

Duration: 2^{1/2} Hour

Max Marks: 60

N.B: 1. All question carry equal marks.

2. Figures to the right indicate full marks.

3. Use of non-programmable calculator is allowed.

Q.1 A. Attempt any TWO of the following: (08)

- i.** What is uric acid? Write a note on determine uric acid in blood.
- ii.** Name the abnormal constituent of urine and comment on anyone abnormal constituent with reference to diagnosis of disease?
- iii.** Write a note on estimation of bilirubin in urine sample.
- iv.** Describe any one method for estimation of vitamin C.

B. Attempt any ONE of the following: (04)

- i.** Write a note on microbiological assay of vitamins.
- ii.** Discuss the role of Iron and Phosphorus in human diet.

Q.2 A. Attempt any TWO of the following: (08)

- i.** Give the classification of antibodies.
- ii.** Write a note on advantages and disadvantages radioimmunoassay.
- iii.** What are carbohydrates? Give any one method of estimation of carbohydrates.
- iv.** What are amino acids? Give its classification.

B. Attempt any ONE of the following: (04)

- i.** What is ELISA? Write a note on its types.
- ii.** What are Enzymes? Explain the biological significance of enzyme.

Q.3 A. Attempt any TWO of the following: (08)

- i.** Explain the construction and working of Bomb Calorimeter.
- ii.** Explain the use of any two chemical preservatives.
- iii.** What are food contaminants? Explain the types of food contaminants.
- iv.** How is melamine contamination detected?

B. Attempt any ONE of the following: (04)

- i.** Write a note on: toxic trace metal residues in food.
- ii.** What are fortifying agents? Give examples.

- Q.4 A.** Attempt **any TWO** of the following: **(08)**
- i.** Give advantages and disadvantages of biodegradable packaging material.
 - ii.** Explain processing of vegetables and fruits.
 - iii.** Write a note on adulterants in the milk.
 - iv.** 0.95 g of oil sample requires 16.3 ml of 0.006N KOH. If blank reading is 11.3 ml of 0.006N KOH. Calculate the acid value oil. (Molecular weight of KOH =56.1)

- B** Attempt **any ONE** of the following: **(04)**
- i.** What is rancidity? How will you determine the rancidity of oil ?
 - ii.** What are essential oils in cinnamon? Write a note on estimation of cinnamaldehyde in cinnamon.

- Q.5** Attempt **any FOUR** of the following: **(12)**
- a.** What are the functions of vitamin K in human physiology?
 - b.** Explain the Biuret method for estimation of protein.
 - c.** Explain active and passive immunity and give its significance
 - d.** With the help of proper example explain epitope and paratope.
 - e.** Describe the determination of Chloramphenicol.
 - f.** Explain benzoic acid as chemical preservative.
 - g.** How is fat content in the milk are estimated?
 - h.** How will you determine iodine value of fat?
