Q.P. Code :05435

[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 non programable calculator is allowed.
         3.   Figures to **right** indicate **full marks**.

Q.1.   **A)** Attempt **any two** of the following :-   08

   I.   Give the physiological significance of any two water soluble vitamins.

   II.   Explain the principle and procedure for estimation of blood glucose.

   III. What is the dietary significance of iron and calcium?

   IV.   Discuss the role of platelets and RBCs in blood with respect to human physiology.

B) How are bile pigments estimated in serum? What is the need of it?   04

                                    OR

B) "Composition of Body fluids is instrumental in diagnosis of diseases"-Justify.   04

Q.2.   **A)** Attempt **any two** of the following :-   08

   I.   What is ELISA? Add a note on principle and applications of it.

   II.   Explain the terms, 'Antigen and Antibody'. Give the importance of antibodies.

   III. What are the sources of proteins? Explain the role of proteins for body building.

   IV.   How is blood group determination done? Explain the significance of ABO grouping.

B) Explain Radioimmuno assay with special emphasis on the principle and significance.   04

       OR

B) What are carbohydrates? How are they classified?   04

Q.3.   **A)** Attempt **any two** of the following :-   08

   I.   Explain the use of Bomb's calorimeter in determination of fuel value of food.

   II.   Give the importance of food legislation with reference to FDA.

   III. What is food processing? Describe it's need.

   IV.   Discuss the types of packaging materials used for butter and fruit juice.

B) Explain the process of canning with emphasis on its significance.   04

          OR

B) What are chemical preservatives? Explain any two examples.   04

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Q.4. **A)** Attempt **any two** of the following :- 08

    I.   Describe the method for estimation of iron content of milk.

    II.   How is tannin in tea estimated?

    III. Write a note on analysis of colouring matter in food.

    IV. List the trance elements found in canned foods. Describe the sample preparation for the estimation of them.

B) What is iodine value? How is it estimated? 04

              OR

B) Give the composition of wheat flour. Describe the estimation of fat content in wheat flour. 04

Q.5.   Attempt **any four** of the following : 12

    I.   Explain the terms : Serum, Plasma.

    II.   Describe the method for estimation of cholesterol in blood sample.

    III. Explain the mechanism of antigen antibody interaction.

    IV. Write a note on immunoelectrophoresis.

    V.   Discuss the principle and significance of Pasteurization.

    VI. What are properties of ideal packaging material?

    VII. Describe the method for estimation of benzoic acid in food.

    VIII. Write a note on detection of pesticide residues in food.

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