

M.Sc. (DFSM)

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

2nd Year Assignment Booklet

Assignments 1 - 4

July, 2013/ January, 2014

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



**SCHOOL OF CONTINUING EDUCATION
Academic Block-G
Indira Gandhi National Open University
Maidan Garhi, New Delhi -110068**

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.

- 5) 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.
- 6) *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.
- 7) Do not copy from the response sheets of other students. If copying is noticed, the assignments of such students will be rejected.
- 8) Write each assignment separately. All the assignments should not be written in continuity.
- 9) Write the question number with each answer.
- 10) 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.
- 11) After submitting the assignment at the Study centre get the acknowledgement from the Coordinator on the prescribed assignment remittance-cum-acknowledgement card.
- 12) 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.
- 13) 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

Course Code: MFN-004

Assignment Code : MFN-004/AST-1/TMA-1 /13-14

Maximum Marks: 100

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

Section A - Descriptive Questions

(80 marks)

1. a) What do you understand by nutritional requirement ? Briefly discuss the factors which are the determinants of our nutritional requirement. (6)
- b) Briefly explain the concept of dietary reference intakes (DRI). (4)
2. a) Illustration the different components of energy expenditure. (2)
- b) “Different lifestyles have different levels of energy demands”. Elaborate on the statement giving appropriate examples. (4)
- c) What is chronic energy deficiency? Briefly explain the consequences of chronic energy deficiency. (4)
3. a) Briefly elaborate on the potential health benefits of dietary fibre. (4)
- b) Briefly comment on the protein quality of the Indian diet and explain the measures you would adopt for improvement of quality of protein in the diet. (2+2)
- c) Briefly comment on the choice of cooking medium you would include in your diet, giving appropriate justification. (2)
4. a) Briefly describe one major function of the following vitamins in our diet : (2+2+2+2+2)
 - Vitamin (A)
 - Vitamin (D)
 - Thiamin
 - Pyridoxine
 - Folate
- 5 a) Briefly elaborate on the factors affecting absorption of calcium and iron in the body. (3+3)
- b) Briefly describe the role of vitamin E and selenium in lipid peroxidation. (2+2)
6. a) Define the following and explain their health benefits: (2^{1/2}+ 2^{1/2} + 2^{1/2})
 - Prebiotic
 - Polyphenol
 - Phytoestrogens
- b) Give the dietary modifications you would recommend in the diet of the elderly. (2^{1/2})
7. a) Briefly elaborate on the physiological changes which contribution towards the increased nutrient need during pregnancy. (5)
- b) Enumerate a few features which influence the nutrient needs of adolescent. (5)
8. a) Briefly discuss the nutritional management of individuals during emergencies. (4)
- b) Summarize the energy allowances for sports person. (2)
- c) Give the nutritional recommendation and type of food appropriate for the space missions. (4)

Section B - OTQ (Objective Type Questions)

(20 marks)

Explain in 2-3 sentences only:

1. i) Factorial estimation of total energy expenditure (10)
- ii) Safe requirement

- iii) NPU
 - iv) Trans fatty acids
 - v) Water balance
 - vi) Vitamin K cycle
 - vii) Niacin Equivalent
 - viii) Hyponatremia
 - ix) Zinc fingers
 - x) Wilson's disease
- b) Give the nutritional requirement (ICMR & FAO/WHO 2004) for the following nutrients for on adult sedentary female. (5)
- (i) Vitamin (C)
 - (ii) Riboflavin
 - (iii) Vitamin B₁₂
 - (iv) Zinc (on a moderate bioavailability diet)
 - (v) Energy (during lactation).
- c) Give one example for each of the following: (5)
- (i) Physiological changes during infancy
 - (ii) Problems of preschool nutrition
 - (iii) Techniques for measuring body composition
 - (iv) Gene impression process
 - (v) Method for assessment of iron status.

ASSIGNMENT 2 (TMA-2)
Clinical and Therapeutic Nutrition

Course Code: MFN-005

Assignment Code : MFN-005/AST-2/TMA-2 /13-14

Last Date of Submission: For July, 2013 session is 31st December, 2013

This assignment is based on Units 1 -19 of the MFN-005 Course.

