of central and state government.
- c) Ministeries and departments of social welfare
- d) Trends in social welfare administration
- e) Central social welfare board
- f) Kasturba Gandhi National Memorial Trust
- g) Bhartiya Grameen Mahila Sangh
- h) All India women's conference
- i) Women's voluntary service
- j) The all India conference of social work
- k) The home science association of India
- l) Local Organization – Official and non-official, involved in social welfare.

**Suggested readings:**

1. Clarke, Helen, Principles and Practices of Social work, Acolaton, Century-crofts, Ince, New York, 1947.
2. Young Husband, Eileon, Social work and Social Change, George Allan and Unwin Ltd., Ruskin House Museum Street, London, 1964.
3. Fariodlander, Walter, A Concept and Methods of Social Work, Prentice Hall of India (Pvt). Ltd., New Delhi, 1964.
4. E. Wilson, Everett, E. and Convener, Merrill B. The Field of Social work, Henry Holt and Company, New York, 1958.

**Paper-V: ENTREPRENEURSHIP AND SMALL BUSINESS  
(THEORY)**

**Time: 3 Hours**

**Total Marks: 50**

**Instructions for paper setters**

1. There will be 7 questions in all. Students are required to attempt 5 questions (10 Marks each).
2. Question no. 1 (short answer type) is compulsory.

**Course Content**

- Concept of Entrepreneurship: The entrepreneur – Definition, Nature and characteristics of entrepreneurship.
- Emergence of entrepreneurial class including women entrepreneurs.
- Theories of entrepreneurship: Socio-economic environment and the entrepreneur.
- Characteristics of entrepreneur leadership, risk taking, decision making and business planning.
- Innovation and entrepreneurship, entrepreneurial behavior and motivation.
- Entrepreneurial development programmes – Their relevance and achievements. Role of government in organizing such programmes.
- Critical evaluation.
- Small business as a seed bed of entrepreneurship: concept of business venture.
- The start of process: Concept. Plan, implementation, initial strategic planning. Product and marketing scope.
- Legal and tax consideration, risk analysis and financial considerations.
- Profit planning in small enterprise: Growth strategies and diversification. Financial management in current operations and expansion of capital.
- Role of small business in the national economy.
- National policies for small business development. Governmental and non-governmental assistance.
- Contribution of commercial banks in promoting and services in small business. Small business and modern technology.
- Government policies and formalities in setting up a unit.

**Suggested Readings:**

1. Hall. B., Pricke. and Royce L. Brahamson – Small Business Management.
2. Kenneth R., Van Voorthis – Entrepreneurship and Small Business Management.
3. Hans Schollhammer and Arthur H.Kuriloff- Enterprenureship and Small Business Management.

**Paper-I: THERAPEUTIC NUTRITION-II**  
**(THEORY)**

**Time: 3 Hours**  
**(Theory paper)**

**Total Marks: 125**  
**Theory: 75**  
**Practical: 50**

**Instructions for paper setters**

1. There will be 7 questions in all. Students are required to attempt 5 questions. (15Marks each)
2. Question no. 1 (short answer type) is compulsory.

**Course Content**

- Diet in gastritis and peptic ulcer-symptoms, clinical findings and dietary modifications.
- Diet in disturbances of small intestine and colon.
  - a) Diarrhea (child and adult)-classification, modification of diet, fibre, residue, fluid and nutritional adequacy.
  - b) Constipation-flatulence-dietary considerations.
  - c) Ulcerative colitis (adults)-symptoms, dietary treatment.
  - d) Celiac disease, lactose-intolerance, dietary treatment.
- Diet in diseases of the liver, gall bladder and pancreas.
  - a) Etiology, symptoms and dietary treatment in-jaundice, hepatitis, cirrhosis and hepatic coma.
  - b) Role of alcohol in liver diseases.
  - c) Dietary treatment in cholecystitis, cholelithiasis and pancreatitis.
- Diet in allergy and skin disturbances: definition, classification, manifestations, common food allergies and test and dietary treatment.
- Diet in renal diseases: Basic renal function, symptoms and dietary treatment in acute and chronic glomerulonephritis, nephrosis, renal failure, dialysis. Urinary calculi-causes and treatment, acid and alkali producing and neutral foods.
- Diet in cardiovascular diseases: Role of nutrition in cardiac efficiency, incidence of atherosclerosis, dietary principles, hyperlipdenmia.  
Hypertension-causes and dietary treatment.  
Sodium restricted diet, level of sodium restriction, sources of sodium.
- Diet in surgical conditions, burns and cancer.

**Suggested readings:**

1. Anita, F.P. (1989). Clinical Dietetics and Nutrition. Bombay, Oxford Press.
2. Williams, S.R. (1994). Nutrition and Diet Therapy. New York, Mosby Mirror Publishing Co.
3. Sri Lakshmi, B. (2002). Dietetics. New Delhi, New Age International Pub. Ltd.
4. Malhan, K.N. and Arlim. (2002). Krauses Food Nutrition and Diet Therapy. W.B. Saunders Company, Philadelphia.
5. Passmore, P. and Eastwood, M.A. (1986). Human Nutrition and Dietetics. London, ELBS and Co.

