

**M.Sc. 2 (DFSM)**

**Master of Science in Dietetics and Food Service  
Management M.Sc. (DFSM)**

**2nd Year Assignment Booklet**

**Assignments 1-4**

**July 2022 session**

**(These assignments relate to Courses  
MFN-004, MFN-005, MFN-007 and MFN-009)**



**Indira Gandhi National Open University  
SCHOOL OF CONTINUING EDUCATION  
Maidan Garhi, New Delhi -110 068**

**Masters in Science Degree Programme in Dietetics and Food Service**  
**Management M.Sc. (DFSM)**  
**ASSIGNMENTS 1-4**

Dear Students,

You will have to do sixteen assignments in all to qualify for a M.Sc. (DFSM) degree. For a 2 credit theory course, you will have to do one assignment and for a 4-6 credit theory course, two assignments. All the assignments are tutor marked and each Tutor Marked Assignment carries 100 marks. In this assignment booklet the course-wise distribution of assignments is as follows:

Assignment 1 (TMA-1): based on MFN-004

Assignment 2 (TMA-2): based on MFN-005

Assignment 3 (TMA-3): based on MFN-007

Assignment 4 (TMA-4): based on MFN-009

**INSTRUCTIONS**

Before attempting the assignments please read the following instructions carefully.

- 1) Write your Enrolment Number, Name, Full Address, Signature and Date on the top right hand corner of the first page of your response sheet.
- 2) Write the Programme Title, Course Code, Title Assignment Code and Name of our Study Centre on the left hand corner of the first page of your response sheet. Course Code and Assignment Code may be reproduced from the assignment.

The top of the first page of your response sheet should look like this:

	Enrolment No. ....
	Name.....
	Address .....
Course Title .....	
Assignment No .....	
Date .....	
Programme Study Centre .....	

All Tutor Marked Assignments are to be submitted at the study centre assigned to you.

- 3) Read the assignments carefully and follow the specific instructions, if any, given on the assignment itself about the subject matter or its presentation.

- 4) Go through the Units on which assignments are based. Make some points regarding the question and then rearrange those points in a logical order and draw up a rough outline of your answer. Make sure that the answer is logical and coherent, and has clear connections between sentences and paragraphs. The answer should be relevant to the question given in the assignment. Make sure that you have attempted all the main points of the question. Once you are satisfied with your answer, write down the final version neatly and underline the points you wish to emphasize. While solving numerical, use proper format and give working notes wherever necessary.
- 1) Use only full scale size paper for your response and tie all the pages carefully. Avoid using very thin paper. Allow a 4 cm margin on the left and at least 4 lines in between each answer. This may facilitate the evaluator to write useful comments in the margin at appropriate places.
  - 2) *Write the responses in your own hand.* Do not print or type the answers. Do not copy your answers from the Units/Blocks sent to you by the University. If you copy, you will get zero marks for the respective question.
  - 3) Do not copy from the response sheets of other students. If copying is noticed, the assignments of such students will be rejected.
  - 4) Write each assignment separately. All the assignments should not be written in continuity.
  - 5) Write the question number with each answer.
  - 6) The completed assignment should be sent to the Coordinator of the Study Centre allotted to you. Under any circumstances, do not send the tutor marked response sheets to the Student Registration and Evaluation Division at Head Quarters for evaluation.
  - 7) After submitting the assignment at the Study centre get the acknowledgement from the Coordinator on the prescribed assignment remittance-cum-acknowledgement card.
  - 8) In case you have requested for a change of Study Centre, you should submit your Tutor marked Assignments only to the original Study Centre until the change of Study Centre is notified by the University.
  - 9) If you find that there is any factual error in evaluation of your assignments e.g. any portion of assignment response has not been evaluated or total of score recorded on assignment response is incorrect, you should approach the coordinator of your study centre for correction and transmission of correct score to headquarters.