Section A - Descriptive Questions

(80 marks)

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) Discuss the medical nutrition therapy for an AIDS patient. (4)
b) Define the term "Sepsis" and its association with SIRS and MODS. Briefly elaborate on the dietary management of patient suffering form sepsis without MODS. (1+2)
c) What preventive measures would you advocate to a patient suffering form adverse food reactions? (3)
4. a) "Management of obesity comprises of three – pronged approach". Justify the statement with major focus on dietary management of obese individuals . (5)
b) Briefly describe the medical nutrition therapy for dyslipidemia. (5)
5. a) Discuss the contribution of calories, proteins, fats, carbohydrates and fibre in a diabetic diet. (5)
b) Give the salient features of the nutritional management of the following gastrointestinal disorders:
(i) GERD (2^{1/2} +2^{1/2})
(ii) Peptic ulcer
6. a) What are the diseases/conditions grouped collectively under the term "Malabsorption syndrome". Give the nutritional management for any one condition. (1+4)
b) Summarize the dietary guidelines for calories and proteins you would recommend for the three conditions associated with abnormal liver functioning (i.e. infective hepatitis, liver cirrhosis and hepatic coma). Elaborate on the quality of protein and the type of amino acids you would recommend for these patients. (5)
7. a) Give dietary guidelines for management of a patient suffering form chronic renal failure. (5)
b) Give the 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. (2)
8. a) "Physiological changes linked with ageing influence the nutrient need and nutritional management of elderly". Comment on the statement, giving appropriate justifications. (5)
b) Enlist the nutrient requirement for a low birth weight/preterm infant. (5)

Section B - OTQ (Objective Type Questions)

(20 marks)

Define and /or explain in 2-3 sentences only:

(10)

1. a) i) Crohn's disease
ii) Diverticular disease

- iii) Homocystinuria
- iv) PKU food pyramid
- v) Glycemic Index and Glycemic load
- vi) Binge Eating Disorder
- vii) Cancer Cachexia
- viii) Nutrient drug interaction
- ix) Food intolerances
- x) Enteric fever

b). Give examples of the following (10)

- (i) Drug- food interaction
- (ii) Cancer preventive nutrients and their food sources
- (iii) Consequences of obesity
- (iv) Rich sources of PUFA
- (v) Low sodium food
- (vi) Food with high purine content
- (vii) Low residue foods
- (viii) Gluten rich food sources
- (ix) Food excluded form the diet of a patient with gall bladder disease
- (x) Sources of food with high potassium (20 mg and above) content

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

Course Code: MFN-007

Assignment Code : MFN-007/AST-3/TMA-3 /13-14

Last Date of Submission: For July, 2013 session is 31st January, 2014

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

Section A - Descriptive Questions

(80 marks)

1. a) Briefly discuss the development of food service establishments and the recent trends seen in this area. (3+3)
- b) Enumerate the major functions of a manager in a food service establishment (4)
2. a) Briefly describe the aspects you would consider while preparing a planning guide for a food service unit (5)
- b) As a food service manger you are called upon to design effective layout for a food service establishment. Explain the phases you would consider while planning a layout. (5)
3. a) What is a menu? Discuss the need and the importance of menu planning in any food service unit. (5)
- b) With the help of a flow chart, illustrate the different methods of purchase, one can adopt for a food service unit. Briefly elaborate on any one method. (2+3)
4. a) What do you understand by the following terms? Discuss their importance in a food service operation:
 • Production forecasting (2^{1/2}+2^{1/2}+2^{1/2})
 • Production scheduling
 • Production control
- b) List the various types of equipment necessary in a food service unit. (2^{1/2})
5. a) Enumerate the various records you would maintain for the following process : (2+2+2)
 • Purchase
 • Storage
 • Reviewing actual performance report
- b) Differentiate between the centralized and decentralized delivery system, giving appropriate examples. (4)
6. a) Give the essential features of food service in the following settings: (2+2+2)
 • Airline service
 • Hospital food service
 • Table service
- b) Differentiate between the conventional and the ready prepared food service system: (4)
7. a) Briefly discuss the need for training, procedures and processes in a food service unit. (6)
- b) Prepare a staff time schedule and a work schedule for workers working in a dietetic department of a hospital. (4)
8. a) As a manager what techniques / measures would you adopt to analyze the productivity and improve the productivity of the workers in your unit . (6)
- b) Discuss the importance of sanitation in a food service unit, highlighting the sanitizing agents you will use. (4)

Section B - OTQ (Objective Type Questions)

(20 marks)

1. Define the following terms in 2-3 sentences. (10 marks)

- i) Systems approach
- i) Organizing
- ii) Process chart
- iii) Entrepreneurship
- iv) FIFO
- v) Food Danger Zone
- vi) Combination cooking methods
- vii) Transformation (basic component in the food service model)
- viii) Food processing continuum
- ix) Organization chart

