

No. of Printed Pages : 4

MFN-006

**MASTER OF SCIENCE (DIETETICS AND  
FOOD SERVICE MANAGEMENT)**

**Term-End Examination**

**December, 2011**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

*Note : Answer five questions in all. Question No. 1 is compulsory. All questions carry equal marks.*

1. (a) Differentiate between the following sets of terms : 10
- (i) Stunting and Wasting
  - (ii) Nutrition monitoring and nutrition surveillance.
  - (iii) Nutrient deficiency control programme and Supplementary feeding programme.
  - (iv) Dietary diversification and Food fortification.
  - (v) Primary target audience and Secondary target audience in nutrition intervention.
- (b) Fill in the blanks : 5
- (i) According to IAP classification, children with body weight more than \_\_\_\_\_ % of standard should be considered as normal.

- (ii) BMI less than \_\_\_\_\_ indicates chronic undernutrition.
- (iii) \_\_\_\_\_ is a condition of rapid destruction and liquefaction of full thickness of cornea.
- (iv) IDD is considered to be a public health problem, if the Total Goitre Rate is more than in \_\_\_\_\_% of 6 - 12 year old children in an area.
- (v) \_\_\_\_\_ anaemia is caused due to deficiency of folic acid.

(c) Give one example for each of the following. 5

- (i) Biochemical method to assess vitamin A deficiency.
- (ii) Major agencies involved in nutrition monitoring.
- (iii) Food security programme
- (iv) Vehicle/carrier of food fortification.
- (v) Intervention programmes launched by the government to combat undernutrition.

2. (a) Discuss the concept of food behaviour, highlighting the factors that influence food behaviour of individuals. 8
- (b) Briefly explain the health resources provided to the population groups at a block level. 6
- (c) How can a multi-sectoral approach help to solve nutritional problems in our country ? 6

3. (a) Discuss the measures you would adopt to prevent, control and treat PEM in a community. 6
- (b) Briefly describe the causes and consequences of malnutrition among vulnerable populations. 8
- (c) Enumerate how supplementation as a strategy can help combat the deficiency of vitamin A and iron in our country. Give the supplementation schedule recommended for the two disease conditions. 6
4. (a) What are the common measurements used in nutritional anthropometry ? Explain their use very briefly. 10
- (b) Explain the concept of food security, highlighting the measures adopted by the government to provide / nutrition security to its population. 10
5. (a) "ICDS is a package of several services." 6+4  
Elaborate on these services. Also present a critical analysis on the success and limitations of the programme.
- (b) Discuss the importance of immunization as a strategy to contact public nutrition problems in our country. 5
- (c) Explain how we can improve the quality of food (or nutritional value) through genetic approach and food fortification. 5

6. (a) Describe the various steps required to plan, implement and evaluate a public nutrition programme. 10
- (b) What is formative research ? Briefly discuss the methods used in formative research. 10
7. Explain the following briefly with examples :
- (a) Different steps involved in planning a training programme for nutrition/health educations. 5+5+5+5
- (b) Criteria you would adopt for selection of communication channels for nutrition/health education.
- (c) Points to be considered for development of effective messages.
- (d) Based upon the purpose/objectives different types of evaluation can be designed.
8. Write short notes on *any four* of the following :
- (a) Consequences and prevention of Iodine Deficiency Disorders (IDD).
- (b) Rickets and Osteomalacia : Manifestations, Causes, Prevention. 5+5+5+5
- (c) Dietary Survey Methods for household and family.
- (d) Techniques/methods for need assessment.
- (e) Different types of objectives and audience who can be targeted for nutrition education.

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**MFN-006**

**MASTER OF SCIENCE (DIETETICS AND  
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**Term-End Examination**

**June, 2012**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

*Note : Answer five questions in all. Question No. 1 is compulsory. All questions carry equal marks.*

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1. (a) Define the following : 10
- (i) Primary Health Care
  - (ii) Marasmus
  - (iii) Dental fluorosis
  - (iv) Infant Mortality Rate
  - (v) Consumption Unit.
- (b) Fill in the blanks : 5
- (i) Enlargement of the thyroid gland due to iodine deficiency is called \_\_\_\_\_.
  - (ii) \_\_\_\_\_ is used to measure recumbent length of children below 24 months of age.
  - (iii) Serum \_\_\_\_\_ levels are indicative of storage iron level of a population.
  - (iv) Megaloblastic anemia is caused by a deficiency of \_\_\_\_\_ and /or vitamin B12.

- (v) Less than \_\_\_\_\_ of serum vitamin A levels is an indicator of Vitamin A deficiency in an individual.
- (c) Give one word / term for the following : 5
- (i) Dirty white , foamy and raised spots formed on conjunctiva due to vitamin A deficiency \_\_\_\_\_.
- (ii) Skeletal changes like beading of ribs , pigeon chest and bow legs seen in children deficient in vitamin D\_\_\_\_\_.
- (iii) WHO cut off for diagnosing anemia in adult female is \_\_\_\_\_.
- (iv) Toxic amino acid present in Kesari dhal \_\_\_\_\_ .
- (v) Number of females per 1000 males in the population is known as \_\_\_\_\_.

2. (a) Why is MUAC considered as a useful indicator of the nutritional status of children ? How is it measured ? 8
- (b) "The ICDS is the world's most unique welfare program." Justify the statement and list the objectives of the program. 6
- (c) What are some of the factors which influence food behaviour ? 6

3. (a) Describe the clinical manifestations of niacin deficiency . 5
- (b) Discuss 24 - hour recall as a method of assessing the usual diet of individuals. 7
- (c) What are street foods ? Discuss some strategies for improving the quality and safety of street foods in India. 8
4. (a) Discuss the factors responsible for the high fertility rate in India. 10
- (b) What is the aim of the National Nutrition Policy ? Highlight the short and long term strategies advocated for achieving the nutritional goals . 10
5. (a) What is meant by ' Food fortification " ? Discuss its role in improving the nutritional quality of the diet of a community. 10
- (b) What have been some of the problems encountered in the implementation of the National IDD control program ? What measures would you suggest for better implementation of the program ? 10
6. (a) Discuss the advantages and disadvantages of the key Informant Approach in collecting information from the community. 10

- (b) Describe two methods (control group and indirect ) that you can use to show a change in behaviour of the target audience in a nutrition education program conducted by you. 6
- (c) Describe the clinical manifestations of Riboflavin deficiency. 4
7. (a) Why is it important to evaluate Nutrition Education Programs ? 5
- (b) Describe the four phases in planning a Nutrition Education Program. 10
- (c) Discuss some possible causes of vitamin A deficiency in Indian children. 5
8. Write short notes on *any four* of the following : 5+5+5+5
- (a) Consequences of iron deficiency anemia.
- (b) Lathyrism
- (c) NNMB
- (d) Social Marketing Approach
- (e) Clinical manifestations of Scurvy.
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**MASTER OF SCIENCE (DIETETICS AND  
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**Term-End Examination**

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*Time : 3 hours*

*Maximum Marks : 100*

*Note : Answer five questions in all. Question No. 1 is compulsory. All questions carry equal marks.*

1. (a) Define the following : 10
- (i) Kwashiorkor
  - (ii) Kerato malacia
  - (iii) BMI
  - (iv) U5MR
  - (v) Food Balance Sheet
- (b) Fill in the blanks : 5
- (i) Spongy - bleeding gums are a sign of \_\_\_\_\_ deficiency.
  - (ii) Cracking of lips and corners of the mouth is due to \_\_\_\_\_ deficiency.
  - (iii) The Gomez classification for degree of undernutrition is based on \_\_\_\_\_ for age.
  - (iv) Double fortified salt developed at NIN has two nutrients, \_\_\_\_\_ and iodine in its formulation.

