

- Note:** 1. Figures to right indicate marks.
2. All questions are compulsory.
3. Draw appropriately labeled diagrams wherever necessary.

Q I) A. Answer the following (any Four)

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|---|------------------------------|-----|
| i. Give any 2 plant sources of lipids. | v. Define sphingolipid | [8] |
| ii. Give any 2 examples of saturated fatty acids. | vi. Define glycoproteins. | |
| iii. Give 2 examples of sterols. | vii. Define Waxes. | |
| iv. Give the molecular formula of cis-9-octadecanoic acid | viii. Define polymerization. | |

B. Explain the following terms: (any Two)

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|---------------|--------------------------|-----|
| i. Rancidity | iii. Glycosphingolipids. | [6] |
| ii. Lecithin. | iv. Triacylglycerols. | |

C. Answer in brief : (any One)

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|---|-----|
| i. Differentiate between saturated and unsaturated fatty acids. | [6] |
| ii. Write a detailed note on sphingolipids. | |

Q II) A. Define the following (any Four)

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|---|-----|
| i. Draw the conversion of Lactam form to Lactim form. | [8] |
| ii. Define Tm of DNA. | |
| iii. Define Hypocorism | |
| iv. Give the functions of t-RNA | |
| v. Draw the structure of the nucleoside of Thymine. | |
| vi. Explain the function of UDP. | |
| vii. Draw the structure of cytosine. | |
| viii. Give the abbreviations of a ribonucleoside 5-phosphate and deoxyribonucleoside 5-phosphate. | |

B. Explain the following terms: (any Two)

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|---|-----|
| i. Explain the detailed structure of clover model of t-RNA | [6] |
| ii. Hypocorism and hypercorism. | |
| iii. How does RNA plays an important role in protein synthesis? | |
| iv. Explain the function of Hypoxanthine. | |

C. Answer in brief : (any One)

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| i. Explain the denaturation of DNA and mention the factors affecting the stability of DNA. | [6] |
| ii. Explain the structure of a DNA. | |

Q III) A. Answer the following questions: (any four)

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|--|---------------------------------------|-----|
| i. What are basic food groups? | vi. Give advantages of carbohydrates. | [8] |
| ii. What is SDA? | vii. Define BMR | |
| iii. Define essential nutrients. | viii. What is significance of SDA? | |
| iv. Explain malnutrition. | | |
| v. Calculate energy required for basal metabolism for an adult man, 20 yrs old, weight 55kg, Height 150cm. | | |

B. Answer the following questions in brief: (Any two)

- Explain Recommended daily allowance.
- Explain importance of lipids in diet.
- How is the BMR calculated?
- Explain - "Water is a Major constituent of balanced diet."

C. Answer the following questions in detail (any one)

- Write a brief note on nutritional significance of Minerals and proteins.
- Explain - "Balanced diet"

Q IV] 1.(A) Give example of one the following

- MUFA.
- 14-carbon unsaturated fatty acid.

1. (B) Name the following: (any Three)

- Lipid containing 10-carbon atoms.
- Number of carbon atoms in Enolic acid.
- Saturated lipid containing 16-Carbon atoms
- Sphingolipid
- Structural lipid.
- Function of lipid

2.(A.) Answer the following : (Any One)

- Draw the structure of a 2'- deoxyadenosine.
- Draw the structure of a nucleotide and a nucleoside.

2.(B.) Fill up the blanks : (Any Three)

- Abbreviation of PCR.
- Abbreviation of ATP, ADP and AMP.
- Name the scientist who stated that DNA is a triple stranded.
- What did Erwin Chargaff study to state his principles?
- Name the simple technique used in the detection of RNA.
- Name two biologically important bases.

3.(A.) Define : (Any One)

- Nutrition.

3.(B.) Answer the following : (Any Three)

- Give the calorific value of Proteins.
- Name any essential nutrient.
- Name any micro nutrient
- Calorie.
- Name any water soluble vitamin
- Give the RDA of carbohydrates.
- Name any macro nutrient.

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