M.Sc. 2 (DFSM)

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

2nd Year Assignment Booklet

Assignments 1-4

July 2020 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 theorycourse, you will have to do one assignment and for a 4-6 credit theorycourse, 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 satisfiedwith 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 ofsuchstudents will be rejected.

4) Write each assignment separately. All the assignments should not be written in continuity.

5) Writethequestionnumber witheachanswer.

6) The completed assignment should be sent to the Coordinator of the StudyCentre allotted to you. Under any circumstances, do not send the tutor marked response sheets to the Student Registrationand Evaluation Division at Head Quarters for evaluation.

7) After submitting the assignment at the Study centre get the acknowledgement from the Coordinator ontheprescribed 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 notifiedby 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 scoreto 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-1/2020-21
Last Date of Submission: 28th February, 2021
Maximum Marks: 100

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

Section A - Descriptive Questions **(80 marks)**
There are eight questions in this part answer all questions.

1. a) Discuss the various methods used for studying the nutrient requirements. (4)

   b) Briefly explain the following terminologies: (6)
      i) Estimate average intake
      ii) Minimum requirement
      iii) Basal energy expenditure
      iv) RDA'S
      v) Physical activity ratio
      vi) Bioavailability

2. a) Illustrate the different components of energy expenditure. Discuss the factors which influence BMR. (4)
   b) What is resistant starch? Briefly explain the potential health benefits of resistant starch. (3)
   c) Discuss the significance of glycemic index in chronic diseases. Enlist the factors that affect GI of foods. (3)

3. a) Briefly explain the digestion absorption and transportation of protein and fat in human body. (6)
   b) Elaborate on the two major compartments of water in our body. Briefly explain the various routes by which water losses from our body. (4)

4. a) In context of protein quality define the following. Give the formulae: (2+2+2)
      i) Biological value
      ii) Net protein utilization (NPU)
      iii) Amino acid score

   b) Briefly comment on the choice of cooking oil you would recommend for your diet, giving justification. (2)
   c) List some anti-nutritional factors along with their food sources. Elaborate on their toxic effects. (2)

5. a) Write down the biological function, RDA for adult man/women and food sources of the followings: (2+2+2+2)
      i) Vitamin D
      ii) Vitamin B_2
      iii) Iron
      iv) Vitamin E
   b) What are polyphenols? Briefly discuss the five important functions of polyphenols. (4)

6. a) What are the two major aspects that you would keep in mind regards to nutrients while planning meals for : (2+2)
   i) A rural women (moderately active)
   ii) A farmer (heavy worker)
   b) Discuss the significance of exchange list in planning and calculating the nutritive value of a menu. (2)
   c) Briefly describe the role of maternal nutritional status on the quantity and quality of milk. (4)

7. a) Which nutrients are of considerable importance during the following stages and why? (2+2+2)
   i) Adolescence
   ii) Pregnancy
   iii) Preschool
   b) Briefly discuss the dietary recommendations of different nutrients of an athlete. Enlist the goals of pre-exercise meals. (4)

8. a) Enumerate the energy expenditure, macro and micronutrient requirements at high altitude. (4)
   b) Explain the special nutrition requirements for space missions. Elaborate on space food system. Also give the types of food designed for space shuttles. (4)

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

1. Briefly explain the following terms giving examples: (10)
   i) PAL
   ii) Ergogenic aids
   iii) Balanced diet
   iv) Probiotics
   v) Functional foods
   vi) Essential fatty acids
   vii) Digestibility coefficient
   viii) Dietary fibre
   ix) Polysaccharides
   x) Physical fitness

2. Mahima is a 35 year old sedentary or light active female having a mean body weight of 55 kg. Calculate the energy requirement using the factorial estimation of total energy expenditure. (5)

   Note: Refer section 2.5.5 of Unit 2, MFN-004. Refer Table 2.1 and Table 2.3 for the necessary calculations.

3. List the WHO and the ICMR (2010) 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-2/2020-21
Last Date of Submission: 31st December, 2020
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. Answer all questions.

1. a) Dietetics is a multidisciplinary approach. Comment briefly. (2)
   b) What is mechanical soft diet? Also, list any five foods to be avoided in soft diet. (3)
   c) What are the salient features of Pulmonary Tuberculosis? Discuss its dietary management. (5)

2. a) What are the different counseling strategies a dietitian/nutritionist should follow while prescribing a diet to the patient/client? (4)
   b) What are the indications of initiating enteral feeding in critically ill patient? (3)
   c) What could be the effect of excess calorie delivery in the critically ill patient? Explain briefly. (3)

3. a) When and how medical nutrition therapy can be used in context of losing weight? (4)
   b) Give the stages of hypertension and also briefly comment on lifestyle modification to manage hypertension. (4)
   c) Name any two drugs whose absorption increases when taken with food. (2)

