

PG CBCS
M.Sc. Semester-I Examination, 2023
NUTRITION AND DIETETICS
PAPER: NUD 102

(BIOPHYSICAL AND BIOCHEMICAL ASPECT OF NUTRITION)

Full Marks: 40

Time: 2 Hours

Write the answer for each unit in separate Answer Sheet

The figures in the right-hand margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

UNIT-3

BIOPHYSICAL ASPECT OF NUTRITION

GROUP-A

Answer any TWO questions from the following: 2×2 = 4

1. Define Thermodynamic equilibrium.
2. State the Henderson Hassel Balch Equation to estimate the pH of a buffer solution.
3. What is centrifugal force?
4. Write two applications of HPLC.

GROUP-B

Answer any TWO questions from the following: 4×2 = 8

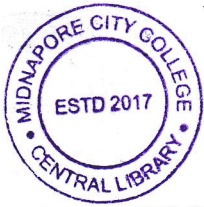
5. Make a note on density gradient centrifugation with an example.
6. What is 'R_f' value in a TLC? State the importance of isoelectric focusing. 2+2
7. Write a brief note on Entropy and Enthalpy. 2+2
8. Write a brief note on Gibb's free energy.

GROUP-C

Answer any ONE question from the following: 8×1 = 8

9. What is thermodynamic system? Discuss the different the different types of the thermodynamic system. What do you mean by Zeroth law of thermodynamics? 2+4+2
10. Discuss the principle of electrophoretic separation protein. Write the advantages of cold centrifuge. Write the comparison between GLC and HPLC. 3+2+3

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UNIT - 4

BIOCHEMICAL ASPECT OF NUTRITION

GROUP-A

Answer any **TWO** questions from the following: **2×2 = 4**

1. Which types of carbohydrate consider as prebiotics with example.
2. Differentiate between phospholipids and proteolipids.
3. Differences between DNA and RNA.
4. How much and why proteins are required in our daily diet?

GROUP-B

Answer any **TWO** questions from the following: **4×2 = 8**

5. Describe mucopolysaccharides with examples and its physiological functions.
6. Write the classification and functions of proteins.
7. State the different types of fatty acids and with their importances in diet.
8. State two 'Inherited disorder' of purine and pyrimidine metabolism with example.

GROUP-C

Answer any **ONE** question from the following: **8×1 = 8**

9. Describe the difference structure of protein and write physiological functions of phospholipids and lipoproteins. 4+2+2
10. Write the compositions and physiological importance of bile. State about the physiological importance's of carbohydrates. 4+4
