

**POST GRADUATE DIPLOMA IN FOOD SAFETY  
AND QUALITY MANAGEMENT**

00861

**Term-End Examination**

**June, 2010**

**MVP-001 : FOOD FUNDAMENTALS AND  
CHEMISTRY**

*Time : 3 hours*

*Maximum Marks : 100*

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

1. Fill in the blanks in the following : **10x2=20**
- Two essential amino acids lacking in legumes are \_\_\_\_\_ and \_\_\_\_\_.
  - Removal of husk or shell is called \_\_\_\_\_ while various preservation and Flavouring processes, especially of meat or fish by the addition of salt sugar and nitrate is called \_\_\_\_\_.
  - Organ meat/variety meat or all edible portion other than muscles is called \_\_\_\_\_ while cut of meat taken from sides, belly or back of a pig that has been' cured, smoked or both is called \_\_\_\_\_.
  - \_\_\_\_\_ is the organism used in the manufacturing of acidophilus milk while the presence or absence of \_\_\_\_\_ indicate the microbial quality of water.

- (e) Xanthoma gum is obtained from \_\_\_\_\_ source while sodium alginate is a \_\_\_\_\_ gum.
- (f) Milk is an example of \_\_\_\_\_ emulsion while butter is \_\_\_\_\_ type emulsion.
- (g) Lipid containing carbohydrate is called \_\_\_\_\_ while phospholipid contain \_\_\_\_\_.
- (h) Acid value measures the \_\_\_\_\_ formed during decomposition glycerides while peroxide value indicate about the \_\_\_\_\_ of a fat/oil.
- (i) Generally the common salt is fortified with \_\_\_\_\_ while \_\_\_\_\_ element (mineral) is added to infant food.
- (j) Vitamin controlling the blood clotting is \_\_\_\_\_ while vitamin \_\_\_\_\_ enhances the absorption of calcium in the body.

2. Match the correct word given under **Column B** with statement given under **Column A**. **20x1=20**

- | <b>Column A</b>                                      | <b>Column B</b>    |
|--|--------------------|
| (a) Deficiency of cyanocobalamine cause this disease | (i) Emulsifier     |
| (b) This vitamin can be synthesized by human babies  | (ii) Nitrite       |
| (c) Lack of vitamin D cause this defect              | (iii) Bixaorellana |

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|---|---------------------------|
| (d) It is used for its antimicrobial effect       | (iv) Tocopherol           |
| (e) It is present in chlorophyll                  | (v) Vitamin D             |
| (f) Vitamin essential for RBC maturation          | (vi) Anthocyanine         |
| (g) Is a natural antioxidant                      | (vii) Sulphur             |
| (h) Annatto colour is derived from it             | (viii) Pernicious anaemia |
| (i) Preservative for meat                         | (ix) Magnesium            |
| (j) Lecithin is used as _____ in food industry    | (x) Vitamin K             |
| (k) _____ imparts red colour to strawberries      | (xi) Scurvy               |
| (l) Disease caused due to deficiency of Vitamin C | (xii) Folic acid          |
| (m) Used as a dough improver                      | (xiii) Potassium iodite   |
| (n) Vitamins and minerals                         | (xiv) Tartaric acid       |
| (o) Natural acidulent of grapes                   | (xv) Rickets              |
| (p) Non caloric natural sweetness                 | (xvi) Betalaim            |
| (q) Import red colour to beet Root                | (xvii) Erythrosine        |
| (r) Carotenoid present in Tomato                  | (xviii) Lycopene          |
| (s) Synthetic Food Colour                         | (xix) Rebiana             |
| (t) It controls blood clotting                    | (xx) Protective Food      |

3. (a) Write short notes on the following : **5x2=10**
- (i) Aseptic packaging
  - (ii) Aerobic treatment of liquid waste
  - (iii) Rancidity
  - (iv) Sensory evaluation
  - (v) Food Fortification
- (b) Define the following in 1-2 lines each : **10x1=10**
- (i) MAP
  - (ii) Bar code
  - (iii) Flootation process during ETP
  - (iv) Refractometer
  - (v) Coefficient of viscosity
  - (vi) Non-Nutritive sweetener
  - (vii) GRAS
  - (viii) Enrichment
  - (ix) Cuisine
  - (x) Organic Food
4. (a) Describe the processing of oil seeds. **5**
- (b) What are antioxidants ? Give two examples each of natural and synthetic antioxidants. **5**
- (c) Which are the different methods of probability sampling **5**
- (d) Highlight different applications of sensory evaluation. **5**

5. Write short notes on the following : 5x4=20
- (a) Cryogenic freezing
  - (b) Thin layer chromatography
  - (c) Effect of processing on minerals
  - (d) Shell Egg Processing
  - (e) Processing of coffee
6. (a) Explain in detail the composition of cereals. 10
- (b) Mention the various chemical parameters of water quality. Describe any one parameter. 5+5=10
7. (a) Discuss about different types of detectors used in gas chromatography mention their working principles. 5+5=10
- (b) Describe in detail any two latest packaging technologies. 10
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