

M.Sc. (DFSM)

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

## **2nd Year Assignment Booklet**

**Assignments 1 - 4**

**July, 2014/ January, 2015**

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



**SCHOOL OF CONTINUING EDUCATION**  
**Indira Gandhi National Open University**  
**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 numericals, use proper format and give working notes wherever necessary.

- 1) Use only foolscap 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 have 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-1/14-15**

**Last Date of Submission: For July, 2014 session is 28<sup>th</sup> February, 2015**

**For January, 2015 session is 30<sup>th</sup> September, 2015**

**Maximum Marks: 100**

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

**Section A - Descriptive Questions**

**(80 marks)**

1. a) Define the terms, Minimum requirement; Maintenance requirement; Safe requirement and Subsistence allowance in relation to requirements of nutrients. Enumerate different factors which are the determinant of our nutritional requirements. (3+3)
- b) Explain the concept of Recommended Dietary Allowances (RDA) and Dietary Reference Intake (DRI) (4)
2. a) What do you understand by PAL? Give different lifestyle classifications with their PAL value. (5)
- b) Why LDL is referred to as “bad” cholesterol and HDL as “good” cholesterol? (2)
- c) What is energy imbalance? Enumerate the consequences of an acute negative energy balance. (1+2)
3. a) Briefly explain the mechanism of regulation of blood glucose concentration in the body. (3)
- b) Enumerate different functions of dietary fiber. (2)
- c) What do you understand by Protein Efficiency Ratio (PER) and biological value of protein? How are these used to know the quality of protein in the diet? (2+3)
4. a) How fats are transported and stored in the body? (4)
- b) Why is it essential to maintain water balance in the body? What are the consequences of disturbances in fluid balance? (6)
5. a) Describe the important functions of the following in the body (2+2)
  - Iron
  - Selenium
- b) Enumerate the methods used for assessing vitamin A status. (3)
- c) Discuss the role of vitamin K in blood clotting. (3)
6. a) Comment on the consequences of deficiency of iron and folic acid in the body. (4)
- b) Comment briefly on the following: (3+3)
  - Factors that influence the nutrient needs of an adolescent
  - Effect of maternal malnutrition on foetal outcome.

7. a) What are antioxidants? Discuss their role in lipid peroxidation. (4)  
 b) Define probiotics and prebiotics. Discuss their characteristics and physiological effects. (4)  
 c) Enlist different factors influencing calcium absorption in the body. (2)
8. a) Define any two of the following and state their health benefits: (3+3)  
 • Polyphenols  
 • Flavonoids  
 • Phytoestrogens  
 b) Describe the nutritional requirements for people residing in high altitudes. (4)

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

**(20 marks)**

- a) Define the following terms in 2-3 sentences each: (10)
1. Bifidus factor
  2. Chemical score
  3. Growth monitoring
  4. Resistant starch
  5. Parboiling
  6. Functional foods
  7. Protease Inhibitors
  8. Glucose tolerance factors
  9. Hypokalemia
  10. Bioavailability
- b) Calculate the energy requirement of Kamla, who is a 28 year old vigorously active female using the factorial estimation of Total energy expenditure. (5)  
 Note: Refer section 2.5.5. Refer Table 2.1 and 2.3 for the necessary calculations.
- c) List the WHO and the ICMR recommended allowances for energy, protein, Vitamin 'A', iron, calcium for the following individuals: (5)
- Adult sedentary man
  - 6 year old boy
  - 75 year old woman
  - Moderately active pregnant lady
  - 9 year old girl

## ASSIGNMENT 2

(TMA-2)

### Clinical and Therapeutic Nutrition (MFN-005)

Course Code: MFN-005

Assignment Code: MFN-005/AST-2/TMA-2/14-15

Last Date of Submission: For July, 2014 session is 31<sup>st</sup> March 2015

For January, 2015 session is 31<sup>st</sup> October, 2015

Maximum Marks: 100

This assignment is based on Units 1 -15 of the MFN-005 Course.

#### Section A - Descriptive Questions

(80 marks)

There are eight questions in this part. Each question carries equal marks.  
Answer all questions.