2. Differentiate between the following sets of terms, giving examples. (10 marks)

- i) Job enlargement and job rotation
- ii) Modular equipment and custom built equipment
- iii) Alkaline and Acid cleaning agents
- iv) Safety engineering and safety enforcement
- v) Compulsory standards and voluntary standards

ASSIGNMENT (TMA-4)
Research Methods and Biostatistics

Course Code : MFN-009

Assignment Code : MFN-009/AST-4/TMA-4 /13-14

Last Date of Submission: For July, 2013 session is 31st March, 2014

For January, 2014 session is 30th September, 2014

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 briefly.

1. a) Briefly explain with the help of an example the various activities of the research process. (6)
- b) What do you understand by the terms - Level of Significance and Power? Discuss their relevance in sample size determination. (4)
2. a) With the help of a flow chart, classify the various research design's available in epidemiological research. (2)
- c) Differentiate between the following research designs, giving appropriate examples. (2+2+2+2)

(i) Analytic study	-	Descriptive study
(ii) Observational study	-	Experimental study
(iii) Case – Control study	-	Intervention study
(iv) Single blind study	-	Double blind study
3. a) What is meant by sampling? With the help of an example, explain the concept of random sampling, stratified sampling, cluster sampling and purposive sampling. (8)
- b) List the various types of tools available for data collection while undertaking research. (2)
4. a) Given here are the scores of 20 student who took a practical course in nutrition.
57, 60, 64, 67, 67, 62, 61, 63, 70, 72
73, 70, 76, 76, 75, 70, 80, 80, 78, 78
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
 - i) Nominal or ordinal data
 - ii) Establishing relationship between two variables (2^{1/2}+2^{1/2})
5. a) Explain the concept of normal probability distribution. (3)
- b) List one mortality measure for assessing the health status of children in a community. How will you measure them? Indicate. (4)
- c) Consider the following bivariate data:

Infant outcome	Weight gain during pregnancy		Total
	< 8 kg	> 8 kg	
Dead	150	50	200
Alive	450	300	750
Total	600	350	900

Based on the data

- (i) Calculate the relative risk of infant death with weight gain of less than 8 Kg during pregnancy;
- (ii) Calculate the odds of dead children being born to pregnant woman with weight less than 8 Kg. (1^{1/2} + 1^{1/2})

6. a) Given below are the hemoglobin level recorded for 10 subject in a community study:
 9.8, 7.4, 10.3, 12.2, 12.5, 8.5, 9.0, 10.0, 11.0, 12.0
 Calculation the mean, standard duration and variance for the hemoglobin levels reported above. (6)
- b) Given below one the theory and practical marks for 10 student on a nutrition course.
 Theory marks: 46, 55, 52, 59, 63, 47, 56, 50, 51, 55
 Practical marks: 41, 49, 54, 45, 58, 40, 45, 47, 44, 47
 Establish, whether there is a degree of relationship between the theory and practical marks. (4)
7. a) The nutrition score of 7 males and 10 girls students of MSc. DFSM programme is given herewith:
 Males: 11, 15, 14, 13, 13, 12, 13
 Females: 09, 16, 14, 20, 13, 10, 12, 13, 12, 09
 Based on the data given herewith.
 (i) Calculate the standard error of the difference between the means of the two groups, and (3)
 (ii) 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 2 tailed and one-tailed tests of significance. (2)
8. a) The following table shows the number of males and females who are anemic and non-anemic in a research study.

Subject	Anemic	Non- anemic	Total
Male	09	43	52
Female	44	04	48
Total	53	47	100

- Test whether there is a relationship between anemia and sex status in the population under study. Test at 05 level of significance. (5)
- b) Define and illustrate the concept of confidence interval and degree of freedom with the help of an example. ($2^{1/2} + 2^{1/2}$)

Section B - OTQ (Objective Type Questions)

(20 marks)

1. Define the following in 2-3 sentences. (10)
- Cohort study
 - Discrete variable
 - Null hypothesis
 - Beta error
 - Clinical trial
 - Quasi experimental design
 - Nominal scale
 - Validity
 - Mode
 - Ogive
2. Differentiate between the following sets of terms. (10)
- Percentile and Quartile
 - Sensitivity and Specificity
 - Mean and Median
 - Descriptive Cross-sectional study and Analytical Cross-sectional study
 - Parameters and Statistics