

**M.Sc. (DFSM)**

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

**2nd Year Assignment Booklet**

**Assignments 1-4**

**July 2023 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 of 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-1/2023-24

Last Date of Submission: 31<sup>st</sup> December, 2023

Maximum Marks:100

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

**(80 marks)**

### Section A - Descriptive Questions

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

1. a) Enumerate several methods used for studying the nutrient requirements for an individual. (4)  
b) Define energy requirement and energy expenditure. Enlist the factors which affect energy requirement and expenditure. (1+3)
2. a) Define carbohydrates. Explain classification of carbohydrates based on degree of polymerization (DP). (1+3)  
b) Comment on the statement by giving appropriate justification “Protein quality of our diet can be improved.” (4)
3. a) What are essential fatty acids? Give examples and explain their importance. (1+3)  
b) What are the functions of water in our body? Explain. (2)  
c) Explain how electrolytes and plasma proteins control body water distribution. (2)
4. a) Elaborate the role of vitamin A in visual perception. What are the factors which affects the bioavailability of vitamin A? (2+2)  
b) Describe the role of thiamine as coenzyme in various enzyme catalyzed reactions. Also explain how decreased intake of thiamine in diet influences our health. (2+2)
5. a) Discuss metabolic fate of folate giving its food sources. (3+1)  
b) Describe causes and symptoms of pernicious anaemia. What recommendation you will give for preventing pernicious anaemia in vegans? (2+2)
6. a) Discuss various factors which affect bioavailability of calcium in our body. (4)  
b) Explain absorption of non-haem iron in our body. What are the various factors which affect absorption of dietary iron? (2+2)
7. a) Give functions of any four copper containing enzymes. (2)  
b) Elaborate the role of selenium in antioxidant defense system in our body. (4)

- c) Differentiate between probiotics and prebiotics giving their food sources. (2)
8. a) Define antinutritional factors. How saponins and lectins exhibit antinutritional property? (1+3)
- b) Explain in brief about various physiological changes which take place during pregnancy. (4)
9. a) Briefly discuss various nutritional problems of infants and preschoolers. (3)
- b) Explain growth chart and its uses. (2)
- c) Discuss nutritional requirements for adolescent. Also give some guidelines for advocating good eating habits in them. (3)
10. a) Give nutritional recommendations for elderly with chewing difficulty. (2)
- b) Define physical fitness. Describe five measurable components of physical fitness. (1+3)
- c) Explain role of iron in gene expression. (2)

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

(20 marks)

1. Briefly explain the following terms giving examples: (10)
- Mutual supplementation
  - Conjunctival Impression Cytology
  - Nicotinamide adenine dinucleotide
  - Iron toxicity
  - Prebiotics
  - Phytoestrogens
  - Lactogenesis
  - Bifidogenic effect of fructans
  - Protein Energy Ratio
  - EAR
2. Calculate the energy requirement of Kanupriya, who is a 32-year-old moderately active female using the factorial estimation of total energy expenditure. (5)
- Note:** Refer Unit 2, MFN-004 for the necessary calculations.
3. Give full form of the following: (5)
- |                               |           |
|-------------------------------|-----------|
| i. PDCAAS                     | vi. ATP   |
| ii. ICF                       | vii. AAD  |
| iii. 1,25-(OH) <sub>2</sub> D | viii. BMI |
| iv. FAD                       | ix. TEE   |
| v. BMD                        | x. WHR    |