1. a) What do you understand by nutritional care process? Enumerate the steps involved in it highlighting their importance. (5)  
b) What are therapeutic diets? Give the purpose and types of dietary adaptations for therapeutic diets. (5)
2. a) Explain in brief about the types of nutrition support for critically ill patient in hospital settings. (5)  
b) Discuss the nutritional considerations for children suffering from HIV. (5)
3. Briefly discuss the clinical symptoms/complications and dietary management of the following: (5+5)
  - i. Cancer
  - ii. Any one Chronic Fever
4. a) Describe the complications and dietary management for burns. (5)  
b) What preventive measures would you advocate to a patient suffering from adverse food reactions? (5)
5. a) What do you understand by drug-nutrient interaction? Briefly discuss the effect of nutrition on drug absorption, transport and metabolism in the body. (5)  
b) Enumerate the risk factors for Atherosclerosis. What specific dietary measures you would recommend to a patient suffering from atherosclerotic plaque? (5)
6. a) Discuss the role of diet and physical activity in the management of obesity. (5)  
b) What do you understand by GERD? List the dietary consideration in the management of GERD. (5)

7. Describe the following in brief: (2×5)
- i. Fenugreek seeds as supportive therapy in diabetes
  - ii. Glycemic index and its concept in planning diets for diabetics
  - iii. Diet therapy in diverticulosis
  - iv. Dietary management of constipation
  - v. Gluten free diet and its role in celiac disease
8. a) Discuss the nutritional management of the following: (2½+2½)
- i. Liver Cirrhosis
  - ii. Acute and chronic renal failure.
- b) List common neurological disorders. Give the important goals of nutritional care of persons with neurological disorders. (5)

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

There are two questions in this part.

1. Define/explain the following in 2-3 sentences each: (10)
- i. Crohn's disease
  - ii. Steatorrhoea
  - iii. Maple Syrup Urine Disease (MSUD)
  - iv. Bulimia Nervosa
  - v. Enteric fever
  - vi. Kaposi's Sarcoma
  - vii. Elimination diet
  - viii. Ebb phase of injury
  - ix. Polymeric formula of enteral feeds
  - x. Bariatric surgery
2. Give examples of the following: (10)
- i. Foods allowed in peptic ulcer
  - ii. Foods lowest in purines (0-50 mg/100g)
  - iii. Low residue foods
  - iv. Foods allowed in lactose intolerance
  - v. Clinical manifestations associated with ulcerative colitis
  - vi. Foods rich in soluble fiber
  - vii. Non-nutritive sweeteners
  - viii. Destructive factors affecting gastric mucosa
  - ix. Sources of food with high potassium content (201 mg/100g and above)
  - x. Foods to be avoided in Ketogenic diet



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

**Course Code: MFN-007**

**Assignment Code: MFN-007/AST-3/TMA-3/14-15**

**Last Date of Submission: For July, 2014 session is 31st December, 2014**  
**For January, 2015 session is 31<sup>st</sup> July, 2015**

**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. Each question carries equal marks.  
Answer all questions.

1. a) What is planning? Give its significance as a function of management process. (2+3)  
b) What do you understand by systemic approach to food service management? Discuss briefly. (5)
2. a) Define entrepreneurship. Discuss the significance of process of creation and innovation in successful entrepreneurship. (1+4)  
b) Define the term menu and briefly discuss the steps you would keep in mind while planning and evaluating a menu. (5)
3. a) Explain the following briefly: (2+2+2+2+2)
  - Centralized purchasing
  - Competitive bid buying
  - Perpetual inventory
  - Production scheduling
  - Autocratic approach to staff management
4. a) What are critical control points? Enlist the critical control points identified in a food production operation. (2+2)  
b) Differentiate between: (2+2+2)
  - Blanching and Braising
  - Operative and Zero-based budget
  - Centralized and Decentralized delivery system
5. Illustrate different components of a food service system model and its significance. Explain with a flowchart. (10)
6. a) Discuss different types of services in food service establishment. (5)  
b) Differentiate between conventional and commissary food service systems highlighting their significance. (5)
7. a) What do you understand by job design? Enumerate its various components. (4)  
b) Briefly discuss the need for training, procedures and processes in a food service unit. (6)