(v) The population is considered to be iodine deficient if more than 20% of subjects have urinary iodine levels less than \_\_\_\_\_.

(c) Give one word/term for the following : 5

(i) Spoon shaped nails formed in iron deficiency anemia \_\_\_\_\_.

(ii) Mottled teeth with chalky white and brownish patches \_\_\_\_\_.

(iii) In ability to see in dim light due to vitamin A deficiency \_\_\_\_\_.

(iv) Skin lesions on the neck which appear in pellagra \_\_\_\_\_.

(v) Pernicious anemia is caused by the deficiency of \_\_\_\_\_.

2. (a) How does a measure of height and weight 4

reflect the nutritional status of an individual ?

(b) Describe the technique for measuring triceps 4  
skin fold thickness.

(c) Discuss the objectives and implementation 8  
strategy of the National IDD control program.

(d) Comment on how science and technology 4  
has helped to improve our food supply.

3. (a) Describe the clinical manifestations of thiamin deficiency. 5
- (b) Discuss how the food frequency method is used to obtain qualitative dietary data. Present a sample food frequency questionnaire. 4+4
- (c) What are genetically modified foods ? Discuss giving examples how food biotechnology can help us to enhance the nutritional quality of our foods. 7
4. (a) Discuss the economic consequences of malnutrition. 10
- (b) What are the objectives of nutrition surveillance ? Why is it important to maintain an efficient nutrition surveillance system in our country ? 10
- 
5. (a) What is meant by "dietary diversification" ? Explain giving examples, how relatively small modifications in food behaviour can have a significant impact on nutritional status. 10
- (b) Describe the National Anaemia Control Programme, highlighting the components and the problems encountered in the implementation of the programme. Can you suggest some actions that should be taken for improvement of the program ? 10

6. (a) Discuss the advantages and disadvantages of the Public Forum Approach in eliciting information from the community. 10
- (b) What are the different types of evaluation which can be conducted in a programme ? 6
- (c) Describe the clinical manifestations of fluorosis. 4
7. (a) Enumerate the benefits of community participation in public health programs. 5
- (b) List giving examples of the different channels/media which one can make use of for nutrition communication. Discuss the criteria we can use for selecting the method for communicating our messages. 10
- (c) What steps can be taken to prevent and control PEM ? 5

8. Write short notes on *any four* of the following :

- (a) Levels of Health Care 5+5+5+5
- (b) Consequences of zinc deficiency
- (c) NSSO
- (d) Clinical manifestations of vitamin D deficiency
- (e) Role of Agriculture in Nutrition

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**MASTER OF SCIENCE (DIETETICS AND  
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**Term-End Examination**

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*Time : 3 hours*

*Maximum Marks : 100*

**Note :** Answer five questions in all. Question No. 1 is compulsory. All questions carry equal marks.

1. (a) Define the following : 10
- (i) Keratomalacia
  - (ii) Goitrogen
  - (iii) Infant mortality rate
  - (iv) MUAC
  - (v) Process evaluation
- (b) Give one word/term for the following : 4
- (i) Vitamin B<sub>12</sub> deficiency due to lack of intrinsic factor
  - (ii) Deficiency disease leading to spongy bleeding gums.
  - (iii) Presumptive diagnosis when BMI is less than 18.5 kg/m<sup>2</sup>
  - (iv) Hyper keratotic lesions of the skin due to essential fatty acids deficiency.

- (c) Differentiate between the following terms : 6
- (i) Dry Beriberi and Wet Beriberi
  - (ii) Stunting and Wasting
2. (a) What is Lathyrism ? What can be done to prevent it ? 5
- (b) Discuss the economic consequences of malnutrition. 8
- (c) What do you understand by the term 'Demographic cycle' ? Enumerate the five stages of the demographic cycle. 7
3. (a) Briefly explain the preventive measures to combat Protein Energy Malnutrition. 8
- (b) What are the different approaches to reduce the problem of IDD in the community ? 6
- (c) "Nutrition education plays a vital role in improving the nutritional status of a community". Justify the statement. 6
4. (a) Critically review why the ICDS Programme in India has had a limited impact. 10
- (b) "Nutrition monitoring is an important means of keeping a watch on the nutritional status of communities". Justify the statement and enumerate the objectives and components of nutrition monitoring. 10

5. (a) What do you understand by the term 'Food Security' ? Discuss the major determinants of Food Security. 10
- (b) Discuss the methodology merits and Limitations of the Food Diary/Record method for assessing the dietary intake of individuals. 10
6. (a) Discuss the role of a Public Nutritionist in the Health Care delivery system. 7
- (b) Describe the Programme strategy of the National Prophylaxis Programme for prevention of Blindness due to vitamin A deficiency. 7
- (c) Discuss the role of biotechnology in improving the quality of food. 6
- 
7. (a) Describe a technique which can be used for measuring body fat. 5
- (b) Why is it important to evaluate Nutrition Education Programmes ? 5
- (c) What are the techniques commonly used for conducting situational analysis ? 5
- (d) What are some of the ecological factors which affect malnutrition ? 5

8. Write short notes on *any four* of the following :

5+5+5+5

- (a) Channels of communication for Nutrition Education Programme
- (b) Importance of dietary diversification as a means to combat nutrient deficiency disorders
- (c) Mid Day Meal Programme
- (d) Essential components of primary health care
- (e) Factors influencing iron absorption



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**December, 2013**

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*Maximum Marks : 100*

**Note :** Answer *five* questions in all. Question No. 1 is *compulsory*. All questions carry *equal* marks.

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1. (a) Define the following : 10
- (i) Koilonychia
  - (ii) Cretinism
  - (iii) Maternal Mortality Rate
  - (iv) NCHS standards
  - (v) Summative evaluation
- (b) Give one word/term for the following : 4
- (i) Deficiency disease caused due to inadequate intake of niacin
  - (ii) In Rickets, bead like formation due to swelling at costochondral junction in the ribs
  - (iii) Cut-off for haemoglobin for diagnosing anaemia in a pregnant woman
  - (iv) Deficiency disease leading to signs such as cheilosis, angular stomatitis and glossitis.
-