## **A Note of Caution**

It has been noticed that some students are sending answers to Check Your Progress Exercises to the University for Evaluation. Please do not send them to us. These exercises are given to help in judging your own progress. For this purpose, we have provided the answers to these exercises at the end of each Unit. We have already mentioned this in the Programme Guide. Before dispatching your answer script, please make sure you have taken care of the following points:

- Your enrollment number, name and address have been written correctly.
- The title of the course and assignment number has been written clearly.
- Each assignment on each course has been written on separate sheets and pinned properly.
- All the questions in the assignments have been answered.

Now read the guidelines before answering questions.

## **GUIDELINES FOR TMA**

The Tutor Marked Assignments have two parts.

### **Section A: Descriptive Questions (80 marks)**

In this section, you have to answer eight questions (of 10 marks each). Answer each question in about 250- 300 words.

### **Section B: Objective Type Questions (OTQ) (20 marks)**

This section contains various types of objective questions.

## **POINTS TO KEEP IN MIND**

You will find it useful to keep the following points in mind:

- 1) **Planning:** Read the assignments carefully. Go through the units on which they are based. Make some points regarding each question and then rearrange the same in a logical order.
- 2) **Organization:** Be a little more selective and analytical. Give attention to your introduction and conclusion. The introduction must offer your brief interpretation of the question and how you propose to develop it. The conclusion must summarize your response to the question.

### **Make sure that your answer:**

- a) is logical and coherent
- b) has clear connections between sentences and paragraphs
- c) is written correctly giving adequate consideration to your expression, style and presentation

d) does not exceed the number of words indicated in the question.

3) **Presentation:** Once you are satisfied with your answers, you can write down the final version for submission, writing each answer neatly and underline the points you wish to emphasize.

**ASSIGNMENT 1 (TMA-1)**  
**Advance Nutrition**  
**Course Code: MFN-004**

**Assignment Code: MFN-004/AST-1/TMA-1/2022-23**

**Last Date of Submission: 28<sup>th</sup> February, 2023**

**Maximum Marks: 100**

**This assignment is based on Units 1 -19 of the MFN-004 Course.**

**Section A - Descriptive Questions**

**(80marks)**

There are eight questions in this part. Answer all questions.

1. a) Enumerate the components affecting energy requirement. (5)
- b) Briefly explain the concept of Recommended Dietary Allowances (RDA) and Estimated Average Requirement (EAR) (3)
- c) What are the goals behind estimating RDAs ? (2)
2. a) What do you understand by amino acid score and biological value of protein? How are these used to know the quality of protein in the diet? (4)
- b) Discuss briefly the methods to improve the quality of protein in the diet, giving suitable examples. (4)
- c) Enlist the clinical and biochemical features of PEM. (2)
3. a) Briefly discuss the digestion, absorption and transportation of carbohydrates and fats. (6)
- b) Classify dietary fibre on the basis of solubility and give examples of foods high in these fibres. Enumerate the properties of dietary fiber that make it beneficial to the body. (2+2)
4. a) Describe briefly the regulation of water balance in the human body. Explain the conditions that can be caused by disturbances in fluid balance in the body. (4)
- b) What are polyphenols ? Enumerate briefly the health benefits of polyphenols . (2)
- c) What are antinutritional factors? Give examples. (2)
- d) Discuss the nutritional requirements of people living in cold climate (2)
5. a) Explain the term calcium homeostasis. (4)
- b) How tryptophan is converted to niacin? Explain with the help of flow chart. (3)
- c) Briefly describe the role of vitamin E and selenium in lipid peroxidation. (3)