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

**CourseCode: MFN-005**  
**Assignment Code: MFN-005/AST2/TMA-2/2023-24**

**Last Date of Submission: 31<sup>st</sup> Januray,2024**  
**Maximum Marks: 100**

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

**Section A - Descriptive Questions**

**(80 marks)**

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

1. a) What is Nutrition Care process? Enlist the steps involved? (2)  
b) What do you understand by the term diet counseling? Mention a few tips for counselling children. (2+2)  
c) Discuss the factors affecting diet prescription. Also, calculate the basal energy expenditure of a female patient admitted to a hospital whose weight is 65 kg, height is 155 cm and age is 55 years. (2+2)
2. a) What are the various modes of feeding patients. Which one of these is the most preferred? (3+1)  
b) What are the different routine hospital diets? How is a mechanical soft diet different from a normal diet? (3+1)  
c) List the salient features of the diet given to a typhoid patient? (2)
3. a) Classify burns on the basis of their depth? Mr. Ravi is a 40 year old male who has suffered from 45% total body surface area burn. Calculate his energy requirement by using the Currie formula. (3+2)  
b) What are three steps involved in IgE mediated allergic response? (3)  
c) Differentiate between food allergy and food intolerance. (2)
4. a) Enlist the risk factors associated with the etiology of Cancer. Briefly discuss the dietary and non-dietary factors known to cause Cancer. (1+2+ 2)  
b) What are the different levels of sodium restriction advised in hypertension? (3)  
c) Discuss the factors responsible for causing atherosclerosis. (2)
5. Give the salient features of dietary and lifestyle management of the following conditions: (5+5)  
a) Obesity  
b) Peptic Ulcer

6. a) Discuss the role of dietary fibre and glycemic index in the dietary management of diabetes mellitus. (5)
- b) What are the three characteristic features of Gout? Discuss its dietary management giving a list of food items permitted and excluded. (5)
7. a) Define the following malabsorption syndromes and also give the dietary management of these diseases: (5)
- (i) Celiac Disease
- (ii) Lactose Intolerance
- b) Discuss the pathogenesis and complications of alcoholic liver disease. (5)
8. a) What are the stages of Acute Renal Failure? Enlist the major points for dietary management of a patient suffering from ARF. (5)
- b) What is Mini Nutritional Assessment (MNA) tool for assessing nutritional status of the elderly? (5)

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

1. Define the following in 2-3 sentences each: (10)
- i) SOAP
- ii) Kaposi's Sarcoma
- iii) MODS
- iv) Elimination Diet
- v) Quetelet Index
- vi) Anorexia Nervosa
- vii) Glycosylated Haemoglobin
- viii) Galactosemia
- ix) Wilson's Disease
- x) Cholecystitis
2. Give examples for each of the following: (10)
- i) Branched chain amino acids
- ii) Probiotics
- iii) MAO Inhibitors
- iv) Antioxidants in Cancer prevention
- v) N-3 fatty acid
- vi) Low GI food item
- vii) Dietary source of Oxalate
- viii) Foods forming Cohesive bolus
- ix) Low Residue food
- x) Potassium rich food



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

**Course Code: MFN-007**  
**Assignment Code: MFN-007/AST-3/TMA-3/2023-24**  
**Last Date of Submission: 28<sup>th</sup> February, 2024**  
**Maximum Marks: 100**

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

**(80 marks)**

**Section A - Descriptive Questions**

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

1. a) Enlist the six functions of management and write against each at least one activity that a manager performs using the function. (6)  
b) How is the grading of hotels and restaurants done? (2)  
c) How important is a market survey for an individual to start a food service unit? (2)
2. a) Enumerate briefly the architectural plans you would bear in mind before setting up the food service unit. (4)  
b) What are the 4 P's of Marketing mix? Discuss them briefly. (4)  
c) List the labeling requirement of a food product. (2)
3. a) Elaborate the knowledge and skills required to plan a food menu? (2)  
b) What are the different types of menus and their uses in a food service establishment? (6)  
c) Enlist the steps involved in construction of a menu. (2)
4. a) What is formal or competitive bid buying? What are the different types of competitive bid buying? (4)  
b) What is standardized recipe? Discuss the methods used for recipe adjustment. (6)
5. a) Illustrate the activities involved in the process of food production using a flow chart. (2)  
b) Elaborate the different types of moist heat methods of cooking. (4)  
c) Highlight the factors that have led to the growth of disposables in the service area. Also, give any two advantages and disadvantages of disposables. (4)