- (c) Differentiate between the following : 6
- (i) Marasmus and Kwashiorkor
  - (ii) Dental and Skeletal Fluorosis
2. (a) List the components of a communication strategy for behaviour change. 5
- (b) Describe the clinical manifestations of Vitamin A deficiency. 7
- (c) Discuss some strategies to improve urban sanitation, giving examples of some success stories in India. 8
3. (a) Briefly describe the theories of Nutrition Education. 6
- (b) Why is community participation important in the implementation of any Nutrition Programme ? 6
- (c) "The problem of PEM in India is widespread". Comment on the statement and discuss the possible reasons for the high prevalence rate. 8
4. (a) Discuss the relevance and steps for implementation of the Public Forum approach (Focus Group Discussions) to elicit information from community members. 10
- (b) Discuss the methodology merits and limitations of the 24 hour dietary recall method of family diet survey. 10

5. (a) What do you understand by the term 'Food Security'? Discuss briefly some programmes and initiatives taken by the Government to improve the food security of the people of India. 10
- (b) Discuss the factors which affect the Indian woman's fertility behaviour. 10
6. (a) Discuss the functions of a Primary Health Centre. 7
- (b) Describe the programme strategy of the National Nutritional Anaemia Control Programme. 7
- (c) Why is a Nutrition Surveillance System important for a country ? 6
- 
7. (a) What is Social Marketing ? 5
- (b) Discuss the role of mass media as a channel for Nutrition Communication. 5
- (c) List the steps in designing a nutrition/health programme. 5
- (d) What are the skills required by a Personnel Manager employed in a dietetic establishment ? 5

8. Write short notes on *any four* of the following :

- (a) Use of anthropometric measures in nutritional status assessment. 5+5+5+5
- (b) Consequences of zinc deficiency
- (c) Scope of public nutrition
- (d) National Nutrition Policy
- (e) Food based strategies to combat malnutrition.



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MFN-006

**MASTER OF SCIENCE / DIETETICS AND FOOD  
SERVICE MANAGEMENT**

**Term-End Examination**

**June, 2014**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

***Note :** Answer **five** questions in all. Question No. 1 is compulsory.  
All questions carry equal marks.*

1. (a) Explain the relationship between the following sets of terms briefly. 10
- (i) Anaemia ..... Dietary  
Diversification
- (ii) Malnutrition ..... Economic  
consequences.
- (iii) Nutritional status ..... spacing of  
children
- (iv) Biochemical Test ..... Vitamin A  
deficiency
- (v) ICDS ..... Undernutrition
- (b) List Five advantages of using mass media in  
nutrition education 5

- (c) Give one example for each of the following: 5
- (i) Manifestation of riboflavin deficiency
  - (ii) Clinical feature of Xerophthalmia
  - (iii) Micronutrient deficiency of public health significance in India
  - (iv) Factors affecting high fertility
  - (v) Self Employment Programme
2. (a) What are the three different levels at which health care is available to the community? 7
- (b) As a public nutritionist define your role in health care delivery. 7
- (c) Differentiate between food security and nutrition security. Briefly comment on the food and nutrition security in our country. 3+3
- 
3. (a) What are the main principles in the treatment of PEM? Explain briefly. 7
- (b) What measures would you advocate to prevent Vitamin A deficiency? Discuss. 7
- (c) What is anaemia? Why does the prevalence of anaemia continue to remain high in our country? 2+4

4. (a) What are the common measurements used in nutritional anthropometry? Explain briefly how you would use them for classification of nutritional status for children. 6+4
- (b) What do understand by dietary assessment? Elaborate on any one quantitative and one qualitative method you would use for dietary assessment. 2+4+4
5. (a) Enlist the different agencies involved with nutrition monitoring in our country. Comment on the type of information collected by these agencies. 3+5
- (b) Give the implementation strategy under the National Nutritional Anaemia control Programme. 7
- (c) Mention the main features of public distribution system and the targeted public distribution system. 5
6. (a) What are food-based strategies? Discuss the role of any one food-based strategy in combating public nutrition problems in our country. 5+5
- (b) Explain the steps involved in designing a nutrition health programme. 10

7. Explain the following briefly:
- (a) Nutrition education aims to change behavior. 6
  - (b) Four phases of the process of nutrition education 8
  - (b) How to design persuasive and coherent manages for nutrition communication? 6
8. Write short notes on any **Four** of the following: 5+5+5+5
- (a) Types of community groups and their role in community participation.
  - (b) Types of evaluation you may adopt for nutrition programme evaluation.
  - (c) Supplementation- A short term preventive strategy to combat nutrient deficiency disorders.
  - (d) Services provided under the ICDS programme.
  - (e) Strategies to improve rural and urban sanitation.

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**MASTER OF SCIENCE (DIETETICS AND  
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**Term-End Examination**

**June, 2015**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

*Note : Answer five questions in all. Question No. 1 is compulsory. All questions carry equal marks.*

1. (a) Define or explain briefly the following : 12
- (i) Food security
  - (ii) Cretinism
  - (iii) Pellagra
  - (iv) Sex Ratio
  - (v) Stunting
  - (vi) Mass media
- (b) Give **one** term/word for the following : 8
- (i) Inability to see in dimlight due to vitamin A deficiency.
  - (ii) The vitamin which helps to improve iron absorption.
  - (iii) Two nutrients which are added to double fortified salt.
  - (iv) Deficiency of this nutrient results from inadequate sun exposure.

- (v) No. of deaths of infants under one year of age per 1000 live births.
- (vi) In pregnant women, anemia is diagnosed at hemoglobin levels less than.
- (vii) BCG vaccination given to infants at birth protects against this disease.
- (viii) An adult with a BMI of 30 kg/m<sup>2</sup> is classified as.