4. a) Give dietary management for burns. (4)
   b) What are the clinical manifestations and nutritional problems associated with cancer? (4)
   c) List down any two food allergies with their symptoms. (2)

5. a) Give diagnostic criteria for impaired glucose tolerance and diabetes. Explain the role of carbohydrate counting in planning diet for diabetes mellitus. (5)
   b) What are the types of oesophagitis? Give its dietary management. (5)

6. a) Give dietary recommendation for Acute Pancreatitis. (4)
   b) What are the dietary guidelines and recommendations for liver cirrhosis? (4)
   c) What is end stage liver disease? (2)

7. a) Give brief dietary guidelines for chronic kidney disease (CKD). (4)
   b) Give brief dietary guidelines for glomerulonephritis. (4)
   c) Why sodium restriction is required for dialysis patient? (2)

8. a) What is Parkinson's disease? How would you manage this disease in terms of drugs, feeding and nutritional care? (5)
   b) How nutritional requirements of elderly change over time? (4)
   c) How much decline in glomerular filtration rate (GFR) is characterized as end stage renal disease (ESRD)? (1)

Section B - OTQ (Objective Type Questions)

1. Define/explain the following in 2-3 sentences each: (10)

   i) Anabolic Phase
   ii) Osteodystrophy
   iii) Wilson's Disease
   iv) Osmotic diarrhoea
   v) Cystic fibrosis
   vi) Aneurism
   vii) Somgyi effect
   viii) Metastasis
   ix) Hyperuricaemia
   x) Cushing's syndrome

2. i) Give one word for the following (10)
   Abnormal gurgles of intestine made by the movement of fluid or gas in intestine.

   ii) A syndrome that occurs when food moves too fast from the stomach to the intestine.
   iii) Excessive growth of coarse hair in women.
   iv) A lipoprotein containing about 3% triglycerides and 20% cholesterol.
   v) Amino acid that occurs naturally in the body with high levels as risk factors for coronary heart disease.
   vi) Three ketone bodies formed in our body due to excessive metabolism of fat.
   vii) Group of inherited metabolic disorder of three branched chain amino acid.
   viii) A disease that includes brain or nervous system damage that occurs as a complication of liver disorders.
   ix) Syndrome of hematuria, hypertension and loss of renal function that results from acute inflammation of the capillary loops of the glomeruls.
   x) Accumulation of water in tissues

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

Course Code: MFN-007
Assignment Code: MFN-007/AST-3/TMA-3/2020-21
Last Date of Submission: 28th February, 2020
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. Answer all questions.

1. a) Write any two approaches to food service management. (4)
   b) What steps would you follow in registration of food service unit. (6)

2. a) Enumerate briefly the architectural plans you would bear in mind before setting up the food service unit. (6)
   b) How accidents take place in work place and how it can be prevented? Elaborate? (4)

3. a) Explain the 3 S model of entrepreneurship. (6)
   b) What are the characteristics of a good menu? (4)

4. a) What is competitive bid buying? What are its types? (4)
   b) Explain the percentage method of recipe adjustment with example. (4)
   c) Give the schematic representation of purchasing activity. (2)

5. a) Briefly discuss the need for training, procedures and processes in a food service Unit. (5)
   b) How customer satisfaction can be achieved by food production in a food service establishment? (3)
   c) Enlist three distinct phases in budget planning. (2)

6. a) Explain commissary food service system. (5)
   b) What does a lounge service include? (3)
   c) Enlist various approaches to staff management. (2)

7. a) Prepare a sample organization chart of a dietetic department of a hospital. Also, discuss the shortcomings of organizational charts. (4)
   b) What is the" Three Bucket Method"? Explain briefly. (4)
   c) Name 3 E's of safety. (2)

8. a) What is the key to effective leadership? Explain. (5)
   b) Classify equipments on the basis of its weight or size, order of use and mode of operation. (5)

Section B - OTQ (Objective Type Questions)

1. a) Define the following: (5)

   i. Table d'hote Menu

   ii. Requisition slip

   iii. Simmering

   iv. Zero-based budget

   v. Food processing continuum

   b) Match the following: (5)

i)	Abbey	a)	Gueridon
ii)	Parathyroid	b)	Synthetic Pesticide
iii)	Ganymede system	c)	Religious place
iv)	French service	d)	Organic Pesticide
v)	Organophosphate	e)	Hospitals

2. Differentiate between the following: (10)

   i) Centralized and Decentralized delivery system

   ii) Job Enrichment and Job Descriptions

   iii) Mobile equipment and modular equipment

   iv) Abrasives and degreasers

   v) Horizontal division of labor and Vertical division of labor

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

Course Code: MFN-009
Assignment Code: MFN-009/AST-4/TMA-4/2020-21
Last Date of Submission: 15th March, 2021
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. Answer all questions.

