

M.Sc. (DFSM)

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

2nd Year Assignment Booklet

Assignments 1-4

July 2024 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-1/2024-25
Last Date of Submission: 31st December 2024
Maximum Marks:100

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

(80 marks)

Section A - Descriptive Questions

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

1. a) Enlist the various methods used for measuring human energy expenditure. Explain any one method. (4)
b) Briefly explain the following: (2+2)
 - i. Dietary Reference Intake
 - ii. Physical Activity Ratio
2. a) Define resistant starch and give its classification. Elaborate various factors which influence resistance starch content of foods. (2+2)
b) Explain the following methods of determination of proteins and amino acids content in foods: (2+2)
 - i. DIAAS
 - ii. NPR
3. a) Differentiate between Visible fat, invisible fat and hidden fat with examples. (4)
b) Elaborate on regulation of water balance in our body (4)
4. a) Why is Vitamin D called 'Sunshine Vitamin'? Give steps for the production of Vitamin D₃ in our body. (2+2)
b) Discuss sources and bioavailability of the following vitamins: (2+2)
 - i. Niacin
 - ii. Cyanocobalamin
5. a) Briefly describe regulation of calcium in our body. (4)
b) What are goitrogens? Describe various functions of iodine in our body. (1+3)
6. a) What are functional foods? Give classification of functional foods. (4)
b) Briefly describe health benefits of polyphenols and non-digestible oligosaccharide. (4)
7. a) What are the physiological changes occurring during pregnancy and how do they influence the nutrient needs? (4)
b) What do you understand by physical fitness? Describe the five measurable components of physical fitness. (4)
8. a) Explain Lactogenesis and give composition of human milk. (4)
b) Justify the statement 'Infancy is a period of rapid growth' highlighting the physiological changes in infancy. (4)
9. a) Briefly discuss various nutritional problems of older children and adolescents. (4)
b) What are the physiological changes in elderly and how do they influence the food/nutrient needs? (4)
10. a) Define ergogenic aids. Explain with examples (4)
b) Discuss nutritional requirements for person living in high altitude. (4)

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

1. Briefly explain the following terms giving examples: (10)

- i) Gene Expression
- ii) Holoenzyme
- iii) Trans fatty acids
- iv) Glycemic Index
- v) Energy Imbalance
- vi) Obligatory Loss of Nutrients
- vii) Thermogenesis
- viii) Human Glucose Transporters
- ix) Insoluble Dietary Fibre
- x) Goitrogens

2. Calculate the energy requirement of Rohan, who is a 27-year-old sedentary active male with a mean body weight 72 Kg using the factorial estimation of total energy expenditure.

Note: Refer Unit 2, MFN-004 for the necessary calculations. (5)

3. Give full form of the following: (5)

- | | |
|---------|------------|
| i. PAL | vi. DHA |
| ii. NCD | vii. GSHPx |
| iii. RS | viii. GTF |
| iv. AAS | ix. FOS |
| v. ALA | x. G6PD |

ASSIGNMENT 2
(TMA-2)
Clinical and Therapeutic Nutrition

Course Code: MFN-005

Assignment Code: MFN-005/AST2/TMA-2/2024-25

Last Date of Submission: 31st Januray,2025

Maximum Marks: 100

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

Section A - Descriptive Questions

(80 marks)

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

1. a) Define Diet Counseling? Elaborate various strategies used for diet counseling. (4)
b) Justify the statement 'Therapeutic diets are adaptations of the normal diet.' Give types of dietary adaptations for therapeutic needs. (2+2)
2. a) What metabolic changes occur during fever? Describe. (2)
b) Give dietary management of: (2+2)
 i. Enteric fever ii. Tuberculosis
c) Explain how HIV infection leads to malnutrition? (2)
3. a) Define parenteral and enteral nutrition. Give advantages of parenteral and enteral nutrition. (4)
b) Describe the nutritional care in preoperative and postoperative stage. (4)
4. a) What is food intolerance? Discuss how food allergies are managed. (4)
b) Elaborate the effects of drugs on nutritional status. (4)
5. a) Define carcinogen. Discuss non dietary factors that can cause cancer. (4)
b) Enlist the modifiable and non-modifiable risk factors of CHD. (2)
c) Present the dietary guidelines for hyperlipidemic patients. (2)
6. a) Discuss the metabolic aberrations in obesity. (4)
b) Discuss the nutritional management of constipation. (4)
7. a) Define the following eating disorders and also give the dietary management of these diseases: (4)
 (i) Anorexia Nervosa
 (ii) Bulimia Nervosa (4)
b) Discuss the pathogenesis of atherosclerosis.
8. a) Explain in brief about common renal disorders. (4)
b) What advice would you give a diabetic patient regarding energy and the type and quantity of fat in their diet? (4)
9. a) Describe the role of proteins and purines in Gout. (4)
b) What is a Kitogenic diet? Explain highlighting the foods to be included and avoided in a Kitogenic diet? (4)
10. a) Elaborate dietary management of the following: (2+2+2+2)
 i. Liver Cirrhosis
 ii. Chronic Pancreatitis
 iii. Sepsis
 iv. Peptic ulcer

Section B - OTQ (Objective Type Questions)

1. Define the following in 2-3 sentences each: (10)
 - i) AIDS
 - ii) Gastritis
 - iii) Neuro trauma
 - iv) Preterm
 - v) Celiac disease
 - vi) MNA tool
 - vii) Homocystinuria
 - viii) Galactosemia
 - ix) Energy balance
 - x) Peripheral Vein feeding