2. (a) Differentiate between the clinical signs and features of Kwashiorkor and Marasmus. 8

(b) Discuss briefly the economic consequences of malnutrition. 7

(c) What causes Lathyrism ? What can be done to prevent this crippling disease ? 5

3. (a) What are the objectives of Nutrition Surveillance ? Discuss briefly the important contributions an effective nutrition surveillance system can make. 10

(b) Describe the target groups and program components of the ICDS. 10

4. (a) Describe the 24 - hour Recall method of diet survey. What are its uses and limitations ? 8

(b) How can horticulture interventions be used as a strategy to combat malnutrition ? Discuss giving examples. 6

- (c) Describe the social marketing approach theory of nutrition education. 6
5. (a) Discuss briefly the factors which affect fertility behaviour in our country. 8
- (b) Discuss the consequences of zinc deficiency. 7
- (c) What do you understand by food fortification? Name at least three foods and the nutrients that they have been fortified within developing countries of the world. 5
6. (a) Describe the management and operative functions of a personnel manager in a nutrition program. 8
- (b) What are Community Food Banks? Explain their role in improving food security. 6
- (c) Describe an anthropometric technique useful for measuring body fat. 6
- 
7. (a) How can science and technology help to improve the food supply in our country? 5
- (b) Discuss the role and limitations of nutrient supplementation as a short term prevention strategy. 5
- (c) Comment on the importance of immunization to prevent malnutrition in children. 5
- (d) Discuss the advantages of the key informant approach in conducting situational analysis in a community. 5

8. Write short notes on **any four** of the following :

5+5+5+5

- (a) Functions of the Primary Health Centre
  - (b) Prevention of iron deficiency anemia
  - (c) National Nutrition Monitoring Bureau
  - (d) National Nutrition Policy
  - (e) Mid Day Meal Program
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*Time : 3 hours*

*Maximum Marks : 100*

**Note :** *Answer five questions in all. Question No. 1 is compulsory. All questions carry equal marks*

1. (a) Define/Explain the following : 12
- (i) Green revolution
  - (ii) Ariboflavinosis
  - (iii) Fertility rate
  - (iv) BMI
  - (v) Consumption Unit
  - (vi) Genetically modified foods
- (b) Give one term/word for the following : 8
- (i) Dirty white, foamy and raised spots formed on the surface of conjunctiva of eye in Vitamin A deficiency.
  - (ii) Spoon shaped nails formed in severe iron deficiency.
  - (iii) Two vitamins whose deficiency can lead to megaloblastic anemia.
  - (iv) Spongy bleeding gums result from the deficiency of which vitamin.

- (v) Nutritional disease occurring in children due to lack of Vitamin D is called.
- (vi) Number of deaths of women from pregnancy related causes per 100,000 live births.
- (vii) Thinness or a low weight for height is called.
- (viii) All pregnant women are given 2 doses of TT as immunization against this disease.

2. (a) List at least four important programs for control of malnutrition in India. List the objectives and the beneficiaries of any two of the programs. 8
- (b) Discuss the benefits of 'Food based strategies' in combating public nutrition problems. 7
- (c) Describe the clinical manifestations of Beriberi. 5
3. (a) Critically review any two food security and the National Anemia Control Programs and suggest actions needed for improving the programs. 5+5
- (b) What are the different employment generation programs launched by the Indian government ? Briefly describe the components of these programs. 10

4. (a) What are the objectives and components of nutritional monitoring ? 8
- (b) Discuss briefly the reasons why children develop PEM. 7
- (c) What are the stages of the demographic cycle through which a nation passes ? 5
5. (a) Discuss the approaches which have been used to reduce iodine deficiency disorders in the country. 7
- (b) What do you understand by 'need assessment' in a community ? What are the different types of needs of a community ? 7
- (c) Enumerate the guidelines you would follow to design effective nutrition education messages for your target audience. 6
6. (a) Describe the Diet history method of diet survey. What are its uses and limitations ? 6
- (b) What do you understand by dietary diversification ? Explain giving examples of small changes that can be made in the diet to improve its micronutrient content. 6
- (c) Discuss the factors affecting food behaviour. 8
7. (a) Comment on the role of a Public Nutritionist in the health care delivery system. 5
- (b) Discuss why nutrition education is an important activity. 5

- (c) Comment on MUAC as a useful measure of nutritional status 5
- (d) What causes Fluorosis ? What can be done to prevent this disease ? 5

8. Write short notes on **any four** of the following :

- (a) Levels of Health care 5+5+5+5
- (b) Prevention of Vitamin A deficiency
- (c) Ecological factors for assessment of nutritional status
- (d) NFHS
- (e) Economics of malnutrition

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No. of Printed Pages : 3

**MFN-006**

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**MASTER OF SCIENCE (DIETETICS AND  
FOOD SERVICE MANAGEMENT)**

**Term-End Examination**

**June, 2016**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

**Note :** (i) *Answer five questions in all.*

(ii) *Question No. 1 is compulsory.*

(iii) *All questions carry equal marks.*

**1. (a) Define/Explain the following : 10**

(i) Goitrogens

(ii) Nutrition security

(iii) Gomez's classification

(iv) Specificity of a test

(v) Communication

**(b) List four causes for each of the following : 10**

(i) Vitamin A deficiency

(ii) PEM

(iii) Iron deficiency Anaemia

(iv) Rickets

(v) Vitamin B complex deficiency

2. (a) Define Health and Public Nutrition. Discuss briefly the scope and concept of Public Nutrition in an Indian context. 10
- (b) Describe the influence of agricultural and horticulture production on the food consumption of our population. 10
3. Explain the public health significance of the following. Also enumerate strategies adopted by Government of India for their prevention. 7+7+6=20
- (a) PEM
- (b) Iodine Deficiency Disorders
- (c) Lathyrism
4. (a) What is demography ? Describe the stages of demographic cycle. 8
- (b) Discuss briefly the factors which affect fertility behaviour of Indian population. 12
5. (a) Why do we assess nutritional status of any population ? Enumerate the commonly used methods of direct assessment of nutritional status. 8
- (b) How will you determine nutritional status of pre-school children using weight and height ? 8
- (c) Tabulate WHO guidelines for diagnosing anaemia. 4

6. (a) Describe the National Nutrition Policy with respect to its aims, policy instruments and policy implementation. 12
- (b) Comment on National Programme of Nutritional Support to Primary Education. 8
7. Explain briefly the following : 5+5+5+5=20
- (a) Dietary Diversification
- (b) Food Fortification
- (c) Genetically modified foods
- (d) Importance of good management and governance
8. Write short notes on **any four** of the following : 5+5+5+5=20
- (a) Channels of communication
- (b) Developing an evaluation system for NEC programme
- (c) Street foods
- (d) "Improving water quality and sanitation is an important strategy to alleviate malnutrition"
- (e) ICDS
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MFN-006

**MASTER OF SCIENCE (DIETETICS AND  
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**Term-End Examination**

**December, 2016**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

- Note :** (i) Answer five questions in all.  
(ii) Question No. 1 is compulsory.  
(iii) All questions carry equal marks.

