

PGDFSQM

Term-End Examination

June, 2014

MVP-001 : FOOD FUNDAMENTAL & CHEMISTRY

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five question. All questions carry equal marks.

1. Fill in the blanks in the following choosing the $20 \times 1 = 20$ correct answer from the alternatives given.
- (a) Water normally contains approximately _____ ppm of dissolved oxygen.
i) 4 ii) 6 iii) 8
- (b) Liquid nitrogen boils at _____ oC
i) -79 ii) -196 iii) 79
- (c) Microorganism used for the production of alcohol is _____.
i) *S.cerevisiae* ii) *L.plantarum*
iii) *B.subtilis*
- (d) Cured meat products are usually pasteurized at _____ oC
i) 65-75 ii) 50-60 iii) 70-80

- (e) Spirulina, which is used as a protein source is a _____.
- i) algae ii) bacteria iii) fungus
- (f) Annatto colour is obtained from _____ plant
- i) curcuma longa ii) capsicum annum
iii) bixa orellana
- (g) Health food for enhancing memory is _____.
- i) brahmi ii) honey iii) ginseng
- (h) Fat content of peanuts is around _____%
- i) 20 ii) 50 iii) 70
- (i) Mead, an alcoholic beverage is obtained from _____.
- i) pear ii) molasses
iii) honey
- (j) Example of class II preservative is _____.
- (i) Citric acid ii) KMS
iii) Vinegar
- (k) Deficiency of folic acid in diet leads to _____.
- (i) Megaloblastic anemia ii) Scurry
iii) Beri-beri

- (l) _____ is also known as soy curd
- i) cheese ii) tofu iii) yoghurt
- (m) Liquid containing a carbohydrate moiety is called _____.
- i) glycolipid ii) phospholipid
iii) chromolipid
- (n) Vitamin K is also known as _____.
- i) calciferol ii) riboflavin
iii) phythoquenone
- (o) _____ is the main colourant of turmeric
- i) curamin ii) anthocyanin
iii) annatto
- (p) Retinol is also known as _____.
- i) Vitamin C ii) Vitamin A iii) Vitamin D
- (q) Best quality coffee beans are obtained from _____.
- i) Coffee arabica ii) Coffee liberia
iii) Coffee robusta
- (r) Molecule having binding affinity for water are called _____.
- i) Non polar ii) hydrophobic
iii) Hydrophilic

(s) Degree of unsaturation of fatty acids in a fat or oil is indicated by determining _____

- i) Saponification value
- ii) RM Value
- iii) iodine value

(t) Example of ethylene absorbent used in active packaging system is _____

- i) Selenium
- ii) H_2O_2
- iii) Ascorbic acid

2. Define the following (in 2-3 lines) **10x2=20**

- (a) Essential amino acid
- (b) Water activity
- (c) Food chemistry
- (d) Khurchan
- (e) Kharif crop
- (f) Maillard reaction
- (g) Modified starch
- (h) Caryopsis
- (i) Rigor mortis
- (j) Parboiling

3. (a) Write true or false for the following : **10x1=10**

- (i) Tallow is fat attained from pork.
- (ii) Jhatka is the jewish method of slaughter.
- (iii) Albumin begin to coagulate at 80oC resulting in loss of solubility of protein.

- (iv) Perishable crops contain moisture content of 50-90%.
- (v) Soybean is the highest protein containing pulse.
- (vi) Milling of cereals result in considerable loss in proteins.
- (vii) Difference tests of memory evaluation measures the ability of individuals to detect memory characteristics.
- (viii) Milk powder having high ash contents indicates adulteration.
- (ix) Lane and Eynon volumetric method is used for determination of starch in a food product.
- (x) Pulses are poor in methionine.

(b) Write full form for the following : **10x1=10**

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|------------|-------------|
| (i) WHO | (ii) MUFA |
| (iii) BOPP | (iv) COD |
| (v) HACCP | (vi) FI-IR |
| (vii) PVC | (viii) CPCB |
| (ix) NPDP | (x) NAFED |

4. (a) Why is there a need to treat effluent waste ? **2+8=10**
Explain the processes involved in treatment of wastes.

(b) What are the main causes of post harvest losses of fruits and vegetables? **4+6=10**
Explain the important post harvest technologies used to minimize these losses.

5. (a) Define enrichment and fortification. What are the important aspects to be kept in mind while carrying out fortification at a large scale. **2+4=6**
- (b) Give an account of the heavy metals found in food and how they affect the human body. **5**
- (c) Describe the various detectors used in HPLC. **4**
- (d) What is meant by hard water? How can you remove temporary hardness of water. **2+3=5**
6. (a) Write a short note on fish deterioration. **4**
- (b) What are the various methods used for preserving eggs? **5**
- (c) Elaborate on the psychological functions of food. **5**
- (d) What is milling? Give its importance and enlist the major by-products of milling. **2+2+2=6**
7. (a) What do you understand by sampling plan? What are the factors that affect choice of sampling plans? **4+6=10**
- (b) What do you understand by edible packaging? Give its advantage and materials used. **2+4+4=10**

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