CENTRAL UNIVERSITY OF HARYANA

End Semester Examinations April 2022

Programme:	**M.Sc. Nutrition Biology**	**Session: 2021-22**
Semester:	**First**	**Max. Time: 3 Hours**
Course Title:	**Nutritional Biochemistry-I**	**Max. Marks: 70**
Course Code:	**SIAS NB 1 1 02 C 4004**	

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 note on the following (any 4) (4X3.5=14)

a) Essential fatty acids
b) Glycolysis
c) Phospholipids
d) Protein digestion
e) Digestion of carbohydrates
f) Mechanism of action of enzymes
g) Amino acid balance

Q 2. (2X7=14)

a) What is enzyme inhibition? Differentiate competitive and non-competitive inhibition of enzymes.
b) Discuss in detail about respiratory chain and oxidative phosphorylation.
c) What do you mean by basal metabolic rate and how is the energy balance maintained in human body.

Q3. (2X7=14)

a) What are reducing sugars? Write down the structure of any 4 reducing sugars.
b) Give detailed note on the hormonal regulation of carbohydrate metabolism.
c) Explain the coordinated regulation of glycolysis and gluconeogenesis.

Q 4. (2X7=14)

a) Explain the structure, properties and biological significance of lipoproteins.
b) Describe in detail the stages of oxidation of saturated fatty acids.
c) Describe the process of digestion and absorption of fatty acids. How the fatty acids are stored in our body?

Q 5. (2X7=14)

a) Write explanatory note on nutritional classification of amino acids. Explain amino acid balance and toxicity.
b) Write detailed note on nitrogen metabolism and urea cycle.
c) Write down the names and chemical structure of aromatic, polar, positively charged and negatively charged amino acids (2 examples each).

Central University of Haryana

End Semester Examinations April 2022

Programme: M.Sc. Nutrition Biology **Session: 2021-22**

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

Course Title: Fundamentals of Food and Nutrition Science **Max. Marks: 70**

Course Code: SIAS NB 1 1 01 C 4004

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. (4X3.5=14)

a) Define MET value in terms of energy expenditure. What do you understand by positive and negative energy expenditure?

b) Write a short note on Female athlete triad.

c) Mention the effects of diets rich in fibre.

d) Why folate rich foods are important?

e) Which vitamin deficiency leads to Bitot's spots and night blindness? Briefly discuss the resources and absorption of this vitamin.

f) Define reference man and woman in nutrition.

g) Discuss nutritional loss in different types of cooking.

Q 2. (2X7=14)

a) Discuss the methods of calculating TEE (total energy expenditure) for both sedentary population and athletes depending on PAL (physical activity level) and MET.

b) What do you understand by % DV saturated fat? How is % DV for saturated fat calculated? What are the percentages of DV is considered as low and high in nutrients?

c) Mention four common nutritional deficiencies frequently encountered in Indian scenario and discuss their reasons with preventive measures.

Q3. (2X7=14)

a) Discuss the influences of body composition and physical activity on BMR. What is lactose intolerance?

b) Write a short note on food pyramid. Discuss about the absorption an digestion of lipids and proteins.

c) Write a short note on CED (Chronic Energy Deficiencies). What are the health problems associated with excessive salt/sodium intake?

Q 4. (2X7=14)

a) What do you understand by a balanced diet? Define RDA. Discuss different food groups including the examples mostly used in Indian diet.

b) Draw a comparative framework on balanced Diet for Adults of Moderate Activity for men and women.

c) What are dry and moist cooking? Discuss the methods, ideal time period, advantages and disadvantages of the following cooking: stewing, deep fry, microwave cooking.

Q 5. (2X7=14)

a) Discuss and Compare the characteristics, resources and effects of energy rich food, body-building food and protective foods.

b) What are the principles in preparing amylase-rich foods (ARF) as complementary food supplement? Explain with an example.

c) How to prevent cooking losses of phytonutrients? Why the presence of linoleic (LA n-6) acid and alpha linolenic (ALA n-3) acid is important in diet? Discuss the Alpha Linolenic Acid content of different foods.

CENTRAL UNIVERSITY OF HARYANA

End Semester Examinations April 2022

Programme: M.Sc. Nutrition Biology **Session: 2021-22**

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

Course Title: Human Physiology **Max. Marks: 70**

Course Code: SIAS NB 1 1 04 C 4004

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. Briefly describe the following (4X3.5=14)

a) Diuretics
b) Hypogonadism
c) Body fluid compartments
d) Cardiac cycle
e) Hypertension
f) Function of gall bladder
g) Micturition

Q 2. Give detailed insight about the process of (2X7=14)

a) Homeostasis
b) Atherosclerosis
c) Urine formation

Q3. Differentiate between (2X7=14)

a) Eukaryotic and prokaryotic cell
b) Exocrine and endocrine glands
c) Anemias and polycythemias

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

a) Transport across cell membranes
b) Classification of hormones
c) Endocrine function of hypothalamus

Q 5. Write short notes on (2X7=14)

a) Regulation of blood pressure
b) Endocrine function of pituitary
c) Kidney functional tests