1. (a) Define/Explain the following : 10
- (i) Food security
  - (ii) Bitot's spots
  - (iii) Human Development
  - (iv) Sensitivity of a test
  - (v) Culture
- (b) List three signs/symptoms of the following : 8
- (i) Marasmic Kwashiorkor
  - (ii) Iodine deficiency disorders
  - (iii) Riboflavin deficiency
  - (iv) Fluorosis
- (c) List four organisations/systems involved with nutrition monitoring in India. 2

2. (a) Explain the concept of health economics. 10  
Describe economic consequences of malnutrition.
- (b) Discuss the population trends and structure 10  
in India. Explain the implications of population growth on Nutrition and Quality of Life.
3. Explain briefly the following : 5+5+5+5
- (a) Food behaviour.
- (b) Storage of food products.
- (c) Health service delivery system in India.
- (d) Supplementary feeding programmes.
4. (a) Give a detail account of the methods available for the prevention and control of : 4+4
- (i) Anaemia
- (ii) Vitamin A deficiency
- (b) What is the role of zinc in human body ? 8  
Discuss the possible consequences of zinc deficiency.
- (c) How can we prevent : 2+2
- (i) Folic acid deficiency
- (ii) Vitamin D deficiency
5. (a) Explain different aspects of nutrition 12  
economics and their interactions.
- (b) Enumerate on the government spending on 8  
major direct and indirect nutrition programmes.

6. (a) Elaborate on the techniques for conducting situational analysis. 10
- (b) Describe the various steps required to plan, implement and evaluate a public nutrition programme. 10
7. (a) Define nutrition education. Discuss the importance, challenges and the constraints of nutrition education. 8
- (b) What are the essential elements of a message design and what criteria will you use while choosing the media ? Explain giving appropriate examples. 8
- (c) What is social marketing ? 4
8. Write short notes on any four of the following : 5+5+5+5
- (a) Community participation.
- (b) Types of evaluation.
- (c) Principles of good governance and management.
- (d) Public Distribution System.
- (e) Nutrition Surveillance System.
-

No. of Printed Pages : 4

MFN-006

## MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

Term-End Examination

June, 2017

MFN-006 : PUBLIC NUTRITION

Time : 3 hours

Maximum Marks : 100

*Note : Question No. 1 is compulsory. Attempt five questions in all. All questions carry equal marks.*

- |    |     |   |   |
|----|-----|---|---|
| 1. | (a) | List any four functions of primary health care.   | 2 |
|    | (b) | Name any two functionaries working at the Village level who are responsible for taking care of the health needs of the Community. List their functions as well. | 2 |
|    | (c) | What are the four determinants of food security ?   | 2 |
|    | (d) | Give the IAP (Indian Academy of Pediatrics) classification used to classify children into various grades of malnutrition.                                       | 2 |
|    | (e) | List the manifestations of riboflavin deficiency.   | 2 |
|    | (f) | What is the cause of lathyrism ? Name the toxic substance involved.   | 2 |
|    | (g) | What is demographic transition ?  | 1 |
|    | (h) | Give the Cut-off for MUAC you would use to classify children as severely malnourished.  | 1 |

- (i) Name any one biochemical indicator you would use to assess deficiency of the following disorders : 4
- Vitamin A deficiency
  - Anaemia
  - Protein energy malnutrition
  - Iodine deficiency
- (One indicator for each of the disorder)
- (j) Define nutrition surveillance. 2
2. (a) Explain the concept of health care and the three different levels at which it is available to the community. 2+3
- (b) Justify the statement that 'Multi sectoral approach helps to solve nutritional problems'. 5
- (c) Enumerate the measures you would adopt to control and prevent PEM. 6
- (d) Enlist the clinical features of Vitamin A deficiency. 4
3. (a) What is the importance of the following nutrients in our diet? Enumerate the consequences of their deficiency : 4+4
- Iodine
  - Zinc
- (b) Name the national programmes launched by our Government to prevent/combat the following disorders. Enumerate the objectives and the programme strategy/ components : 6+6
- Nutritional Anaemia
  - Malnutrition among children



4. (a) What are the common measurements and indices used in nutritional anthropometry. 5  
(b) List the food security programmes launched by our government for the benefit of the community. List the salient feature of any one programme. 2+5  
(c) Enlist the various food based strategies that you may adopt to combat malnutrition. Describe any one strategy in details. 2+6
5. (a) Explain the term "Supplementary Feeding" giving appropriate examples. 5  
(b) Elaborate on the target groups, calories and proteins provided by food supplement in the following programmes : 5+5  
- ICDS  
- National mid day meal programme  
(c) Justify the statement giving appropriate examples. "Genetic or food biotechnology can help improve the nutritional status of individuals". 5
6. (a) What is need assessment ? Briefly explain any one technique you will use for need assessment. 2+6  
(b) What do you understand by programme management and administration ? 5  
(c) Define nutrition education. Enumerate its importance. 7
7. Explain the following briefly :  
(a) Different channels/media one can use for nutrition communication. 5  
(b) Benefits of community participation. 5

- (c) Useful guidelines for designing persuasive and coherent nutrition education messages. 5
- (d) Method you would adopt to show that behaviour change took place because of the nutrition education programme. 5

8. Write short notes on **any four** of the following :

- (a) Food fortification 5+5+5+5
- (b) Strategies to improve urban and rural sanitation
- (c) National Nutrition Policy
- (d) Qualitative Diet Surveys
- (e) Vital statistics and their implications in population growth



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No. of Printed Pages : 4

MFN-006

**MASTER OF SCIENCE (DIETETICS AND  
FOOD SERVICE MANAGEMENT)**

**Term-End Examination**

**December, 2017**

8  
2  
8  
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0

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

- Note :*
- (i) *Question No. 1 is compulsory.*
  - (ii) *Attempt five questions in all.*
  - (iii) *All questions carry equal marks.*

- 
- |    |     |   |    |
|----|-----|---|----|
| 1. | (a) | List any two vital statistics you will use to assess population nutritional status/growth.  | 2  |
|    | (b) | Name any four vaccines which are mandatory for an infant in the National Immunization schedule.   | 2  |
|    | (c) | Present the components of communication process with the help of an illustration.   | 2  |
|    | (d) | Name any one Interpersonal Communication method and one traditional communication method you can use with community groups to impart education. | 2  |
|    | (e) | Define "Change Agents". Give one example.   | 2½ |
|    | (f) | List any two types of community groups you can form in a community.   | 2  |

- (g) What do you understand by social marketing in the context of nutrition education ? 2½
- (h) List the beneficiaries of the following programmes : 5
- (i) ICDS
  - (ii) Mid-day meal programme
  - (iii) PDS
  - (iv) Annapurna Scheme
  - (v) National Food For Work Programme (NFFWP)

2. Differentiate between Food Supplementation and Nutrient Deficiency Control Programmes, giving appropriate example. Discuss in details any one programme (highlighting the objectives, target groups and programme strategy) from each of the two categories. 4+8+8

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3. (a) As a public nutritionist you are required to determine the nutritional status of (i) Children, and (ii) Adult women in a community. Enumerate one (each) latest method you would use to classify children and women into various nutritional grades. 5+5
- (b) As a nutrition expert you are invited to write as newspaper article on "Malnutrition - Its causes and consequences". Write a 400 word article on the topic. 10

