

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

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

**2nd Year Assignment Booklet**

**Assignments 1-4**

**July 2021 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 fool 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 roll 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 ten questions (of 8 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 these 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 (MFN-004)**  
**Course Code: MFN-004**

**Assignment Code: MFN-004/AST-1/TMA-1/2021-22**

**Last Date of Submission: 28<sup>th</sup> February, 2022**

**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) Briefly discuss the main determinants of nutrient requirements. (5)
- b) Briefly explain the concept of Recommended Dietary Allowances (RDA) and  
        Estimated Average Requirement (EAR) (3)
- c) What is the purpose behind setting the dietary guidelines? (2)
2. a) What do you understand by Chemical score and biological value of protein? How are  
        these used to know the quality of protein in the diet? (4)
- b) Explain the mechanism of regulation of blood glucose concentration. (4)
- c) List some important functions of carbohydrates. (2)
3. a) Briefly discuss the digestion, absorption and transportation of carbohydrates, proteins  
        and fats. (6)
- b) Enumerate the potential health benefits of dietary fiber. (2)
- c) Why is LDL referred to as bad cholesterol and HDL as good cholesterol? (2)
4. a) Diagrammatically explain the functions of two major fluid compartments of the body. (4)
- b) Differentiate between Glycemic Load (GL) and Glycemic Index (GI), giving  
        examples. (2)
- c) Explain the following: (2+2)
  - i) Bioavailability of Vitamin A
  - ii) FOS (Fructooligosaccharide)
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) What are Probiotics and Prebiotics? Briefly discuss their dietary sources and health  
        effects. (4)
- b) Comment briefly on the following: (3+3)

- i) Factors that influence the nutrient needs of an adolescent
  - ii) Effect of maternal malnutrition on foetal outcome.
7. a) List the different components of energy expenditure. Define BMR and briefly discuss the factors which influence BMR. (4)
- b) Write the functions of following: (2+2+2)
- i) Selenium
  - ii) Chromium
  - iii) Manganese
8. a) Briefly discuss the following: (2.5+2.5)
- i) Nutrient needs and dietary management for lactating women
  - ii) Dietary modification for the elderly
- b) What do you understand by the term calamity and emergency? Briefly discuss the measures to avoid protein energy malnutrition and micronutrient deficiency during emergencies. (5)

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

**(20 marks)**

1. Briefly explain the following terms giving examples: (10)
- i) Ketosis
  - ii) Ergogenic aids
  - iii) Saponins
  - iv) Pre-eclampsia
  - v) Functional foods
  - vi) Essential fatty acids
  - vii) Amylase Inhibitors
  - viii) PAL
  - ix) Basal Metabolic Index
  - x) Resistant Starch
2. Minakshi is a 42 year old housewife female having a mean body weight of 55 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. List the ICMR (2020) recommended allowances for energy, protein, vitamin A, iron, calcium for the following: (5)
- i) Lactating mother
  - ii) 12 months infant
  - iii) 70 years old man
  - iv) 18 years old girl
  - v) 10 years old boy

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

**Course Code: MFN-005**  
**Assignment Code: MFN-005/AST-2/TMA-2/2021-22**  
**Last Date of Submission: 31<sup>st</sup> December, 2021**  
**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) Define medical nutrition therapy and discuss the role of a dietitian in nutrition and health care. (1+4)
- b) What is the nutrition care process? Elaborate highlighting its various dimensions. (5)
2. a) Enlist the types of dietary adaptation you would recommend to suit the therapeutic needs of the patients. (3)
- b) What are the routine hospital diets and the mode of feeding you would recommend as a dietitian in a hospital? Elaborate. (4)
- c) List the salient features of the diet you would prescribe to a patient suffering from tuberculosis. (3)
3. a) Give the salient features of the nutritional management of the following diseases/disorders: (2+2+2)
  - i) Type II Diabetes
  - ii) Diverticular Disease
  - iii) Liver Cirrhosis
- b) Enlist the nutrient requirement for a low term or premature infant. (4)
4. a) Enlist major points for dietary management of a patient suffering from chronic renal failure. (4)
- b) Give important goals of nutritional care of persons with neurological disorders. (3)
- c) “Drug Nutrient Interaction” is an important consideration in the nutritional management of Parkinson’s disease. Justify the statement giving appropriate examples. (3)
5. a) Enumerate the modifiable risk factors that increase the risk for developing heart diseases. Also give dietary modifications for congestive cardiac failure. (5)
- b) Give the classification of blood pressure and stages of hypertension in adults. (3)

