This question paper contains **3** printed pages]

Roll No.

S. No. of Question Paper : **5845**

Unique Paper Code : **2202033503**

Name of the Paper : **Food Chemistry-I**

Name of the Course : **B.Sc. (Hons.) Food Technology (NEP-UGCF)**

Semester : **V Core**

Duration : **3 Hours** Maximum Marks : **90**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Question No. **1** is compulsory.

Attempt *five* questions in all.

All questions carry equal marks.

1. Explain (why/how ?) : 3×6

   (*a*) Water activity is critical for determining the shelf-life of food products.

   (*b*) Lipolysis has both desirable and undesirable effects in food products.

   (*c*) Bioaccumulation of certain minerals in body is of alarming concern.

   (*d*) Shortening is a processed fat used to provide consistency in baked goods.

   (*e*) Vitamin C is very sensitive to external factors.

P.T.O.

2. (*a*) How do the structure of ice differ with that of water ? 6

(*b*) Explain auto-oxidation of fats/oils. Show the mechanism of auto-oxidation using linoleic acid. 5+7

3. (*a*) Enolization of sugar enhances their reducing power many-folds. 7

(*b*) Define functional properties of proteins. 5

(*c*) Explain surfactant properties of proteins. 6

4. (*a*) Explain the phenomenon of starch gelatinization and retrogradation. 5+5

(*b*) Estimation of saponification value of any oil indicates the molecular weight of fatty acids present in it. 8

5. Make the structures of the following : 6×3

(*a*) Diglyceride

(*b*) Soap

(*c*) Vitamin D2

(*d*) Cellobiose and cellulose

(*e*) Propyl gallate

(*f*) Galactouronic acid

6. (*a*) Describe the minor elements of food products. 8

(*b*) What are fat replacers ? 5

(*c*) Explain how electrophoresis helps in determination of molecular weight of proteins. 5

7. Write short notes on (any *three*) : 3×6

(*a*) BET monolayer value

(*b*) Polymorphism

(*c*) Interesterification

(*d*) Modified starches

(*e*) Caramelization.