4. (a) Present the WHO classification for the assessment of Vitamin A status of community groups. 5
- (b) Elaborate on the strategies you would adopt to prevent iron deficiency anaemia in a community. 10
- (c) Enumerate the consequences of iodine deficiency disorder during pregnancy and childhood. 5
5. (a) Define food and nutrition security. 4
- (b) Briefly explain the factors which affect food behaviour. 6
- (c) What do you understand by "Communication for Behaviour Change"? Explain briefly the concept giving appropriate example. 10
- 
6. (a) Summarize why nutrition education is important for : 5+5
- (i) Individuals and Community groups
- (ii) Policy makers and programme planners
- (b) Discuss the role of the following in combating public nutrition problems. 5+5
- (i) Dietary diversification
- (ii) Supplementation as a nutrient based strategy

7. (a) Enumerate the programme components of ICDS programme. Comment on the impact of the programme in meeting the objectives it was designed to meet. 6+4
- (b) What do you understand by evaluation ? 2+8  
What are the different types of evaluation you can conduct for evaluating nutrition education programmes.
8. Write short notes on any four of the following :
- (a) Different forms of PEM 5+5+5+5
- (b) Role of public nutritionist in health care delivery
- (c) Lathyrism
- (d) PDS and TPDS
- (e) National Prophylaxis Programme for prevention of night blindness due to Vitamin A deficiency
- 

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No. of Printed Pages : 4

MFN-006

**MASTER OF SCIENCE (DIETETICS AND  
FOOD SERVICE MANAGEMENT)**

**Term-End Examination**

**June, 2018**

**MFN-006 : PUBLIC NUTRITION**

**Time : 3 hours**

**Maximum Marks : 100**

**Note :** (i) *Answer five questions in all.*

(ii) *Question No. 1 is compulsory.*

(iii) *All questions carry equal marks.*

1. (a) Define or explain in 2-3 sentences each of the following : 12

(i) Green revolution

(ii) Nutrition surveillance

(iii) Felt needs

(iv) Food fortification

(v) Dental fluorosis

(vi) Kwashiorkor

(b) Give one term/word for the following : 8

(i) Dirty white, foamy and raised spots on surface of conjunctiva due to Vitamin A deficiency.

(ii) Skin lesions on neck which appear in the form of necklace in niacin deficiency.

(iii) Number of females per 1000 males.

- (iv) National programme under which iodization of edible salt has been made mandatory.
- (v) WHO cut off for hemoglobin levels for diagnosing anemia in adult males.
- (vi) Knock knees/bow legs, pigeon chest and beaded ribs in children is a sign of deficiency of this vitamin.
- (vii) A person with BMI < 18.5 kg/m<sup>2</sup> is classified as.
- (viii) Crippling disease caused by consumption of kesari dhal.

2. (a) Discuss the cost of managing nutrition related health problems and their consequences. 7
- (b) Describe the ICDS program infrastructure and functionaries at all levels of implementation. 8
- (c) What causes Beriberi ? Differentiate between clinical features of Dry and Wet Beriberi. 5
3. (a) What do you understand by nutrition monitoring ? Discuss its objectives and components. 10
- (b) Discuss the program strategy of the National Prophylaxis Program for prevention of Blindness due to vitamin A deficiency, indicating the target beneficiaries. 10



4. (a) Discuss some strategies which can be used to improve urban and rural sanitation. 8
- (b) Comment on the role of a public nutritionist in health care delivery. 6
- (c) What categories of persons should be involved in the evaluation of a program ? Discuss why it is important to involve them. 6
5. (a) Discuss the different determinants of food security. 8
- (b) What are the various causes of PEM ? 6
- (c) Describe the importance of face to face or interpersonal methods of communication. 6
6. (a) Describe the use of the food frequency questionnaire as a method of assessing dietary intake. What are its strengths and limitations ? 8
- (b) Discuss the limitations and advantages of the Public Forum Approach for conducting situational analysis. 7
- (c) Why is it important to pretest communication materials before beginning a nutrition education program ? 5
7. (a) "We face a big challenge when we plan to change behaviours of people through nutrition education". Justify the statement. 5
- (b) What do you understand by 'sustainable food production' ? 5

- (c) List the steps involved in adopting dietary diversification as a food based approach to tackle the problem of micronutrient deficiencies. 5
- (d) Comment on the challenges faced by the targeted public distribution system. 5

8. Write short notes on any four of the following : 5+5+5+5

- (a) Demographic cycle through which a nation passes
- (b) Biochemical tests for detecting Vitamin A deficiency
- (c) Community Food Banks
- (d) Importance of Formative research
- (e) Annapurna Scheme

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No. of Printed Pages : 4

**MFN-006**

**MASTER OF SCIENCE (DIETETICS AND  
FOOD SERVICE MANAGEMENT) (M.Sc. DFSM)**

**Term-End Examination**

**December, 2018**

01622

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

**Note :**

1. *Answer **five** questions in all.*
2. *Question no. 1 is **compulsory**.*
3. ***All** questions carry equal marks.*

- 
- 
1. (a) Define or explain in 2 – 3 sentences, each of the following :

12

- (i) Genetically Modified Foods
- (ii) Lathyrism
- (iii) MUAC
- (iv) Social Marketing Approach
- (v) Rickets
- (vi) Marasmus

(b) Give one word/term for the following : 8

- (i) Paper thin fingernails bent upwards forming shape of a spoon
- (ii) Enlargement of the thyroid gland due to iodine deficiency
- (iii) Number of deaths of women from pregnancy related causes per 100,000 live births
- (iv) Angular stomatitis, cheilosis and glossitis are symptoms of deficiency of this vitamin
- (v) The formula  $\text{weight (kg)/height}^2 \text{ (m}^2\text{)}$  is referred to as
- (vi) Instrument used for measuring fat folds
- (vii) Mottling of teeth with brown streaks and pitting caused by high intake of this mineral
- (viii) TT vaccine shots given to pregnant women to protect them against this disease

2. (a) What can be done to prevent PEM ? Discuss in detail. 8

(b) What are the different psycho-social and cultural factors that affect food behaviour ? 7

(c) Describe the characteristic clinical features of scurvy. 5

3. (a) List the major agencies conducting nutrition monitoring in India. Discuss the work done by two notable organisations in India. 10
- (b) Discuss the objectives, components and implementation of the Mid-day Meal Programme. 10
4. (a) Discuss some strategies to improve the safety of street foods in India. 8
- (b) Describe the health care delivery system at the village level. 6
- (c) Explain in brief the factors responsible for food pricing. 6
5. (a) Define 'needs assessment'. How are needs of a community classified? 8
- (b) Describe the hierarchy of objectives in a nutrition education communication programme. 7
- (c) List the advantages and limitations of mass media. 5
6. (a) Discuss how nutritional status of children and adults can be estimated by measuring their height and weight. 8