6. a) What is the Ganymede system of service in hospitals? Discuss its advantages. (4)
- b) How is cold temperature maintained during distribution system in ready prepared food service system? (2)
- c) What are the benefits of using the following food service systems: (2+2)
- i) Commissary
- ii) Assembly / serve
7. a) Discuss the principles involved in the process of staff management. (4)
- b) What is an organization chart? Illustrate the hospital chart of a hospital kitchen. (1+3)
- c) What safety concerns need to be kept in mind before purchasing equipment? (2)
8. a) What do you understand by 3 E's of safety in a food service establishment? (3)
- b) List the common rules that a food service worker needs to adopt for hygienic storage and handling. (2)
- c) What measures should the employer observe to ensure good health and safe working condition for all employees working in a food service establishment? (5)

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

1. a) Define the following: (10)
- i. JIT approach
- ii. Activity Analysis
- iii. FOAP
- iv. Requisition Slip
- v. Appraisal
2. Differentiate between the following: (10)
- i) Food poisoning and Food infection
- ii) Refrigerated storage and Cold storage
- iii) Recruitment and Selection
- iv) Cleaning Agent and Sanitizer
- v) Perpetual inventory and Physical inventory

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

**Course Code: MFN-009**

**Assignment Code: MFN-009/AST-4/TMA-4/2023-24**

**Last Date of Submission: 15<sup>th</sup> March, 2024**

**Maximum Marks:100**

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

**(80 marks)**

**Section A - Descriptive Questions**

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

1. a) What do you understand by the term ‘Nutritional Epidemiology’? Explain the descriptive variables related to community health used in research. (1+4)  
b) What is null hypothesis? What are the characteristics of a good hypothesis? (2+3)
2. a) What is a cross-sectional descriptive study? Explain with example. List the strengths and limitations of descriptive cross-sectional study. (2+2)  
b) Explain the following with examples: (2+2+2)
  - i) Experimental Research
  - ii) Correlation study
  - iii) Case control study.
3. a) How is purposive sampling different from incidental sampling? Discuss the characteristics of a good sample. (2+2)  
b) What are the different types of scales used in behavioural sciences for data measurement ? (4)  
c) What do you understand by validity and reliability of a research tool? (2)
4. a) What is an attitude scale? Enlist its uses and limitations. (1+2)  
b) Explain the various types of observations. Discuss the stages in the process of observation. (4)  
c) Briefly describe the methods of data collection. (3)
5. a) Enumerate the graphs you will use for representing frequency distribution? (5)  
b) Describe the characteristics of a Normal Probability Distribution. (3)  
c) What do you understand by the term Relative risk and Odd’s ratio? (2)

6. a) Ten scores of 10 learners enrolled in MFN-009 is given below: (2+2+2+2)  
 40,36,29,14,27,45,50,12,39,19  
 Calculate the mean, median, standard deviation and variance for the above data. (2)  
 b) Describe the assumptions on which non-parametric tests are based?
7. a) In a sample of 100 children, 1-3 years of age, mean (SD) intake of calcium = (5)  
 175 (5.82) mg. Compute the standard error of mean.  
 b) The theory and practical marks of 10 students are given below: (5)  
 Theory (x): 24 34 33 22 37 23 38 33 44 35  
 Theory (y): 15 21 28 31 18 24 36 32 27 18  
 Find the correlation coefficient between x and y.
8. a) What is NUDIST software? Discuss the features which are available with this (5)  
 software.  
 b) Discuss the methods used for analysis of qualitative data? (5)

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

1. Define the following: (10)  
 i) Biostatistics  
 ii) Plagiarism  
 iii) Double blind trial  
 iv) Halo effect  
 v) Journals  
 vi) Checklist  
 vii) Scattergraph  
 viii) Factor Analysis  
 ix) Contingency tables  
 x) Degree of Freedom
2. Differentiate between the following: (10)  
 i) Random error & Systematic error  
 ii) Descriptive and Analytical Research Design  
 iii) Stratified Random Sampling and Simple Random Sampling  
 iv) Structured and Unstructured Questionnaire  
 v) Power test and Speed test