- c) What are the complications of Rheumatic Heart Disease? (2)
6. a) Define the following inborn errors of metabolism and also give dietary management of these diseases: (3+3+3)
- i) Phenylketoneuria
  - ii) Galactosemia
  - iii) Maple Syrup Urine Disease
- b) Name the enzyme whose deficiency causes homocystinuria. (1)
7. a) Briefly discuss the classification and the dietary modification for obesity. (5)
- b) What is Anorexia Nervosa? Briefly discuss the nutritional management of Anorexia Nervosa. (5)
8. a) Enumerate the risk factors associated with the etiology of cancer. Briefly discuss the nutrient requirement of cancer patient. (5)
- b) Briefly discuss the role of purines and proteins in the precipitation and management of Gout. (3)
- c) What do you understand by ketogenic diet? Under what conditions you would recommend this diet? (2)

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

1. Define/explain the following in 2-3 sentences each: (10)
- i) Ebb Phase
  - ii) Jejunostomy
  - iii) Wilson's Disease
  - iv) IUGR
  - v) Cystic fibrosis
  - vi) Aneurism
  - vii) Somgyi effect
  - viii) MODS and SIRS
  - ix) Glycemic Index and Glycemic Load
  - x) Cushing's syndrome
2. Give examples of the following: (10)
- i) Low residue foods.
  - ii) Rich sources of PUFA
  - iii) Drug-Nutrient Interaction
  - iv) Gluten free food sources
  - v) Low sodium food products
  - vi) Foods avoided in viral hepatitis
  - vii) Foods avoided in gastritis
  - viii) Foods avoided in GERD
  - ix) Non-nutritive sweeteners
  - x) Rich sources of vitamin B12



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

**Course Code: MFN-007**  
**Assignment Code: MFN-007/AST-3/TMA-3/2021-22**  
**Last Date of Submission: 28<sup>th</sup> February, 2022**  
**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) How would you get your food service unit registered? Enlist steps. (6)
- b) What kind of accidents can take place at work place and how can you prevent it? (4)
2. a) Explain 3S model of entrepreneurship. (6)
- b) Enlist nine critical control points that have been identified in controlling microbiological quality of food. (4)
3. a) What are the different methods of purchasing? Explain briefly. (6)
- b) What do you understand by prospectus? Briefly explain its 3 components. (4)
4. a) Explain the various methods of dry heat cooking. (6)
- b) What are the different income and expenditure records in a food service establishment? (4)
5. a) What are the two methods of delivery service system? Differentiate between the two. (4)
- b) What are the characteristics of a good menu? (3)
- c) Explain gueridon service. (3)
6. a) Differentiate between commissary and conventional food service system. (4)
- b) What are the three component of leadership? (4)
- c) Define contingency approach to leadership. (2)
7. a) List the six principles involved in the process of staff management. What are the issues related to the staff planning? Explain briefly. (1+4)
- b) What is an organization chart? Illustrate an organization chart of a dietetic department. (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) Discuss the process of receiving and storing the goods to minimize the losses. (3)