8. a) Enumerate the methods used to communicate with the staff in a food service establishment. Discuss different factors acting as barrier in communication channels. (2+3)
- b) Enumerate the issues in planning and development. Discuss any two of them. (1+4)

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

**(20 marks)**

There are two questions in this part

1. Define the following terms in 2-3 sentences: (10)
- i. Staff retention
  - ii. Functional departmentalization
  - iii. Job enrichment
  - iv. Safety engineering
  - v. Food allergy
  - vi. Sauteing
  - vii. Essential Commodity Act
  - viii. Food adulteration
  - ix. Food danger zone
  - x. Standardized recipe
2. Illustrate the following with flow charts: (2+2+2+2+2)
- i. Support systems in entrepreneurship
  - ii. Process of food production
  - iii. Food flow in ready prepared food service systems
  - iv. Effect of unplanned recruitment and selection
  - v. Modes of transmission of infection in food services

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

**Course Code : MFN-009**

**Assignment Code : MFN-009/AST-4/TMA-4 /14-15**

**Last Date of Submission: For July, 2014 session is 31st March, 2015**

**For January, 2015 session is 30<sup>th</sup> September, 2015**

**Maximum Marks: 100**

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

**Section A - Descriptive Questions**

**(80 marks)**

There are eight questions in this part. Each question carries equal marks. Answer all questions.

1. a) Define the term research. Briefly discuss the research process. (1+5)  
b) What do you understand by formulating a hypothesis? Briefly discuss the different forms of hypothesis. (4)
  
2. a) Differentiate between the following research designs, giving appropriate examples.  
i. Analytical study - Descriptive study  
ii. Observational study - Experimental study  
iii. Case – Control study - Intervention study  
iv. Single blind study - Double blind study (2+2+2+2)  
b) Explain briefly the significance of control, manipulation and observation in an experimental study. (2)
  
3. a) What is sampling? Give its classification and explain the concept of stratified, cluster, random and purposive sampling. (2+2+4)  
b) Enumerate the types of scales used generally in epidemiological research. (2)
  
4. a) 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)
  
5. a) List the various types of observation and describe the stages in the process of observation in brief. (5)  
b) What do you understand by normal probability distribution? Briefly describe the concept with suitable example. (5)
  
6. a) Given here are the weight measurements (in kg) of 20 children who took part in a nutritional survey.  
27,28,24,27,27,32,34,33,30,25  
23,30,36,36,25,27,30,30,28,28  
For these scores present:  
i) The frequency distribution and cumulative frequency distribution. (3)  
ii) Frequency polygon (2)

- b) Enumerate the graph you would prepare for the following, giving their advantages: (2<sup>1/2</sup>+2<sup>1/2</sup>)
- i) Nominal or ordinal data
  - ii) Establishing relationship between two variables

7. a) Following is the nutrition score of 8 male and 12 female students of M.Sc. (DFSM) programme:

Males: 08, 12, 13, 10, 14, 15, 10, 12

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

Based on the data given herewith:

- i) Calculate the mean and standard deviation of the two groups. (3)
  - ii) Test the significance of the difference between the mean weight of boys and girls at 0.05 level of significance. (5)
- b) Differentiate between two-tailed and one-tailed tests of significance. (2)
8. a) What are the points that you will keep in mind while deciding the sample size for a study? Give one simple formula you would use for sample size determination. (5)
- c) Test the difference in the attitude of male and female subjects towards eating junk foods based on the distribution given herewith (at 0.5 level of significance): (5)

	Positive Attitude	Negative attitude	Total
Male	9	6	15
Female	5	7	12

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

**(20 marks)**

There are two questions in this part

1. Define the following terms in 2-3 sentences: (10)
- i. Confidence level
  - ii. Discrete variable
  - iii. Z-score
  - iv. Percentile rank
  - v. Degree of freedom
  - vi. Clinical trial
  - vii. Quasi experimental design
  - viii. Nominal scale
  - ix. Halo-effect
  - x. Predictive value
2. Differentiate between following set of terms: (2×5)
- i. Parameter and statistics
  - ii. Type-I and Type-II error
  - iii. ANOVA and Factor analysis
  - iv. Variance and Standard Deviation
  - v. Incidence and Prevalence