

**POST GRADUATE DIPLOMA IN FOOD SAFETY
AND QUALITY MANAGEMENT (PGD FSQM)****Term-End Examination****December, 2011****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 blank in the following choosing the correct answer from the alternatives in bracket : **20x1=20**
- (a) Honey contain about _____ % total sugar.
- (i) 70%
- (ii) 80%
- (iii) 90%
- (b) Best quality coffee beans are obtained from _____.
- (i) coffee Arabica
- (ii) coffee Liberia
- (iii) coffee Robusta
- (c) Cocoa beans contain _____ % fat.
- (i) 30% (ii) 55% (iii) 70%

- (d) Antioxidant is present in highest amount in _____ tea.
- (i) green
 - (ii) black
 - (iii) white
- (e) When used tropically on wounds honey produces _____ on dilution with body fluid.
- (i) H_2O_2
 - (ii) CO_2
 - (iii) phenol
- (f) A compact food package _____ is made with oats, barley, wheat, corn nuts, berries honey and milk.
- (i) Spirulina
 - (ii) ginseng
 - (iii) muesli
- (g) In a cereal grain the antioxidants are concentrated in _____ portion.
- (i) bran
 - (ii) germ
 - (iii) endosperm
- (h) Meat of _____ is called chevon.
- (i) horse
 - (ii) deer
 - (iii) goat

- (i) The processes of plunging pig or poultry carcasses into very hot water to facilitate scraping, dehairing and plucking is known as _____.
- (i) lairage
 - (ii) evisceration
 - (iii) scalding
- (j) The molecules which have a binding affinity for water are called _____.
- (i) non polar
 - (ii) hydrophobic
 - (iii) hydrophilic
- (k) Percent equilibrium relative humidity divided by hundred is called _____.
- (i) available water
 - (ii) water activity
 - (iii) equilibrium relative humidity
- (l) Molecular weight of fatty acids in a fat or oil is indicated by determining _____.
- (i) saponification value
 - (ii) iodine value
 - (iii) RM value
- (m) Krischner value is used to determine the _____ fatty acid in the fat.
- (i) butyric acid
 - (ii) oleic acid
 - (iii) linoleic acid

- (n) Cyclamate is used as _____.
(i) firming agent
(ii) flavouring agent
(iii) sweetener
- (o) Annatto colour is obtained from _____ plant.
(i) bixa orellana
(ii) curcumin longa
(iii) capcicum annum
- (p) Betalains are found in _____.
(i) tomato
(ii) beatroot
(iii) papaya
- (q) The water soluble vitamin not associated with co-enzyme activity is _____.
(i) vitamin C
(ii) Vitamin B1
(iii) vitamin B - 12
- (r) The chemical name for vitamin B1 is :
(i) Riboflavin
(ii) Thiamin
(iii) Neacin
- (s) Wine is a _____.
(i) fermented alcohol
(ii) distilled alcohol drink
(iii) liquor

(t) Health food for enhancing the memory is

- (i) honey
- (ii) ginseng
- (iii) brahmi

2. Define the following :

10x2=20

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|--------------------|-------------------|
| (a) Cuisines | (b) Food Security |
| (c) Flaked rice | (d) Caryopsis |
| (e) Ham | (f) Halal meat |
| (g) Evisceration | (h) Rigor Mortis |
| (i) Meat Analogues | (j) Ofal |

3. (a) Write *True* or *False* for the following : 10x1=10

- (i) Rabbi crops are those crops which are shown in rainy or summer season and harvested in winter.
- (ii) Wheat is the number one crop in India with respect to contribution to total cereal grains.
- (iii) Vegetables are the staple food of India.
- (iv) During milling of cereals the germ is removed due to succceptability to oxidation.
- (v) Cereals are deficit in lysine.
- (vi) Pulses are poor in methionine.

(vii) The indigestion and Flatulence caused by consumption of dals is due to raffinose.

(viii) Preparation of roasted and fried dals for snacks and confectionary is known as tertiary processing.

(ix) Oil seeds contain cholesterol in addition to fat and vitamin.

(x) Fat and oil has boiling point lower than water.

(b) Write full form for the following : $10 \times 1 = 10$

(a) NAFED

(b) ASEAN

(c) NPOP

(d) IMFL

(e) HPTLC

(f) ETP

(g) GRAS

(h) FT -IR

(i) CPCB

(j) HDPE

4. (a) What is the technology behind G M foods and what are the risk associated with these ? 10

(b) Enumerate the steps in the processing of black tea. How it is different from green and white tea ? $8+2=10$

5. (a) Define sorption isotherms of water. In how many regions it is divided depending in the state of water present in the food ? Explain these regions. $2+1+2=5$

(b) Define the inversion of sucrose into glucose and fructose. 5

- (c) Differentiate between emulsoids and suspensoids with example. 5
- (d) What are fat constant ? What do you understand by R.M. value and Polenske value ? 1+2+2=5
6. (a) Explain the importance of a sampling plan and what do you understand by probability sampling ? 3+3=6
- (b) Describe the principle of lane-eynon method of estimation of sucrose. 5
- (c) Explain gas chromatography and list the 4 detector used in chromatography. 4
- (d) What is sensory evaluation and sensory panel ? List the types of sensory panel. 5
7. (a) What do you understand by edible packaging ? Give its advantages and materials used. 2+4+4=10
- (b) List the processes used in the pre-treatment primary treatment and secondary treatment used in waste water handling and explain the tricking filters process for secondary treatment. 4+6=10
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