6. a) Mention any two tests each that can measure the following: (3)
- i) Cardiovascular endurance
  - ii) Muscular strength and endurance
  - iii) Flexibility
- b) What are ergogenic aids? Enlist the categories of nutritional ergogenic aids. Discuss in brief the side effects of these aids to the body. (1+3+1)
- c) Write short note on nutritional requirements in hot environment. (2)
7. a) Briefly discuss the physiology of lactation and enumerate the importance of human milk for infant growth and development. (4)
- b) Write the food sources, functions and RDA for adult man and woman for the following nutrients: (2+2+2)
- i) Zinc
  - ii) Vitamin C
  - iii) Copper
8. a) Briefly discuss the following: (2.5+2.5)
- i) Nutrient needs and dietary management for pregnant women
  - ii) Dietary modification for the elderly male
- b) Briefly explain the measures to avoid macro and micronutrient deficiency during emergencies. (2.5)
- c) Write short notes on space foods. (2.5)

**Section B - OTQ (Objective Type Questions)**

**(20 marks)**

1. Briefly explain the following terms giving examples: (10)
- i) Ketosis
  - ii) Resistant starch
  - iii) Indirect calorimetry
  - iv) Pre-eclampsia
  - v) Functional foods
  - vi) Essential fatty acids
  - vii) Amylase Inhibitors
  - viii) Growth monitoring
  - ix) SAM
  - x) Phytoestrogens

2. Ram is a 42 year old sedentary male having body weight of 65 kg. Calculate the energy requirement using the factorial estimation of total energy expenditure. (5)  
**Note:** Refer Unit 2, MFN-004 for the necessary calculations.
3. Tabulate the ICMR (2020) recommended dietary allowances for energy, protein, vitamin A, iron, calcium for the following: (5)
- i) 27 yrs lactating mother of 50kg doing sedentary work
  - ii) 9 months infant
  - iii) 70 years man of 60 kg
  - iv) 14 years girl
  - v) 11 years boy



**ASSIGNMENT 2 (TMA-2)**  
**Clinical and Therapeutic Nutrition (MFN-005)**

**Course Code: MFN-005**  
**Assignment Code: MFN-005/AST-2/TMA-2/2022-23**  
**Last Date of Submission: 31<sup>st</sup> December, 2022**  
**Maximum Marks: 100**

**This assignment is based on Units 1 -18 of the MFN-005 Course.**

**Section A - Descriptive Questions**

**(80 marks)**

There are eight questions in this part. Answer all questions.

1. a) What are the nutritional assessment methods and tools you could use for the elderly? (3)
- b) Give salient features for nutritional management of Hepatic Encephalopathy (5)
- c) Discuss the complications of burns (2)
2. Write short notes on :
  - a) Drug effects on nutritional status (3)
  - b) Effect of nutrition on drugs (3)
  - c) Salient features of the diet you would prescribe to a patient with HIV (4)
3. a) Give the salient features of the nutritional management of the following diseases/disorders: (5+5)
  - i) Type I Diabetes
  - ii) Nephrotic syndrome
4. Rita, age 30yrs, weight 50 kg and height 5'5" is admitted to a hospital for surgery. Her gastro-intestinal tract is functioning but she is unable to swallow solid food.
  - a) Calculate her basal energy expenditure by Harris Benedict equation (3)
  - b) What are the factors to be considered in estimating the actual energy requirements for her? (2)
  - c) What are the various methods of feeding Rita? (3)
  - d) Which one of the methods of feeding is the most suited for her and why. (2)
5. a) Enumerate the modifiable risk factors of cardiovascular diseases. (2)
- b) Present the dietary management for hypertension. (4)

- c) Give the classification of blood pressure and stages of hypertension in adults. (2)
- d) Present the dietary guidelines for prevention of heart disease. (2)
6. a) Define the following inborn errors of metabolism and also give dietary management of these diseases: (3+3+3)
- i) Tyrosinemia
  - ii) Homocystinuria
  - iii) Maple Syrup Urine Disease
- b) Name the enzyme whose deficiency causes PKU. (1)
7. a) Briefly discuss the classification and the dietary modification for obesity. (5)
- b) What is Bulimia Nervosa? Briefly discuss the nutritional management of Bulimia Nervosa. (5)
8. a) Enumerate the nutritional problems associated with cancer. Briefly discuss the macro and micronutrient requirement of a patient with cancer. (5)
- b) What are the health consequences of low birth weight. Discuss briefly the nutritional management and feeding of the premature infant (5)