2. Give examples for each of the following: (10)
 - i) Oncogenic viruses
 - ii) Prebiotics
 - iii) Low sodium foods
 - iv) Wheat allergy foods
 - v) Enteral feeds
 - vi) High GI food item
 - vii) Non-modifiable risk factor of CHD
 - viii) Oils rich in MUFA
 - ix) High Residue food
 - x) Factors decreasing blood sugar levels

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

Course Code: MFN-007
Assignment Code: MFN-007/AST-3/TMA-3/2024-25
Last Date of Submission: 28th February, 2025
Maximum Marks: 100

This assignment is based on Units 1 -19 of the MFN-007 Course. (80 marks)
Section A - Descriptive Questions

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

1. a) Define Food Service Establishments. Discuss factors which influence the development of food service establishment. (4)
b) Briefly describe the functions that every manager performs for development of organization. (4)
2. a) What is system approach? Describe five fundamental implications for system approach. (2)
b) What do you understand by work simplification? (2)
c) Elaborate registration, licensing and grading of food establishments. (4)
3. a) Define entrepreneurship and entrepreneur. Give characteristics of successful entrepreneurs. (4)
b) Elaborate the concept of creativity with respect to food business. (4)
4. a) Discuss the role of recruitment and training process in staff planning and management. (6)
b) What are the essential components of a prospectus? (2)
5. a) Elaborate the importance of menu and menu planning in food service establishment. (4)
b) Why is staff training a crucial part of a catering operation? Describe the various staff training methods. (4)
6. a) Discuss the importance of quality control in food production. (4)
b) What type of equipment are used in food service establishment? Give in detail. (4)
7. a) What factors affect cost control in food business? Give checklist for cost control. (4)
b) Give general rules for hygienic handling and transportation of food. (4)
8. a) What type of disposables are used in food establishments? Give advantages/disadvantages of using disposables. (4)
b) Discuss any two types of food services in restaurants. (4)
9. a) What do you understand by cafeteria service? Describe the counters used in cafeteria service with pictorial diagrams. (4)
b) Elaborate Entrepreneur development cycle with diagram. (4)
10. a) Elaborate the barriers to communication within an organization? (4)
b) What is the importance of pest control in food establishments? (4)

Section B - OTQ (Objective Type Questions)

1. a) Define the following: (10)
- i. HACCP
 - ii. Buffet Service
 - iii. Firm Fixed Price
 - iv. Choice menu
 - v. Cook-Freeze System
2. Differentiate between the following: (10)
- i) Conventional food service and commissary food service
 - ii) Centralized purchasing and group purchasing.
 - iii) Temporary carriers and chronic carriers
 - iv) Food infection and food allergy

ASSIGNMENT 4 (TMA-4)
Research Methods and Biostatistics

Course Code: MFN-009

Assignment Code: MFN-009/AST-4/TMA-4/2024-25

Last Date of Submission: 15th March, 2025

Maximum Marks:100

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

(80 marks)

Section A - Descriptive Questions

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

1. a) What are variables? Give classification and explain them in detail. (6)
b) What is Research? (2)
2. a) Explain Code of Ethics in detail. (4)
b) Explain the following with examples: (2+2)
 - i) Null hypothesis
 - ii) Alpha-error
3. a) How is observational study design different from Experimental study design? Discuss. (4)
b) Briefly explain the normal probability distribution and highlight its characteristics. (4)
4. a) What is Probability sampling? Enlist its characteristics and types. (4)
b) Explain the importance of rating scale in research. Also enlist various types of rating scales used in research. (4)
5. a) What do you understand by participant observation and non-participant observation? Explain the stages in the process of observation. (4)
b) Explain the process of quantitative data processing and coding. (4)
6. a) What is contingency table? What is their use in epidemiological research? (4)
b) Define the following: (4)
 - i. Stem-and-leaf plot
 - ii. Quantiles
 - iii. Z-score
 - iv. Nominal scale
7. Give definition and formula for the following: (8)
 - a) Mean
 - b) Median
 - c) Variance
 - d) Standard deviation
8. a) Calculate the product moment correlation from the given variables: (4)

Height (cm)	127	130	136	150	152	142
Weight (Kg)	45	50	45	52	65	62

b) What are non-parametric tests? Explain giving examples. What is the purpose of non-parametric tests? (4)

9. a) Compute mean, median and mode of the following frequency distribution: (6)

C.I.	71-75	66-70	61-65	56-60	51-55	46-50	41-45
f	5	8	4	3	2	6	1

- b) Describe the strengths of using case study method in research. (2)

10. Explain the following by giving suitable examples (8)
- a) Frequency polygon
 - b) Predictive Value
 - c) Power of test
 - d) Histogram

Section B - OTQ (Objective Type Questions)

1. Define the following: (10)

- i) Sampling Design
- ii) Research Design
- iii) Logical error
- iv) Cohort Study
- v) Epidemiology
- vi) Placebo
- vii) SPSS
- viii) NUDIST
- ix) Pie graph
- x) Snowball sampling

2. Differentiate between the following: (10)

- i) Thurstone scale and Likert scale
- ii) Stochastic and Deterministic variables
- iii) Sensitivity and specificity of a tool
- iv) Two-tailed and one-tailed tests of significance
- v) Qualitative and Quantitative variables