

Q.P. Code : 26651

[Time: 2½ 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.

**Q. 1** a) Attempt **any two** of the following (08)

- i. Give a method for the analysis of Bile pigments in serum.
- ii. Describe the different types of leucocytes with a special emphasis on their role.
- iii. How is Cholesterol in blood serum estimated?
- iv. Explain "Analysis of urine is useful in diagnosis of some diseases".

b) Give the physiological role of sodium and potassium in human diet. (04)

OR

b) Explain the method for microbiological assay of Cyanocobalamine. (04)

**Q. 2** a) Attempt **any two** of the following. (08)

- i. Explain the terms antigen and antibody. Add a note on the significance of it.
- ii. Discuss the method for quantitative estimation of lipids.
- iii. What are carbohydrates? How are they classified?
- iv. Describe the radio-immune assay technique.

b) Describe the analytical method for estimation of proteins. (04)

OR

b) Write a note on the principle and applications of ELISA. (04)

**Q. 3** a) Attempt **any two** of the following (08)

- i. Discuss the use of Bomb's Calorimeter in Food Analysis.
- ii. What is Pasteurization? Discuss its significance.
- iii. Explain the term Food processing. Compare and contrast processing and preservation.
- iv. How do FSSAI and AGMARK control the food standards in India?

b) Write a note on Packaging of oils. (04)

OR

b) List the factors which cause food deterioration. Explain any one factor in detail. (04)

**Q. 4** a) Attempt **any two** of the following. (08)

- i. Give composition of milk. How is iron in milk estimated?
- ii. What is Iodine value of an oil? Give its significance.
- iii. Describe the estimation of caffeine in coffee.
- iv. How will you analyze pesticide residue from food sample?

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- b) 10.945 gm of honey sample was dissolved in warm water and the solution was diluted to 250 cm<sup>3</sup> with distilled water. To 10.0 cm<sup>3</sup> of this solution, 25.0 cm<sup>3</sup> of 0.1 N I<sub>2</sub> solution was added and titrated against 0.11 N Na<sub>2</sub> S<sub>2</sub>O<sub>3</sub>. Titre value obtained was 11.7 cm<sup>3</sup>. 25.0 cm<sup>3</sup> of 0.1 N I<sub>2</sub> solution required. 24.7 cm<sup>3</sup> of 0.11 N Na<sub>2</sub> S<sub>2</sub>O<sub>3</sub>. Calculate the percentage of glucose in honey sample (Mol. Wt. of glucose = 180). (04)

OR

- b) Give the constituents of wheat flour. How gluten in wheat flour estimated? (04)

**Q. 5** Solve **any four** of the following. (12)

- Name the fat soluble vitamins. Give the function of vitamin C in human physiology.
- Give the method for estimation of uric acid.
- Describe the spectrophotometric method for estimation of enzymes.
- Explain active and passive immunity with help of proper examples.
- Write a note on chemical preservatives with special reference to their mode of action.
- Give the advantages and disadvantages of plastic as packaging material.
- Describe the method for estimation tannin in tea.
- How is colouring matter from jam estimated?

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