

**2017**

**M.Sc. 4th Semester Examination**

**CHEMISTRY**

**PAPER—CEM-404**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

*Answer any five questions.*

1. Write the definition of the following : Skimmed milk, Toned milk, Recombined milk. Low fat milk is fortified with vitamins-why ?

(2×3)+2

2. Write the objective of homogenization of milk. Write the conditions of different milk pasteurisation methods. Write Short note on : alkaline phosphatase test.

2+3+3

*(Turn Over)*

3. Write the merits and demerits of Spray Drying of Milk. What do you mean by sweetened condensed milk? What are the general ingredients used for the preparation of ice-cream?

4+2+2

4. Write the steps of Butter manufacturing? What are the objectives of the following steps: 'churning' in butter making process and 'ripening' in the cheese making process?

4+2×2

5. What is 'PUFA'? Give one example of it. Name two essential fatty acids. Mention the Calorific value of fat. What are 'bad cholesterol' and 'good cholesterol'? Mention two functions of fat in our body.

2+1+1+2+2

6. Write the steps for preparation of refined vegetable oil. What do you mean by 'virgin oil'? Name the solvents used in the solvent extraction process for oil. What are the objectives of the steps 'rendering' and 'bleaching' in oil processing? What is the temperature employed during deodorization step?

2+1+1+1  $\frac{1}{2}$  × 2+1

7. Mention two uses of hydrogenated fat ? What do you mean by 'trans fat' ? What is winterization of oil ? Define the following : Iodine value and Peroxide value.

$$1+2+2+1\frac{1}{2}\times 2$$

8. Write the full form of FSSAI. Mention the difference between jam and jelly. What do you mean by 'weeping of jelly' ? Write the steps of canning process.

$$1+2+2+3$$

9. Name two byproducts of fruit and vegetable industry. What do you mean by MAP ? What is the objective behind 'blanching' ? Differentiate between :

(a) juice and cordial, and

(b) sauce and ketchup.

$$1+2+2+1\frac{1}{2}\times 2$$

10. Mention some byproducts of milling industry. What do you mean parboiling ? Write the difference between 'atta' and 'maida'. What is gluten ? Name two cereals and mention two processed food products made out of each of them.

$$1+2+1\frac{1}{2}+1\frac{1}{2}+2$$

