

- All questions are compulsory.
- All questions carry equal marks.
- Draw diagram wherever necessary

Q. I) A) Answer the following in short (any two)

(4M)

1. Give the occurrence of cholesterol.
2. What are steroids?
3. What is acid number?
4. What are antioxidants?

B) Answer the following in brief (any two)

(6M)

1. What is saponification number?
2. Give the function of cholesterol.
3. What is iodine number?
4. What are simple and mixed triacylglycerols?

C) Explain about the nomenclature for fatty acids.

(5M)

OR

C) What are triacylglycerols? What the properties of triacylglycerols?

(5M)

Q. II) A) Answer the following in short (any two)

(4M)

1. What are nucleotides made of?
2. Give the structure of any purine.
3. What is a nucleic acid?
4. What is renaturation of DNA?

(6M)

B) Answer the following in brief (any two)

1. Write a note on DNA.
2. Explain the function of nucleic acids.
3. Give the clover leaf model of t-RNA.
4. Write a note on sugars in nucleic acids.

(5M)

C) Explain different types of RNA.

OR

(5M)

C) Explain the structure of DNA.

(4M)

Q. III) A) Answer the following in short (any two)

- 1) What is the SDA of mixed diet?
- 2) What is basal metabolic index?
- 3) What is the importance of non-digestible carbohydrates?
- 4) Write the names of essential fatty acid.

(6M)

B) Answer the following in brief (any two)

- 1) Write down the function of protein.
- 2) What is the significance of BMR?
- 3) What is the energy requirement for light work, moderate work and heavy work?
- 4) Write any 3 biochemical function of calcium.

(5M)

C) Explain the caloric value of food determined by bomb calorimeter.

(5M)

OR

C) Describe the biochemical function of water and pyridoxine.

Contd./...2



Q. IV) A) 1) Explain the following in short (any one)

i) Saponification

ii) Glycolipids

Q. IV) A) 2) State whether true or false (any three)

- \_\_\_\_\_ are concentrated fuel reserve of the body.
- \_\_\_\_\_ is the term used to represent the deterioration of fats and oils.
- Compound lipids containing phosphoric acid, in addition to fatty acids, nitrogenous base and alcohol are called as \_\_\_\_\_.
- \_\_\_\_\_ are compounds containing a cyclic steroid nucleus namely cyclopentanoperhydrophenanthrene.
- \_\_\_\_\_ are molecular complexes of lipids and proteins.
- \_\_\_\_\_ is a lipid with steroid nucleus and is exclusively found in animals.

Q. IV) B) 1) Explain the following in short (any one)

i) Effect of heat on DNA

ii) Chargaff's rule of DNA composition.

Q. IV) B) 2) State whether true or false (any three)

- Nucleotides are composed of only pentose sugar and a phosphate group.
- Guanine is a purine.
- The full form of m-RNA is messenger RNA.
- The two strands of DNA are parallel to each other.
- RNA follows Chargaff's rule.
- r-RNA has a clover leaf model.

Q. IV) C) 1) Answer the following in short (any one)

- Define calorie.
- What is the respiratory quotient of protein?

Q. IV) C) 2) State whether true or false (any three)

- Unit of BMR is \_\_\_\_\_.
- Heat required to raise the temperature of 1 g of water by 1°C is \_\_\_\_\_.
- 1 cal = \_\_\_\_\_ kJ.
- Energy value of carbohydrate is \_\_\_\_\_.
- SDA of protein is \_\_\_\_\_.
- Gain in body wt/protein digested = \_\_\_\_\_.