

Exam. Code : 103205
Subject Code : 1356

B.A./B.Sc. 5th Semester
FOOD SCIENCE & QUALITY CONTROL
(FSQC-9 : FOOD ANALYSIS)

Time Allowed—3 Hours] [Maximum Marks—75

Note :—All questions carry equal marks. Attempt any **five** questions with at least **one** from each section and not more than **two** from any section.

SECTION—A

1. (i) Write a short note on polarimetry. 6
- (ii) A sampling plan should contain precise details on each of the following :
 - (a) the sample size
 - (b) the sample location
 - (c) the sample collection.Briefly define each of these. 5
- (iii) Discuss Gerber method for analysis of milk fat. 4
2. (i) Name a laboratory scale colour measuring instrument. Explain how it measures colour. 5
- (ii) How do we measure the specific gravity of milk ? Discuss its importance. 5
- (iii) How do you determine adequacy of pasteurization of milk ? 5

3. (i) Write a note on non-destructive quality testing of food. 7
- (ii) Discuss the internal and external parameters to measure egg quality ? 8

SECTION—B

1. (i) What do you understand by rheology ? What is its application in food quality measurement ? 5
- (ii) What do you understand by Newtonian and non-Newtonian liquid foods ? Explain with the help of suitable examples. 4
- (iii) Write a descriptive note on the comparison of instrumental results and sensory results of the quality. 6
2. Name and explain the basic principle and procedures used to determine protein, ash, fat and moisture content in food. 15
3. (i) On what factors, the quality of meat depends ? Describe one instrument to measure the texture of meat. 5
- (ii) How will you determine rheological properties of bakery products ? 5
- (iii) Define the following terms :
- (a) Viscosity (b) Thixotropy (c) Pseudoplastics
(d) Shear stress (e) Shear rate. 5

SECTION—C

1. Enlist water-soluble and fat-soluble vitamins and discuss their role in nutrition. 15
2. (i) Give the classification of lipids with examples. 6
(ii) What are trans fats ? How do they influence human health ? 3
(iii) Discuss the pathologic effects of protein malnutrition in children. 3
(iv) Define calorific value and explain why the calorific value of fats is higher than that of glucose. 3
3. (i) Discuss the nutritional classification of protein. 8
(ii) Discuss in detail the two secondary structures of protein. 7