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MFT-001

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

**POST GRADUATE DIPLOMA IN FOOD SCIENCE AND
TECHNOLOGY (PGDFT)**

Term-End Examination

June, 2014

MFT-001 : FOOD CHEMISTRY AND NUTRITION

Time : 3 Hours]

[Maximum Marks : 70

Note :-Attempt all the questions. Question No. 7 is compulsory.

1. (a) How do you determine water activity in food ? What is the application of water activity ? 4
- (b) Give a brief description of the complex carbohydrates. 2
- (c) How are proteins classified ? Explain the structure of an amino acid. 4
2. (a) What are the functions of proteins ? 3
- (b) How are fatty acids classified ? What are essential fatty acids ? 4
- (c) Write a note on the refining of lipids. 3
3. (a) Explain the effect of food processing on vitamins. 4
- (b) What are carotenoids ? Write a note on their functions. 3
- (c) Explain the biosynthesis of vitamin D upon exposure to sunlight. 3

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(2)

4. (a) Write a note on the classification of enzymes. What is enzyme kinetics ? 4
(b) What are anti-nutritional factors ? Explain with examples. 3
(c) Write a note on the physico-chemical properties of milk. 3
5. (a) List the important pigments found in fruits and vegetables. Write a note on enzymatic browning. 4
(b) Give a brief account of the digestion of proteins. 3
(c) Write a note on the functions and dietary sources of thiamine. 3
6. (a) What is meant by 'Recommended Dietary Allowances' ? Give the RDA for protein, vitamin A and iron for an adult man. 4
(b) Describe the dietary importance of iron. What are the consequences of iron toxicity ? 3
(c) What are the sources of sodium ? Write a note on hyper and hypo-natraemia. 3
7. Write short notes on any *four* : 4x2½=10
(a) Deficiency of vitamin A
(b) Antioxidants
(c) Food additives
(d) Protein hydrolysates
(e) Ultra trace minerals
(f) Electrolytes

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Total No. of Questions : 7]

[Total No. of Printed Pages : 3

Post Graduate Diploma in Food Science and Technology (PGDFT)

Term-End Examination

June, 2014

MFT-002 : FOOD MICROBIOLOGY

Time : 3 Hours]

[Maximum Marks : 70

Note :-Attempt any *Five* questions. All the questions carry equal marks.

- 1. Explain the following (any *four*) : 3-5x4=14
 - (i) Viral pathogens
 - (ii) Pure culture methods
 - (iii) Biochemical kits for rapid detection
 - (iv) Sterilization of food
 - (v) Spoilage of meat

- 2. (a) What are the intrinsic parameters responsible for growth of micro-organism in foods ? 8

- (b) Describe the MPN technique for the detection of coliforms in water. 6

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3. (a) Fill in the blanks : 10x1=10

- (i) are common osmophiles found in food.
- (ii) Staphylococcus is gram in nature.
- (iii) Media without agar or solidifying agent is also called
- (iv) Most microbes prefer to other compounds as a source of energy.
- (v) Food poisoning caused by ingestion of live organisms is called
- (vi) Deliberate contamination of foods with materials of low quality is
- (vii) is fermented fresh cabbage.
- (viii) Bacillus is an example of shaped bacteria.
- (ix) Ochratoxin is a common
- (x) Whiskers are types of spoilage in food caused by

(b) Explain principles of food preservation. 4

4. Write short notes on the following : 3.5x4=14

- (a) Fermented foods as functional foods
- (b) Food spoilage

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(c) Microscopic examination of bacterial culture

(d) Emerging food borne diseases.

5. Define the following :

7×2=14

(a) Food safety

(b) Food Borne intoxication

(c) Bacteriocins

(d) Vegetative cell

(e) Complex media

(f) Prebiotic

(g) Milk spoilage

6. (a) What do you know about rapid detection techniques for the enumeration of microbes in foods ? Describe any two such techniques.

2+4+4

(b) Give the detection protocol of *Bacillus cereus*.

4

7. Describe the methods of detection and enumeration of the following organisms :

3.5×4=14

(a) Psychrotrophs

(b) Thermophiles

(c) Lipolytic

(d) Proteolytic

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