

M.Sc. (Home Science)
Food and Nutrition
SEMESTER-IV
PAPER-I
Health and Fitness

~~20-18-14~~ 2021-22

M.M. 100

Objectives

- Understand the components health and fitness and the role of nutrition in these. Make nutritional. Dietary and physical recommendations to achieve fitness and well-being.
- Develop ability to evaluate fitness and will.

UNIT-I

A) Body Composition

(1) Methods

- (a) Chemical analysis
- (b) Nutritional anthropometry
- (c) Skin fold Thickness
- (d) Body density
- (e) Dilution Technique
- (f) ⁴⁰K Analysis
- (g) Other methods: Concept

(2) Composition changes concept

- (a) Human foetal development
- (b) Material weight gain - Distribution composition
- (c) Compositional changes between birth and maturity
- (d) Compositional changes with weight changes: Physical activity, Obesity

B) Holistic approach to the management of fitness and health: Nutrition, Exercise, Physical fitness and health inter-relationship

- (a) Energy input and output
- (b) Diet and Exercise

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**Semester wise syllabus for Post Graduates
As recommended by board of studies
Govt. K.R.G. P.G. Autonomous College Gwalior M.P.**

UNIT-II

- (A) Effect of specific nutrients on work performance and physical fitness. Shifts in carbohydrate and at metabolism, mobilization of fat stores during nutrition in sports: Sports specific requirements. Diet manipulation. Pre-game and Post game meals.

UNIT-III

- (A) **Water:** Regulation of intra and extra cellular volume osmolality, water balance and its regulation. Water electrolyte losses and their replenishment during exercise and sports events, effects of dehydration, importance of sports drinks.
- (B) Diet for persons with high energy requirements stress and starvation.

UNIT-IV

- (A) Defining nutrition goals/guidelines appropriate to health, fitness and prevention and management of chronic degenerative disease diabetes mellitus CV disorders, bone, health and cancer.
- (B) Nutrition and exercise regimes for management of obesity. Critical review of various dietary regime for weight and fat reduction. Prevention of weight cycling.

UNIT-V

- (A) Nutrition and exercise regimes for pre and post natal fitness.
- (B) Alternative systems for health and fitness like ayurveda yoga, meditation, vegetarianism and traditional diet.
- (C) Nutrition management in special conditions: Space travel, high altitudes, low temperature submarines

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**M.Sc. (Home Science)
Food and Nutrition
SEMESTER-IV
PAPER-II
Clinical & Therapeutic Nutrition
~~20-18-19~~ 2021-22**

M.M. 100

Objectives

1. Understand the etiology, physiologic and metabolic anomalies of acute and chronic diseases and patient's need.
2. Know the effect of various diseases on nutritional requirement and nutritional status.
3. Be able to recommend and provide appropriate nutritional care for preventions and treatment of various diseases.
4. Orient the students with all the important state of art methodology applied in Nutritional assessment and surveillance of human groups.
5. Develop specific skills to apply the most widely used methods.

UNIT-I

Nutritional care in Cardio-vascular disorders.

1. **Hypertension-**
 - (a) Definition
 - (b) Criterion
 - (c) Types
 - (d) Causes
 - (e) Nutritional Management
 - (f) Drugs

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2. **Hyperlipidemia**
 - (a) Lipo-proteins and their metabolism
 - (b) Classification of hyperlipidemia
 - (c) Clinical and Nutritional aspects of hyperlipidemia
 - (d) Dietary Care
3. **Coronary Heart Disease (CHD)**
 - (a) Atherosclerosis-
 - (i) Etiology
 - (ii) Pathogenesis
 - (b) Risk factors associated with CHD
 - (c) Management of CHD
 - (i) Dietary Management
 - (ii) Exercise
 - (d) Prevention of CHD


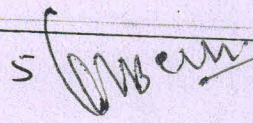

UNIT-II

A. Cerebrovascular disorder and nutritional management

- (a) Pathogenesis
- (b) Etiology
- (c) Nutritional

B. Diet in Disease of endocrine pancreas

- (a) Etiology
- (b) Classification
- (c) Symptoms and diagnosis
- (d) Management clinical vs. chemical control
- (e) Insulin Therapy
- (f) Oral hypoglycemic drugs
- (g) Glucose monitoring at home
- (h) Dietary care with and without insulin
- (i) Specific Diabetic food
- (j) Sweetness and sugar substitutes
- (k) Diabetic coma
- (l) Insulin reaction
- (m) Patient education

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UNIT-III**

A. Nutritional care in hypoglycemia

- (1) Hypoglycemia
 - (a) Symptoms
 - (b) Types
 - (i) Reactive Hypoglycemia
 - (ii) Idiopathic Hypoglycemia
 - (c) Dietary treatment

