

00292

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

**Term-End Examination**

**December, 2011**

**MFN-008 : PRINCIPLES OF FOOD SCIENCE**

*Time : 2½ hours*

*Maximum Marks : 75*

*Note : Answer four questions in all. Question No.1 is compulsory.*

1. (a) Fill in the blanks : 10
- (i) \_\_\_\_\_ is the name of the substance which cannot be digested in small intestine.
- (ii) Enzymes are termed as \_\_\_\_\_ because they increase the rate of chemical reactions within living cells without themselves suffering an overall change.
- (iii) \_\_\_\_\_ refers to degree of excellence and includes things such as taste appearance and nutritional content.
- (iv) A substance that imparts colour to fruits and vegetable is termed as \_\_\_\_\_ .

- (v) \_\_\_\_\_ process consists of separation of bran and germ from endosperm and reduction of endosperm to fine flow.
- (vi) Semolina is made from endosperm cells of hard durum \_\_\_\_\_.
- (vii) \_\_\_\_\_ is a polysaccharide present in fruits which is used as gelling agent.
- (viii) Development of any off or disagreeable flavours in oil or fat due to enzymatic or oxidative reaction is termed as \_\_\_\_\_.
- (ix) Flavour is a combination of \_\_\_\_\_ and \_\_\_\_\_.
- (x) \_\_\_\_\_ is the process which involves the loss of liquid from gels upon standing.

- (b) Define the following : 5
- (i) Food science      (ii) Hydrocollaids
  - (iii) Shelf - life      (iv) Blanching
  - (v) Minimally Processed Foods.

2. (a) Explain the principle of drying. What are the factors that affect the rate of drying ? 7
- (b) Difference between roller of spray drying. 8
- (c) Enlist a few applications of microwave heating. 5

3. (a) Write a brief note on fermented foods used in India. 8
- (b) What are the functions of moulds in the fermentation of foods ? 7
- (c) What is cryogenic freezing ? List its advantages.. 5
4. (a) Define Product development. List the factors influencing product development. 8
- (b) What is a trained sensory panel ? Name the three ways in which consumer testing can be done. 7
- (c) What are functional food ? Explain giving examples and listing the health benefits of functional food. 5
5. (a) Define texture and name instruments used to assess the texture of different foods by objective means. 7
- (b) How are foams formed ? What are the factors affecting foam formation ? 8
- (c) What is the effect of processing on chlorophyll pigment present in vegetables ? 5

6. Differentiate between (*any four*) the following giving appropriate examples. **5+5+5+5=20**

- (a) Solar drying V/S Mechanical dehydrator
- (b) Maillard reaction V/S Caramelization
- (c) sols V/S gels.
- (d) Water soluble V/S fat soluble vitamins.
- (e) Protein isolates and protein hydrolysates.

7. Write short notes on : (*any 4*) **5+5+5+5=20**

- (a) Concentration as a food processing technique.
  - (b) Thermal processing of food.
  - (c) Modified starches.
  - (d) Properties of colloidal systems.
  - (e) Minerals.
-