**Paper-I: THERAPEUTIC NUTRITION-II  
(PRACTICAL)**

**Time: 4 Hours**

**Total Marks: 50**

**Instructions for examiners**

- 1) Planning of any one diet and calculation of two nutrients important for that particular condition. (30 Marks)
- 2) File. (10 Marks)
- 3) Viva. (10 Marks)

**Course content**

- Planning diets in the following conditions:
  - a) Diarrhea
  - b) Constipation
  - c) For peptic ulcer
  - d) For liver disease
  - e) For cardiovascular diseases.
  - f) For renal disease.
  - g) Surgery.

**Paper-II: DIET COUNSELING  
(PRACTICAL)**

**Time: 4 Hours**

**Max Marks: 100**

**Instructions for examiners**

1. Preparation of a teaching aid for imparting nutrition education to a patient suffering from any one disease given in course content. **(25 Marks)**
2. Evaluation of teaching aids prepared during course work. **(15 Marks)**
3. PowerPoint presentation regarding nutrition counseling for any one disease (prepared during course work). **(30 Marks)**
4. File. **(15 Marks)**
5. Viva. **(15 Marks)**

**Course Content**

- Diet counseling –its significance
- Assessment of needs of patients
- Practical consideration in giving dietary advice and counseling
  - (a) Individual food choice
  - (b) Communication of dietary advice
  - (c) Consideration of behavior modification
  - (d) Motivation
- Preparation of teaching aids (charts, posters and leaflets) for patients suffering from
  - a) Diabetes Mellitus
  - b) Hypertension
  - c) Cardiovascular diseases
  - d) Digestive disorders
- PowerPoint presentation regarding nutrition counseling.
- Computer application
  - (a) Execution of software packages
  - (b) Straight line, frequency table, bar diagram, pie chart, preparation of dietary chart for patients
- Organizing counseling camp for obesity, digestive disorders, diabetes, hypertension and cardio-vascular diseases in college/hostel/health club.

**Suggested Readings:**

1. Nutrition Counseling and Education Skills for Dietetics Professionals Paperback – December 17, 2012 by Betsy Holli , Judith A Beto PhD RD LDN FADA.
2. Nutrition Counseling and Education Skill Development Paperback – July 21, 2011, by Kathleen D. Bauer , Doreen Liou.
3. Nutrition Therapy and Pathophysiology , Hardcover – June 16, 2010, by Marcia Nelms , Kathryn P. Sucher.
4. Nutrition and Dietetics 2<sup>nd</sup> Ed, Shubhangini A. Joshi, Tata McGraw-Hill Publishing Company Limited.

**Paper-III: PERSONALITY DEVELOPMENT  
(THEORY)**

**Time: 3 Hours**

**Total Marks: 100  
Theory Marks: 70  
Practical Marks: 30**

**Instructions for paper setters**

**Section-A**

There will be 10 short answer type questions (10×2=20).

**Section-B**

There will be 7 questions in all. Students are required to attempt 5 questions (5×10=50).

**Course Content**

- Personality – Introduction to personality, types and theories of personality:
  - a) Roger's Self theory
  - b) Freud theory
  - c) Eyesenck theory
- Measurement of personality – Objective and projective techniques.
- Communication skills: Types of communication, features of effective communication, Barriers and Filters, Listening and active listening, Feedback.
- Leadership : Introduction, characteristics of effective leaders , types of leadership
  - a) Trait theory.
  - b) Lewin's Leadership Styles.
- Stress : Introduction, types of stress, stress coping strategies
- Emotion:- Nature, types of emotion and physiological correlates of emotions.
- Intelligence:-
  - a) Introduction, nature and types of intelligence tests, measuring of intelligence, IQ (Intelligence Quotient)
  - b) EQ (Emotional Intelligence) : Sternberg Theory and Gardener's Theory of Intelligence

**Suggested Readings:**

1. Morgan, G.T. King P.A., Weisz T.R., Schopler, J. (1999), Introduction to Psychology – McGraw Hill Book.Co., New York.
2. Hall, S.S. & Lindzey (1969) Theories of Personality, Wiley Eastern Ltd. New Delhi.
3. Sarason, IG and Sarason, B.R. (2002). Abnormal Psychology, Prentice Hall of India – New Delhi.

**Paper-III: PERSONALITY DEVELOPMENT  
(PRACTICAL)**

**Time: 3 Hours**

**Total Marks: 30**

**Course Content**

- Projective Technique
- EPQ-R – Eyesenck's Personality Questionnaire-R
- Frustration Scale
- Intelligence Test
- Emotion Quotient Test



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Bachelor of Vocation (B.Voc.)  
(Nutrition and Dietetics) (Semester-VI)

**Paper-IV: INTERNSHIP**

**Time: 4 Hours**

**Total Marks: 75**

**Instructions for examiners**

- 1) Prepare diet plan for a patient suffering from multiple health problems. (30 Marks)
- 2) Evaluation of case study done during internship. (20 Marks)
- 3) Viva. (25 Marks)

**Course Content**

- Acquaintance with the working of dietary departments in hospitals for six weeks. To record the clinical, nutritional and biochemical profile of the patients and modification of diets accordingly. Prescription of therapeutic diets.