1. a) Define research. Elaborate on research design. (6)
   b) Define hypothesis. Enumerate basic characteristics of a good hypothesis. (4)

2. a) Discuss various methods of probability sampling. (6)
   b) Briefly explain any two scales of data measurement. (4)

3. a) What is contingency table? What is its use in epidemiological studies? (4)
   b) What is cumulative frequency distribution? Given below are the scores of 40 students in a test, find out cumulative frequency percentage: (6)

57	56	81	60	63	62	55	53
60	72	87	62	78	67	77	63
70	62	92	91	88	80	78	73
88	79	83	80	76	74	70	83
55	56	58	71	87	82	80	93

4. a) What are the various types of graphs commonly used for representing frequency distribution? How are they different from each other? (4)
   b) What is normal distribution curve? Enumerate its characteristics. (4)
   c) List one mortality measure each for assessing the health status of infants, children and maternal nutritional status. (2)

5. a) Compute the following from given frequency distribution:
      i) Mean;
      ii) Median;
      iii) Variance and
      iv) Standard Deviation (1+1+2+2=6)

Class Interval	**Frequency (f)**
295-299	2
290-294	3
285-289	1
280-284	4

275-279	10
270-274	8
265-269	5
260-264	4
255-259	1
250-254	3
245-249	2
240-244	6

b) Compute product moment correlation of the following data: (4)

X: 45, 55, 56, 58, 69, 65, 68, 78, 75, 80, 85
Y: 56, 50, 48, 60, 62, 64, 65, 70, 74, 83, 94

6. a) Consider the following table as the frequency distribution of the scores of students in course MFN- 009:- (1+2+2=5)

Scores: Class Interval	**Frequency (f)**	**Cumulative frequency (F)**
95.5-100.5	2	40
90.5-95.5	2	38
85.5-90.5	4	36
80.5-85.5	7	32
75.5-80.5	11	25
70.5-75.5	3	14
65.5-70.5	5	11
60.5-65.5	4	6
55.5-60.5	2	2

From the data presented above, solve the following questions:

a. Define percentile and percentile rank.
b. Determine 48^{th} (P_{48}) and 58^{th} Percentile (P_{58}).
c. Also, calculate percentile rank of 48^{th} and 58^{th} Percentile.

b) Following data gives the relationship of lung cancer and exposure to cigarette smoke in obese and non-obese patients. Consider the data and solve the following: (1+2+2=5)

	Non-obese		**Obese**	
	Diseased	**Not diseased**	**Diseased**	**Not diseased**
Exposed	900	750	300	250
Not exposed	100	250	700	750

i) Define Relative Risk (RR) and Odds Ratio (OR).
ii) Calculate the relative risk of diseased patients with respect to exposure of cigarette smoke in non obese and obese patients individually.
iii) Calculate the odds of "Not diseased" patients with respect to exposure of cigarette smoke in obese and non-obese patients individually.

7. a) A child psychologist believes that children perform better on tests when they are given perceived freedom of choice. To test this belief, the psychologist carried out an experiment in which 200 third graders were randomly assigned to two groups; A and B. Each child was given the freedom to choose a text booklet from many with various drawings on the covers. The

performance of each child was rated as very good, good and fair. The results are summarized in table provided. Test using chi-square whether there is sufficient evidence in the data to support the psychologist's belief: (6)

		Groups	
		A	**B**
Performance	Very Good	32	29
	Good	55	61
	Fair	10	13

b) A data sample is sorted into 2X2 contingency table based on two factors (hemoglobin and malnutrition status) each of which has two levels:- (4)

	Non-Anemic	**Anemic**	
	Level 1	**Level 2**	**Row Total**
Overweight	20	10	R
Underweight	15	5	R
Column Total	C	C	n

Find out the value of column (C) and row (R) totals and grand total (n). Also Also test the association between the two factors using χ^2.

8. a) Describe the assumptions on which non-parametric tests are based. (4)
   b) Following are weight measurements of 7 boys and 10 girls aged 1-5 years:
   Boys: 13, 14, 11, 12, 15, 13, 13
   Girls: 10, 16, 12, 13, 18, 13, 19, 14, 13, 12
   Is the difference between the mean weight of boys and girls significant? (6)

Section B - OTQ (Objective Type Questions)

1. a) Define the following: (10)

i) Power
ii) Community trial
iii) Placebo
iv) Stratified Sampling
v) Proximity error
vi) Quasi experimental design
vii) Inductive analysis
viii) Errors in statistical decisions
ix) Degree of freedom

2. Differentiate between the following: (10)

i) Descriptive studies and Analytical studies
ii) Validity and Reliability
iii) Quantitative and Qualitative data
iv) Parametric and Non-Parametric Test
v) t-Test and F-Test