- (b) Explain the relationship between fertility, nutrition and quality of life. 6
- (c) List some key nutrition messages to improve the iron status of children. 6
7. (a) Comment on the Diffusion theory of nutrition education. 5
- (b) What are the essential elements of a message design in a nutrition education programme? 5
- (c) Comment on the benefits of food-based strategies for tackling malnutrition. 5
- (d) List the reasons for limited impact of ICDS on the nutritional status of vulnerable groups. 5
- 
8. Write short notes on any **four** of the following : 5+5+5+5
- (a) Biochemical Tests for Detecting Iron Deficiency Anaemia
- (b) National Nutrition Policy
- (c) Skills Required by a Personnel Manager
- (d) Types of Evaluation of Nutrition Education Programme
- (e) Food Balance Sheets

No. of Printed Pages : 4

**MFN-006**

**MASTER OF SCIENCE (DIETETICS AND  
FOOD SERVICE MANAGEMENT) (M.Sc. DFSM)**

**Term-End Examination**

**June, 2019**

**03534**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 hours*

*Maximum Marks : 100*

**Note :** 1. *Answer five questions in all.*

2. *Question no. 1 is compulsory.*

3. *All questions carry equal marks.*

1. (a) Fill in the blanks :

5

(i) Serum \_\_\_\_\_ levels are indicative of storage iron level of a population.

(ii) \_\_\_\_\_ anaemia is caused due to deficiency of folic acid and/or Vitamin B<sub>12</sub>.

(iii) Infantometer is used to measure recumbent \_\_\_\_\_ of children under 2 years of age.

(iv) \_\_\_\_\_ is the disorder associated with deficiency of iodine in children.

(v) Level less than \_\_\_\_\_ of serum Vitamin A is an indicator of Vitamin A deficiency in an individual.

(b) Give one word/term for the following : 5

- (i) Traditional birth attendant.
- (ii) Physical and economic access by all people, at all times, to sufficient food to meet their dietary needs.
- (iii) Toxic amino acid present in Kesari dal.
- (iv) Changes like bowlegs, knock-knees seen in children, due to deficiency of Vitamin D.
- (v) Dirty white, foamy and raised spots formed on conjunctiva due to Vitamin A deficiency.

(c) Explain the following in 2 – 3 sentences, giving examples : 10

- (i) Referral services
- (ii) Demographic transition
- (iii) Indirect assessment of nutritional status
- (iv) Pellagra
- (v) Food Balance Sheets

2. Explain the following briefly : 8+6+6

- (a) Factors influencing food behaviour
- (b) Role of public nutritionist in health-care delivery
- (c) Multiple causes of malnutrition



3. (a) Describe the clinical manifestations of riboflavin deficiency. 5
- (b) How can we prevent and control PEM in our community? 7
- (c) Briefly discuss the role of supplementation, fortification and dietary diversification in the prevention of iron deficiency anaemia. 8
4. (a) Discuss the factors responsible for high fertility rate in India. 8
- (b) Explain the importance of the following and give the methodology you will adopt while using them in field survey : 6+6
- MUAC
  - 24-hour recall
5. (a) What is the aim of National Nutrition Policy? Highlight the strategies advocated under the policy for achieving the nutritional goals. 10
- (b) "ICDS is the world's most unique welfare programme." Justify the statement highlighting the objectives, beneficiaries and components of the programme. 10

6. (a) Enlist the major agencies involved with nutrition monitoring and surveillance in our country. Highlight the data/type of information collected by each of the agencies. 10
- (b) What is need assessment ? Explain any one method you would adopt for need assessment in a community. 10
7. (a) What do you understand by communication for behaviour change ? Briefly discuss its relevance, challenges and constraints. 3+2+5
- (b) Why is it important to evaluate a nutrition education programme ? Discuss the types of evaluation we can adopt. 4+6
8. Write short notes on any **four** of the following : 5+5+5+5
- (a) Use of multimedia mix in nutrition education
- (b) Basic guidelines for designing persuasive and coherent messages for nutrition education
- (c) National Immunization Schedule
- (d) National Iodine Deficiency Disorder Control Programme
- (e) Strategies for Improvement of Street Foods

No. of Printed Pages : 3 M02722

MFN-006

## MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

Term-End Examination,

December 2019

### MFN-006 : PUBLIC NUTRITION

*Time : 3 Hours]*

*[Maximum Marks : 100*

*Note : (i) Attempt five questions in all.*

*(ii) Question No. 1 is compulsory.*

*(iii) All questions carry equal marks.*

1. a) Differentiate between the following sets of terms:

10

i) Night blindness and goitre

ii) FFQ and 24 hour recall

iii) Nutrition monitoring and Nutrition surveillance

iv) Wasting and stunting

v) Food security and Nutrition security

b) List the symptoms of the deficiency of the following nutrients in our body:

10

i) Riboflavin

ii) Vitamin C

iii) Iron

iv) Protein

v) Vitamin A

(2)

2. a) Briefly explain what does the study of public nutrition entails. Highlight your role as a public nutritionist in our country. 10
- b) Briefly discuss the measures/ strategies you would adopt for the prevention treatment of vitamin A deficiency in the country. 10
3. Explain briefly : 5+5+5+5
- a) Economic consequences of malnutrition.
- b) Causes of Protein Energy Malnutrition (PEM)
- c) Biochemical assessment in nutritional status assessment.
- d) Implications of Vital statistics in population growth.
4. a) You have been asked to assess the nutritional status of children in a preschool centre. What sample field based method you would use to assess its nutritional status? Also present the standards you will use to categorize children into different grades of malnutrition . 10
- b) Present a brief review on the Food security programs implemented by the government. Highlight their activities. 10
5. a) What are Food based strategies? Briefly discuss any one strategies you will use to improve nutritional status in a community. 3+7
- b) 'Supplementation is a short term preventive strategy to control nutritional problems'. Justify the statement highlighting the supplementary doses of nutrients recommended for preventive purpose in various national programs. 10

6. a) What do you understand by the term "Supplementary nutrition"?. Describe the supplementary nutrition components of the following programs: 2+4+4

i) ICDS

ii) Mid-day Meal Program

- b) Enlist the strategies you would adopt to improve the following: 5+5

i) Urban and Rural sanitation

ii) Street foods

7. a) What is situational analysis? Discuss any one technique you would use for situational analysis. 3+7

- b) What do you understand by program management and administration in the context of Public nutrition? 5

- c) What are the four phases of the process of Nutrition education? 5

8. Write short notes on any four of the following: 5+5+5+5

a) Consequences of zinc deficiency

b) Stages of demographic cycle.

c) Functions of Vitamin D in our body

d) Factors influencing the absorption of calcium in our diet.

e) Benefits of community participation



No. of Printed Pages : 6

**MFN-006**

**MASTER OF SCIENCE (DIETETICS  
AND FOOD SERVICE MANAGEMENT)**

**[M. Sc. (DFSM)]**

**Term-End Examination**

**June, 2020**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 Hours*

*Maximum Marks : 100*

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**Note :** (i) *Question No. 1 is compulsory.*

