**CENTRAL UNIVERSITY OF HARYANA**

**Term End Examinations January 2023**

**Programme: MSc, Nutrition Biology** **Session: 2022-23**

**Semester: III** **Max. Time: 3 Hours**

**Course Title: Nutrition and Immunity** **Max. Marks: 70**

**Course Code: SIAS NB 1 3 03 DCEC 4004**

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**Instructions:**

1. Question no. 1 has seven parts and students are required to answer any four. Each part carries three and half Marks.
2. Question no. 2 to 5 have three parts and student are required to answer any two parts of each question. Each part carries seven marks.

Q 1. (4 X 3.5=14)

a) Define phagocytosis.

b) What are superantigens?

c) How does the depletion of amino acids affect the immune system?

d) Write about the role of micronutrients in improving immunity.

e) Define autoimmune diseases with an example.

f) What are antioxidants? Why they are considered good with reference to development of immunity. Briefly discuss

g) State the importance of vaccination in the prevention of communicable diseases.

Q 2. (2 X 7=14)

a) Describe the types of antibodies with a neat, labelled diagram.

b) Write a note on different types of specific immunity.

c) Briefly describe the antigen -antibody reactions with suitable examples.

Q3. (2 X 7=14)

a) What are Vitamins? Describe the role of vitamins in imparting immunity in detail.

b) How ageing, obesity, stress and use of alcohol affect immunity? Discuss in detail.

c) What is meant by under nutrition and over nutrition? Describe their role in immunity.

Q 4. (2X7=14)

a) Elaborate on autoimmune polyglandular syndrome

b) Describe chronic myeloid leukemia in detail.

c) What is ataxia telangiectasia. Describe in detail.

Q 5. (2 X 7=14)

a) How probiotics affects human health? Briefly discuss with an example.

b) State the importance of maternal nutrition with reference to disease development in later stages of a child life with an example.

c) Discuss in detail the importance of breast feeding among infants.

**CENTRAL UNIVERSITY OF HARYANA**

Term End Examinations January 2023

**Programme: M.Sc. (Nutrition Biology)** **Session: 2022-23**
**Semester: Third** **Max. Time: 3 Hours**
**Course Title: Nutrient Deficiencies and Assessment** **Max. Marks: 70**
**Course Code: SIAS NB 1 3 11 C 4004**

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**Instructions:**

1. Question no. 1 has seven parts and students need to answer any four. Each part carries three and half Marks.
2. Question no. 2 to 5 have three parts and student need to answer any two parts of each question. Each part carries seven marks.

**Q 1. Write short notes on the following (any four)** **(4X3.5=14)**

a) Malnutrition
b) Recommended Dietary Allowances
c) Types of diet surveys
d) Micronutrients
e) Nutritional anemia
f) Clinical parameters
g) Vitamin A deficiency

**Q 2. Explain the following :** **(2X7=14)**

a) Write down functions and food sources of fat-soluble vitamins.

b) Discuss the effects of excessive and low intake of fats and proteins on human health?

c) What do you mean by a reference man and a reference woman. Discuss the recommended dietary allowances of macronutrients (KCal, proteins and fats) and micronutrients (zinc, iron, iodine, folic acid, Vitamin D, Vitamin C) for adults, pre-school children and elderly population.

**Q3. Write in detail about the following :** **(2X7=14)**

a) Define PEM. Differentiate between Kwashiorkor and Marasmus.
b) What are the causes, symptoms, biochemical changes, and clinical manifestation for Vitamin D deficiency? Explain in detail.
c) Discuss the etiology, pathogenesis, clinical manifestations, and biochemical changes during Iodine deficiency disorders.

**Q 4. Explain the following:** **(2X7=14)**

a) What are the objectives, referral services and beneficiaries for ICDS and SNP programs? Discuss in detail.

b) Enlist various national policies and programs designed for uplifting of public health. Explain any two national policies in detail.

c) Elaborate on the procedure for nutritional surveillance and monitoring in a community setting.

**Q 5. Explain the following:** **(2X7=14)**

a) Differentiate between 24 hours recall method and food frequency method in detail.

b) Enlist various body markers and their physiological characteristics. Give details of various biochemical parameters tested using these body markers.

c) Discuss the various indices and reference standards for Anthropometric measurements. Comments upon the role of diet quality and adequacy in maintaining better indices of health of an individual.

