Name: **Enrolment No:**	UPES UNIVERSITY OF TOMORROW

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December, 2022

Course: Principle of Nutrition **Semester : III[rd]**
Program: B.Sc (Food, Nutrition and Dietetics) **Time : 03 hrs**
Course Code: HSCC2015 **Max. Marks: 100**

Instructions: All Questions are compulsory

SECTION A

S. No.	MCQs or Fill in the blanks (1.5 marks each)	**30 Marks**	**CO**
1	Which vitamin is required for calcium absorption from the small intestine? A. Vitamin B3 B. Vitamin B7 C. Vitamin D D. Vitamin C	1.5	**CO1**
2	Deficiency of Vitamin B1 leads to : A. Pellegra B. Beri-beri C. Ocular manifestation D. Neurological manifestation	1.5	**CO1**
3	Pyridoxamine is the form of which vitamin. A. Vitamin B12 B. Vitamin B9 C. Vitamin B6 D. Vitamin B1	1.5	**CO1**
4	Vitamin A is stored in which organ. A. Liver B. Kidney C. Small intestine D. Pancreas	1.5	**CO2**
5	Folic acid and _____ has non competitive metabolic relationship.	1.5	**CO2**

6	_____ are constituents of food that must be supplied to the body in suitable amounts.	1.5	**CO2**
7	Goitre is defined as non neoplastic, non inflammatory and non toxic enlargement of _____.	1.5	**CO2**
8	DHA stands for_____.	1.5	**CO3**
9	The enamel and dentin of tooth contain considerable amount of _____.	1.5	**CO3**
10	The richest source of calcium among animal food is _____.	1.5	**CO3**
11	Undernutrition is the condition which results when sufficeint food is eaten over an extented period of time. A. True B. False	1.5	**CO3**
12	Vitamin E is included in RDA table. A. True B. False	1.5	**CO4**
13	Meat, fish, eggs, poultry are primary source of fiber. A. True B. False	1.5	**CO4**
14	Excess salt could cause high blood pressure and heart disease. A. True B. False	1.5	**CO4**
15	Maltose is a disaccaride of galactose. A. True B. False	1.5	**CO4**
16	Trehalose is also known as mushroom sugar. A. True B. False	1.5	**CO4**
17	What is the role of fat in body? A. Energy reserve B. Uptake of calcium C. Regulator of body function	1.5	**CO5**

	Absorption of fat soluble Vitamins		
18	Which of the following are macro minerals? A. Calcium B. Phosphorus C. Iron D. Magnesium	1.5	**CO5**
19	Essential amino acids are : A. Glycine B. Methionine C. Leucine D. Phenylalanine	1.5	**CO5**
20	Total energy requirement is subdivided into: A. Energy required to maintain basal metabolism B. Energy required to power physical activity C. Energy required for performing sedentary activity D. The energy released as a result of the thermic effect of food	1.5	**CO5**
SECTION B 20 marks 4 questions 5 marks each			
Q	Short Answer Type Question (5 marks each)	**20 Marks**	**CO**
1	What are the basic food groups according to ICMR? Explain the concept of balanced diet.	**5**	**CO1**
2	Discuss functions, requirement, sources and effects of deficiency of any one micro minerals.	**5**	**CO2**
3	What is the Protein and iron requirement for: a. A boy of age 13-15 years b. A girl of age 13-15 years	**5**	**CO3**
4	What is the importance of RDA? Highlight any five major roles of RDA.	**5**	**CO4**
SECTION C 30 marks			
Q	**Two case studies 15 marks each subsection**	**30 Marks**	**CO**
1	Energy value of food stuffs are usually expressed in terms of a term known as calorific value. The calorific value is defined as the quantity of heat liberated in calories by the complete combustion of a unit mass of the food stuff in excess air or oxygen under specified standard conditions. The calorific value depends on the nature of the food and relative proportion of proteins,fats and carbohydrates present in that food. It is usually expressed in kilo calories and the standard mass taken is 100 g. a) Explain the working principle of bomb calorimeter. (5)	**15**	**CO4**

	b) Draw the well labeled diagram of Bomb calorimeter along with gross energy value of food. (5) c) Elaborate factors that affect BMR? (5)		
2	The development of human health is dependent mainly on nutrition. Improved nutrition boosts the immune system, makes pregnancies safer, increases mental alertness, and lowers the risk of chronic diseases such as diabetes, cardiovascular disease, etc.A nutritious diet leads to a healthy pregnancy, lowers the risk of developing chronic diseases, and helps maintain a healthy body weight. a) How is blood sugar level maintained in human body? (5) b) Keeping in mind the importance of all nutrients, draw the recent RDA table. (10)	**15**	**CO5**
	SECTION- D 20 marks		
Q	Long Answer type Questions (10 marks each)	**20 Marks**	**CO**
1	Describe the process of digestion and absorption of carbohydrate in human body.	**10**	**CO1**
2	Elaborate the functions, requirements, sources and effects of deficiency of Calcium and Sodium.	**10**	**CO3**