[Time: 2 ½ Hours] [ Marks : 60]

Please check whether you have got the right question paper.

N.B: 1. All Questions are compulsory.
2. Use of log tables/ Non programmable - calculator permitted.
3. Figures to right indicate full marks.

1. (a) Attempt any two of the following. 8
   i. Explain the physiological significance of Iodine and Sodium in human diet.
   ii. Describe the mechanism of blood clotting.
   iii. Explain the principle for estimation of glucose in blood. Add a note on the physiological significance of it.
   iv. Explain the method for microbiological assay of vitamins.

   (b) Answer any one of the following 4
   i. Give a method for the analysis of Cholesterol in serum.
   ii. Name the abnormal constituents of urine. How does it help in diagnosis of disease?

2. (a) Attempt any two of the following. 8
   i. Explain the term Antigen and antibody. Give the importance of antigen antibody interactions.
   ii. Discuss the method for quantitative estimation of Enzymes.
   iii. What are carbohydrates? How are they classified?
   iv. Write a note on the principle and technique of RIA.

   (b) Answer any one of the following. 4
   i. Describe the analytical method for estimation of proteins.
   ii. Give the principle and applications of fluoroimmuno assay.

3. (a) Attempt any two of the following. 8
   i. Write a note on Bomb calorimeter.
   ii. What are chemical preservatives? Give any four examples and uses.
   iii. Explain the term Food processing.
   iv. Write a note on Industrial wastes as Food Contaminants.

   (b) Answer any one of the following. 4
   i. Describe the analytical method for Detection of added Flavouring agents in food.
   ii. Write a note on Emulsifiers.
4. (a) Attempt **any two** of the following.
   i. How is fat content of milk determined?
   ii. What Acid Value of an oil? How is it estimated?
   iii. Write a note on Volatile oils on spices.
   iv. Describe the packaging material used for butter and cookies

(b) Answer **any one** of the following.
   i. Describe the method for estimation of acid content of milk.
   ii. Explain the parameters for analysis of cinnamon.

5. Solve **any four** of the following.
   a) Name the vitamins of B complex Give the function of any two of them.
   b) Give the method for estimation of serum uric acid.
   c) Describe the method for estimation of lipids.
   d) Write a note on Immune reactions.
   e) What are Fortifying agents? Give examples and significance of same.
   f) How can Trace metals be identified from food samples?
   g) Explain the advantages and disadvantages of plastic as a packaging material.
   h) Describe the quality requirements for meat and meat products