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

1. a) Define the following: (5)
- i. A la carte Menu
  - ii. Profit and Loss Statement
  - iii. Simmering
  - iv. Operative budget
  - v. Food processing continuum
- b) Match the following: (5)
- |                             |                          |
|-----------------------------|--------------------------|
| i) Commercial Establishment | a) Semi-Commercial       |
| ii) Restaurant              | b) Pre-plated Service    |
| iii) American Service       | c) Commercial            |
| iv) Tea Stall               | d) Silver Service        |
| v) English Service          | e) Entertainment/Leisure |
2. Differentiate between the following: (10)
- i) Production forecasting and Production Scheduling
  - ii) Job Enrichment and Job Descriptions
  - iii) Mobile equipment and Modular Equipment
  - iv) Fixed Budget and Zero Based Budget
  - v) Adulteration and Misbranding

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

**Course Code: MFN-009  
Assignment Code: MFN-009/AST-4/TMA-4/2021-22  
Last Date of Submission: 15<sup>th</sup> March, 2022  
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) Define research. What do you understand by the terms -Level of Significance and Power? Discuss their relevance in sample size determination. (6)  
(4)
- b) Define hypothesis. Enumerate basic characteristics of a good hypothesis.
2. a) Explain the following with examples: (2+2+2)
  - i) Clinical trials
  - ii) Double blind trials
  - iii) Correlation studies
- b) What do you understand by probability and non-probability sampling? Explain the various methods of non-probability sampling. (4)
3. a) Differentiate between the following highlighting their uses in epidemiological studies: (2+2+2)
  - i) Open ended and close ended questionnaire
  - ii) Cluster sampling and stratified sampling
  - iii) Cross sectional and case control study
- b) Explain the various types of interviews? Write down different techniques used to conduct interview (4)
4. a) Given below are the hemoglobin level recorded for 10 subject in a community study: (2+3+3)  
8.8, 6.4, 10.3, 11.2, 12.5, 8.5, 9.0, 10.0, 11.0, 12.0  
Calculation the mean, standard deviation and variance for the hemoglobin levels reported above. (2)
- b) Differentiate between two-tailed and one-tailed tests of significance.
5. a) Define the concept of confidence interval and degree of freedom with the help of an example. (2.5+2.5)
- b) Test the difference in the attitude of male and female subjects using chi-square analysis (5)  
towards eating junk food based on the distribution given here with (at 0.5 level of significance):

	Positive Attitude	Negative Attitude	Total
Male	8	7	15
Female	7	5	12

6. Briefly discuss the characteristics of a good questionnaire. What are the advantages and limitations of using a questionnaire in a research study? (3+3)
- b) Briefly discuss different types of rating scales used in epidemiological studies. (4)
7. a) Differentiate between the following research designs, giving appropriate examples. (2+2+2+2)
- Analytical study - Descriptive study
  - Observational study - Experimental study
  - Case – Control study - Intervention study
  - Single blind study - Double blind study
- b) Explain briefly the significance of control, manipulation and observation in an experimental study (2)
8. The nutrition score of 8 males and 12 girl students of M.Sc. (DFSM) programme is given herewith:
- Males: 10, 12, 13, 10, 14, 15, 10, 12
- Females: 08, 12, 16, 14, 15, 12, 13, 15, 08, 13, 10, 09
- Based on the data given here with:
- Calculate the standard error of the difference between the means of the two groups. (3)
  - Test the significance of the difference between the mean nutrition score of males and females at 0.05 level of significance. (5)
- b) Differentiate between validity and reliability of a research tool. (2)

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

1. a) Define the following: (10)
- Double blind trial
  - Percentiles
  - Placebo
  - Stratified Sampling
  - Proximity error
  - Normal Distribution
  - Inductive analysis
  - Errors in statistical decisions
  - Degree of freedom
  - Limit of accuracy
2. Differentiate between the following: (10)
- ANOVA and Factor Analysis
  - Bar Graph and Histogram
  - Parametric and Non-Parametric Test
  - t-Test and F-Test
  - Descriptive studies and Analytical studies