Nutritional care for patient with disease of kidney

- (1) Review of physiology and function of normal kidney
- (2) Nephritis
 - (a) Classification
 - (b) Etiology
 - (c) Characteristics
 - (d) Nutritional care and management

C. Nephritic syndrome

- (a) Etiology
- (b) Characteristics
- (c) Nutritional care and management

UNIT-IV

Nutritional care for patients having surgery and burns

(A) Surgery

- (1) Pre operation nutritional care
- (2) Postoperative nutritional care
 - (a) Gastric surgery.
 - (b) Gall bladder surgery
 - (c) Colon surgery
 - (d) Tonsil surgery
 - (e) Oesphagus surgery

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(B) Burns

- (1) Dietary factors and cancer causation
- (2) Cancer treatment: Radio therapy, surgery and chemotherapy
- (3) Alternative or complementary diets
- (4) Prevention

(C) Cancer

- (1) Dietary factors and cancer causation
- (2) Cancer treatment: Radio therapy, surgery and chemotherapy
- (3) Alternative or complementary diets
- (4) Prevention

Unit-V

Nutritional care HIV immune suppressed patients and management of infancy and childhood nutritional problems.

1. HIV disease and AIDS

- (a) Nutritional problems associated with HIV diseases
- (b) Role of diet and nutritional support

2. Diets for immune suppressed patients

3. Nutritional management of

- (a) Kwashiorkor
- (b) Marasmus
- (c) Vitamin A deficiency

4. Latest researches and concepts in management of various life style problems

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**Semester wise syllabus for Post Graduates
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**M.Sc. (Home Science)
Food and Nutrition
SEMESTER-IV
PAPER-III
Food Science & Current Trends
~~20-18-19~~ 2021-22**

M.M. 100

Objectives

- Provide an understanding of composition of various foods stuffs.
- Familiarize students with changes occurring in various foodstuffs as a result of processing and cooking.
- Enable students to use the theoretical knowledge in various application and food preparations.
- Create awareness regarding current trends, issues and researches in various aspects of food and nutrition.

UNIT-I

- (A) **Enzymes:** Nature of enzymes, stability and action. Proteolytic enzymes, oxidases, lipases, enzymes decomposing carbohydrates and application immobilized enzymes.
- (B) **Meat and Poultry:** Muscle composition, characteristics and structure. Post mortem changes. Processing, Preservation and their effects. Heat induced changes in meat. Variables in meat preparation. Tenderizers. Meat products.

Unit-II

- (A) **Eggs:** Structure and composition. Changes during storage. Functional properties of eggs use in cookery. Egg Processing. Low Cholesterol egg substitutes.
- (B) **Fish and Sea Food:** Types and composition, Storage and changes during storage changes during processing. By products and newer products.

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UNIT-III

- (A) **Fats, Oils and Related Products:** Nuts and Oils seeds. Sources composition, effects of composition on fat properties. Functional properties of fat and uses in food preparations. Fat substitutes. Fat deterioration and antioxidants.
- (B) **Fruits and Vegetables:** Plant anatomy, structure and composition, Enzymes in fruits and vegetables. Flavour constituents. Plant phenolics. Pigments Post harvest changes. Texture for fruits and vegetables. Effects of storage processing and preservation.

UNIT-IV

- (A) **Leavened Products:** Leavening agents, Biologically leavened and chemically leavened products. Batters and dough.
- (B) **Salt and substitutes**
- (C) **Spices and Condiments:** Composition, Flavouring extracts natural anti-synthetic.

UNIT-V

- (A) **Biotechnology in Food:**
 - Algae as food spirulina
 - Organic food
 - Nutraceuticals
 - Low cost nutrients
 - Supplement
 - Space foods
 - Food irradiation
 - Packaging of foods
 - Food safety and Standards, Quality standards
 - Entrepreneurship Management

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M.Sc. (Home Science)
F.N/ R.M./ H.D.
SEMESTER-IV
PAPER-IV (OPTIONAL)
Mass Communication

~~20-18-19~~ 2021-22

M.M. 100

Objectives

- To understand the importance of communication.
- To develop skill and communication ability
- Importance of audio-visual aids in communication.

UNIT-I

- Concept of communication
- Elements and process of communication
- Functions of communication
- Non verbal communication sign, Gestures, Body movement
- Verbal communication language and written communication

UNIT-II

- Types of communication - Intra personal, Inter personal, Group communication and mass communication.
- Feedback in communication
- Characteristics and method of feedback
- Elements of effective communication
- Barriers to communication

UNIT-III

- Print Media - Origin, development characteristics of News paper
- news agencies - United News or India (UNI)
- Press Trust of India (PTI) Reuter, tass and etc.
- Magazine - Format, Types and organization
- Concept of News, values, sources of News
- Structure of news Report
- Features article. Editorial

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