**CENTRAL UNIVERSITY OF HARYANA**

Term End Examinations January 2023

**Programme: M.Sc. Nutrition Biology** **Session: 2022-23**

**Semester: Third** **Max. Time: 3 Hours**

**Course Title: Nutrition in Metabolic Disorders**

**Course Code: SIAS NB 1 3 12 C 4004** **Max. Marks: 70**

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**Instructions:**

1. Question no. 1 has seven parts and students are required to answer any four. Each part carries three and half marks.

2. Question no. 2 to 5 have three parts and students are required to answer any two parts of each question. Each part carries seven marks.

Q 1. Explain any four: (4X3.5=14)

a) Asian classification of Obesity
b) Dietary modifications during constipation
c) Changes in body metabolism with reference to nutrient requirements during fever
d) Importance of dietitian in a medical team
e) Life style diseases
f) Glycemic Index
g) Mechanically irritating diets

Q 2. (2X7=14)

a) Discuss the principles of diet therapy. Explain how diet can be modified to meet therapeutic needs.
b) Explain the various methods of feeding used in therapeutic nutrition,
c) What do you understand by NIDDM? Explain the predisposing factors, symptoms and dietary modifications involved.

Q3. (2X7=14)

a) Discuss the predisposing factors, symptoms and dietary modifications for hypertension.
b) Explain the causes and progression of atherosclerosis. Discuss the required dietary modifications.
c) Discuss the various degrees of burns and the nutritional requirements of a burn patient.

Q 4. (2X7=14)

a) Explain the causes, symptoms and dietary management any one type of infection by taking an example.
b) Discuss the dietary modifications required in case of food allergy and gastritis.

c) "Dietitians very often advice to avoid refined wheat flour". Explain the statement with reference to intestinal health.

Q 5. (2X7=14)

a) What is Cancer? Discuss the probable causes, symptoms and role of diet in its presentation.

b) Explain the progression of liver disease with causative agents. Enumerate the basic principles of dietary management.

c) What is Glomerulonephritis? Discuss the clinical symptoms and its dietary management.

# CENTRAL UNIVERSITY OF HARYANA

Term End Examinations, January 2023

**Programme** : **M.Sc. Nutrition Biology**
**Semester** : **III**
**Course Title** : **Bioinformatics and Nutrigenomics**
**Course Code** : **SIAS NB 1 3 13 C 4004**

**Session: 2022-23**
*Max. Time:* ***3 Hours***
*Max. Marks :* ***70***

**Instructions:**

1. Question no. 1 has seven sub parts and students need to answer any four. Each sub part carries three and half marks.
2. Question no. 2 to 5 have three sub parts and students need to answer any two sub parts of each question. Each sub part carries seven marks.

**Question No1.** Explain the followings **(4X3.5=14)**

**a.** Scope of Bioinformatics
**b.** Golden rice
**c.** Protein structure prediction methods
**d.** Bioactive food components
**e.** BLAST
**f.** CLUSTAL W
**g.** Gut microbiota and health

**Question No.2** **(2X7=14)**

**a.** What do you mean by biological databases? Discuss various types of biological databases with suitable examples.
**b.** Explain computer added drug designing.
**c.** Enumerate applications of bioinformatics with reference to human nutrition and health.

**Question No.3** **(2X7=14)**

**a.** What is a phylogenetic tree? Give detail of the methods used in construction of phylogenetic trees.
**b.** Discuss in detail about the pairwise alignment and multiple sequence alignment.
**c.** Briefly comment upon the sequence similarity, identity, homology, pairwise and global alignment.

**Question No.4** **(2X7=14)**

**a.** Discuss the single nucleotide polymorphisms with respect to the followings:

i) SNP map, ii) SNP profile, iii) Methods to detect SNP

**b.** Explain about the various target validation models used in nutritional research.

**c.** Define nutrigenomics along with its significance in the treatment of human's.

**Question No.5** **(2x7=14)**

**a.** How genetic modification alter the nutritional properties of a food? Explain it with a suitable example?

**b.** What is personalized nutrition? Discuss about its scope with reference to human health in present situation.

**c.** Discuss in detail about the metabolic effects of dietary fibre and the associated modulation of gut microbiota.