**Section B - OTQ (Objective Type Questions)**

**(20 marks)**  
(10)

1. Calculate/define/explain the following in 2-3 sentences each:
  - i) Calculate the BMI for a 40yrs female of small frame with Height of 5'3" and weight of 60kg
  - ii) Calculate the % Ideal body weight (IBW) using the data given in section B 1  
Based on %IBW assess the degree of nutritional status
  - iii) Celiac disease
  - iv) A disease condition where MCT is beneficial
  - v) Dysphagia
  - vi) Diet during dialysis
  - vii) Hydrogenated fat
  - viii) Sodium content in 1gm of common salt
  - ix) "Rule of nine"
  - x) Glycemic Index

2. Give examples for each of the following: (10)
- i) Low fibre foods
  - ii) Rich sources of omega 3 PUFA
  - iii) Lactose rich foods
  - iv) Gluten free food sources
  - v) Neurological disorder of nutritional origin
  - vi) Foods to be avoided in Peptic ulcer
  - vii) Foods avoided in CKD
  - viii) Foods to be avoided in Gout
  - ix) Non-nutritive sweeteners
  - x) Food sources of soluble fibre

**ASSIGNMENT 3 (TMA-3)**  
**Entrepreneurship and Food Service Management (MFN-007)**

**Course Code: MFN-007**

**Assignment Code: MFN-007/AST-3/TMA-3/2022-23**

**Last Date of Submission: 28<sup>th</sup> February, 2023**

**Maximum Marks: 100**

**This assignment is based on Units 1 -19 of the MFN-007 Course.**

**Section A - Descriptive Questions**

**(80 marks)**

There are eight questions in this part. Answer all questions.

1. a) Enlist any six important principles used by a manager to make decisions for food service establishment. (3)  
b) Explain briefly the steps to be kept in mind before planning a food service unit. (4)  
c) What are the resources required for a food service establishment. Elaborate. (3)
2. a) Enlist the general guidelines you would follow for care, cleanliness and maintenance of the plant and equipment in your food service unit. (6)  
b) Describe some characteristics of successful entrepreneurs. (4)
3. a) Define menu and list its functions. (3)  
b) Why is menu considered the focal point for all activities in a food service unit? (3)  
c) Enumerate the informal methods of purchasing for a food establishment. (4)
4. a) Present a brief review on various sanitizing agents which can be used in a food service unit. (6)  
b) Elaborate on the different types of cooking methods used in quantity cooking? (4)
5. a) What is a budget? Discuss the steps involved in budget making for a restaurant. (5)  
b) How are the approaches to food service management broadly categorized? (3)  
c) Explain gueridon service. (2)
6. a) Differentiate between commissary and conventional food service system. (4)  
b) Enumerate the qualities of a leader? (2)  
c) Elaborate on the four styles of leadership used in a food service establishment. (4)
7. a) Enumerate the types of equipment available for use in a food service organization, involved with large scale cooking. (5)  
b) What is an organization chart? Illustrate an organization chart of a restaurant. (1+4)
8. a) Explain the significance of 4P's of marketing in context of food entrepreneurship. (4)

b) What is a standardized recipe? Explain briefly the methods used for recipe adjustments. (3)

c) What do you understand by the phrase 3-E's of safety in a food service establishment. (3)

**Section B - OTQ (Objective Type Questions) (20 marks)**

a) Define the following: (10)

- i. Danger Temperature zone
- ii. Cook-Chill system
- iii. HACCP
- iv. Cruet
- v. Baine marie

2. Differentiate between the following: (10)

- i. Stewing and Braising
- ii. Job Enrichment and Job Descriptions
- iii. Abrasives and Degreasers
- iv. Recruitment and Selection
- v. Plant and Equipment

**ASSIGNMENT 4 (TMA-4)**  
**Research Methods and Biostatistics (MFN-009)**

**Course Code: MFN-009**

**Assignment Code: MFN-009/AST-4/TMA-4/2022-23**

**Last Date of Submission: 15<sup>th</sup> March, 2023**

**Maximum Marks:100**

**This assignment is based on Units 1 -14 of the MFN-009 Course.**

**Section A - Descriptive Questions**

There are eight questions in this part. Answer all questions.

