2023

MEDICAL LABORATORY TECHNICIAN/ MEDICAL LAB AND MOLECULAR DIAGNOSTIC TECHNOLOGY

QP : Medical Laboratory Technician

Paper : MLT/MDT-VC-3026

(Biochemistry—III)

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Fill in the blanks : 1×7=7

(a) Plasma membrane is made up of lipids and _____.

(b) _____ is one of the weakest bond in protein structure.

(c) Hydrolytic rancidity of fat is due to the production of _____.

(d) _____ amino acids cannot perform isomerization reaction.

(e) Oxidation of palmitic acid involves 7 rounds of β-oxidation and yields _____ molecules of acetyl-CoA.

(f) Arachidonic acid contains _____ number of double bonds.

(g) Iodine number indicates the degree of _____ in a fatty acid.

2. Answer the following questions : 2×4=8

(a) What do you mean by specific dynamic action?

(b) Mention the essential fatty acids.

(c) What do you mean by glycogenic and ketogenic amino acid?

(d) Draw the general structure of amino acids.

3. Answer any *three* of the following questions : 5×3=15

(a) Give an account of cholesterol and its related compounds.

(b) Define rancidity. Enlist the tests used to check the purity of oils and fats. What are the causes of rancidity? 1+2+2

(c) Explain blood as buffers.

(d) What are domains? Write a note on β meander motif. 1+4

(e) What do you mean by PUFA? Write its importance. 1+4

4. Answer the following questions : 10×3=30

(a) Write a note on urea cycle. How is it related with TCA cycle? 7+3

OR

Mention the factors that affect the BMR. Mention the importance of fibres in nutrition. 6+4

(b) Write down the physical and chemical properties of amino acids. 4+6

OR

Give an account on β-oxidation of fatty acids and give the energetics on oxidation of one molecule of palmitic acid.

(c) Describe in detail the various levels of organization of protein structure, its types and elucidation of structure of the different levels of organization.

OR

What are transaminases? Explain in details about transamination and deamination of amino acid. 2+8

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