(ii) *Answer five questions in all.*

(iii) *All questions carry equal marks.*

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1. (a) List any *three* essential components of  
primary health care. 3

**P. T. O.**

[ 2 ]

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- (b) Name *one* immediate cause, *one* underlying cause and *one* basic cause of malnutrition. 3
- (c) What are the *four* determinants of food security ? 2
- (d) Enlist the sub-clinical forms of PEM. 2
- (e) What is Xerophthalmia ? 2
- (f) Give the WHO haemoglobin cut-off criteria for diagnosis of anaemia among adolescents and pregnant woman. 2
- (g) Present the WHO criteria for classification of goitre size. 2
- (h) Enlist the clinical manifestation of folic acid and clinical manifestation of Vitamin B<sub>12</sub> deficiency. 2
- (i) What is the cause of lathyrism ? 2

[ 3 ]

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2. (a) What is public nutritional concerned with ?  
Give its scope and relevance of public  
nutritionist in health care delivery. 10
- (b) Briefly explain the health care delivery  
system in our country. 10
3. (a) Why is the prevalence of iron deficiency  
anaemia high in our country ? What  
measures/strategies would you adopt to  
prevent/control the disorder ? 10
- (b) What is Pellagra ? Enlist its causative  
factors. 5
- (c) Enlist the steps you would recommend to  
prevent PEM in a community. 5
4. Explain the following briefly in about  
250 words each : 5 each
- (a) Economics of malnutrition

P. T. O.



[ 4 ]

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- (b) Effect of population growth on quality of life of people
- (c) Indirect methods of assessing nutritional status
- (d) Factors affecting food behaviour

5. (a) What do you understand by the term Anthropometry ? Describe the methods of anthropometric assessment for children under five years of age. 10

(b) What is the aim of National Nutritional Policy ? 5

(c) What is the role of supplementary feeding programmes in combating malnutrition ? Enlist any *two* programmes run by government which has supplementary feeding as a component. 5

[ 5 ]

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6. (a) Present a brief review on the current agencies involved with nutritional monitoring, highlighting the information they provide. 10

(b) What are the food security programmes launched in our country to improve availability of food for masses ? Explain any *one* in detail. 10

7. (a) Briefly discuss the different approaches you would adopt to prevent micronutrient deficiency in our country. 10

(b) List the major steps you would follow in planning, implementing and evaluating a nutrition intervention programme. 5

(c) Briefly discuss in about 250 words any *one* technique you will adopt for conducting need assessment. 5

[ 6 ]

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8. Write short notes on any *four* of the following

(in about 250 words each) :

5 each

(a) Challenges and constraints of nutrition education as a strategy to combat public nutritional problems.

(b) Use of multimedia-mix for nutrition education.

(c) Strategies to improve urban sanitation.

(d) Personnel management in public nutrition.

(e) Use of social marketing as a process to improve public nutrition.

No. of Printed Pages : 7

**MFN-006**

**MASTER OF SCIENCE (DIETETICS  
AND FOOD SERVICE MANAGEMENT)**

**M. SC. (DFSM)**

**Term-End Examination**

**December, 2020**

**MFN-006 : PUBLIC NUTRITION**

*Time : 3 Hours*

*Maximum Marks : 100*

**Note :** *Question number 1 is compulsory. Answer  
five questions in all. All questions carry  
equal marks.*

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1. (a) Name the disease condition which is  
manifested as the following signs and  
symptoms :

5

(i) Sunburn, hyperpigmentation of skin,  
diarrhoea and dementia.

[ 2 ]

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- (ii) Mottling of teeth, joint pain, musculoskeletal dysfunction.
  - (iii) Muscular spasm, stiffness in limbs, involuntary tremors, stiff leg scissors gait.
  - (iv) Low birth weight, reduced physical activity, poor cognitive performance in children.
  - (v) Abortions, congenital abnormalities, activism.
- (b) Differentiate between food security and nutrition security. 3
- (c) Name any **two** functionaries at the village level who are responsible for taking care of the health needs of the community. 2
- (d) What is sex ratio ? Give the sex ratio in our country based on the latest census. 2
- (e) Give one word/term for the following : 5
- (i) Number of deaths of infants under one year of age per 1000 live birth.

[ 3 ]

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(ii) The number of children that would be born per woman, if she were to live to the end of her child bearing years.

(iii) The number of years new-born children would live, if subject to the mortality risk prevailing for the cross-section of population at the time of their birth.

(iv) Number of death of women from pregnancy related causes per 1,00,000 live births.

(v) Number of persons living per square kilometre area.

(f) Name any **three** agencies involved with nutrition monitoring in our country. 3

2. (a) Why is MUAC considered as a useful indicator of the nutritional status of children ? How is it measured and analyzed ? 7

P. T. O.

[ 4 ]

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(b) What are the different methods you can use to collect data on dietary intake of individuals ? Explain the use of any *one* in detail. 10

(c) Name any *one* biochemical parameter you will use to assess the following nutrient deficiency disorders : 3

(i) PEM

(ii) Vitamin D

(iii) Vitamin A

3. (a) What is meant by food fortification ?

Discuss its role in improving the diets of the population groups. 7

(b) What are the objectives of ICDS programme ? What have been some of the problems encountered in the implementation of ICDS in the country ? 7

(c) Give the schedule of supplementation recommended for preventive supplementation of iron (for pregnant

[ 5 ]

MFN-006

woman and children), Vitamin A (for children 1-5 years of age) and iodine (for population in endemic areas). 6

4. (a) What are the common vaccine preventable diseases among children ? Give the national immunization schedule. 7

- (b) Why is PEM a major concern in our country ? Elaborate the causative factors and the measures you would adopt to prevent and control PEM. 8

- (c) Briefly in about 250 words explain the adverse consequences of maternal zinc deficiency or pregnancy outcome. 5

5. (a) As part of a nutrition monitoring team you are required to conduct a survey. What is the survey approach ? What methods you may use to conduct the survey ? List the advantages and disadvantages of conducting a survey in the community. 10

P. T. O.



[ 6 ]

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- (b) What is the relevance of evaluating nutrition education programmes ? What are the different types of evaluation you may adopt ? Explain any **one** in detail. 10
6. What are the four phases in planning a nutrition education programme ? Describe this phases briefly. 20
7. (a) Briefly explain the role and importance of nutrition education to population groups and policy makeup. 10
- (b) What is community participation ? Elaborate on the importance of community participation and list the different types of groups which can be formed in a community. 10
8. Write short notes on any **four** of the following : 5 each
- (i) Points to be kept in mind for designing coherent and persuasive messages

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- (ii) Principles of good governance and programme management
- (iii) Antyodaya Anna Yojana (AAY)
- (iv) Ariboflavinosis
- (v) Self-employment and wage employment schemes



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