**(80 marks)**

1. a) Define research. Enlist the various scientific activities involved in a research process. (4)  
b) Define hypothesis. Enumerate basic characteristics of a good hypothesis. Enlist the three forms of Hypothesis. (6)
2. a) Explain the following with examples: (2+2+2)
  - i) Cohort study
  - ii) Randomised control trials
  - iii) Case Control studyb) What are the two sampling methods in research. Explain any two methods of probability sampling. (1+3)
3. a) Differentiate between the following highlighting their uses in epidemiological studies: (2+2+2)
  - i) Incidence and Prevalence
  - ii) Quota sample and snowball sample
  - iii) Cross sectional and correlational studyb) Enlist the various factors affecting the choice of sampling method. Write down characteristics of a good sample. (4)
4. a) Given below are the hemoglobin levels (gm %) recorded for 10 girls in class X. (2+2+2+2)  
9.8, 7.4, 10.3, 11.2, 12.5, 8.5, 9.0, 10.0, 10.5, 12.0  
Calculation the mean, median, standard deviation and variance for the hemoglobin levels reported above.  
b) Differentiate between two-tailed and one-tailed tests of significance. (2)
5. a) Explain the concept of confidence interval and degree of freedom with the help (2.5+2.5)

of an example.

- b) Test the difference in the attitude of male and female subjects using chi-square analysis towards exercise based on the distribution given here with (at 0.5 level of significance): (5)

	Positive Attitude	Negative Attitude	Total
Female	8	9	17
Male	8	5	13
Total	16	14	30

6. a) Enlist the characteristics of a good Interview. What are the advantages and limitations of using an interview in a research study? (3+3)

b) Discuss briefly different types of attitude scales used in epidemiological studies. (4)

7. a) Give one mortality and one morbidity measure for assessing the health status of children in a community. Indicate how will u measure them. (2+2)

b) Learners (n=10) enrolled in M.Sc .DFSM, scored following marks (out of 100) in theory(X) and practical (Y). Find out the correlation coefficient and level of significance for the two variables. (3+3)

X: 46, 69, 79, 47, 35, 57, 98, 69, 58, 79

Y: 40, 50, 54, 47, 57, 40, 49, 46, 44, 48

8. a) The nutrition score of males (n=10)and female (n=12) students of M.Sc. (DFSM) programme is given herewith:

Males:10, 12, 13, 10, 14, 15, 10, 12, 11,15

Females:08, 12, 16, 14, 15, 12, 13, 15, 08, 13, 10, 09

Based on the data given herewith:

i) Calculate the standard error of the difference between the means of the two groups. (2)

ii) Test the significance of the difference between the mean nutrition score of males and females at 0.05 level of significance. (3)

b) What are the characteristics of case study. Explain them. (5)

## Section B - OTQ (Objective Type Questions)

(20 marks)

2. a) Define the following: (10)

i) Epidemiology

ii) Plagiarism

iii) Bias

iv) Quasi Experimental Design

- v) Statistics
- vi) Proximity error
- vii) Structured Questionnaire
- viii) Documents
- ix) Percentile Rank
- x) Non parametric test

**3. Differentiate between the following:**

(10)

- i) Null hypothesis and Alternative hypothesis
- ii) Type I error and Type II error
- iii) Odds ratio and risk ratio
- iv) t-Test and paired t-Test
- v) Reliability and Validity