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(20622) Roll N

B.Sc.(Bio-Tech.)-II Sem.

NS-3465(N)

B.Sc. (Bio-Tech.) Examination, June - 2022

Bioenergetics and Bio-Membranes

(Code No. B-202)

(New)

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt any **five** questions. **All** the questions carry equal marks.

1. Giving the suitable diagrams, explain the structure and function of plasma membrane. 10

2. Explain the different steps of TCA Cycle. Also explain that O_2 is not involved in any step of TCA cycle yet the cycle is aerobic. 10

3. Write detailed note on: 5 each

   (a) High energy compounds

   (b) Lactic acid and alcoholic fermentation

4. Discuss in detail the fluid mosaic model of membrane structure giving suitable diagrams. 10

5. Write short notes on the following: 2½ each

   (a) Urea cycle

   (b) Ketone bodies

   (c) Oxidation-reduction reaction

   (d) Transamination

6. Write in detail the β-oxidation of fatty acids. Also write the energetics of lipids. 10

7. Explain the following: 2½ each

   (a) Cell-cell Communications

(b) Differences in oxidative phosphorylation and substrate level phosphorylation.

(c) Freeze-fracture technique

(d) Deamination.

8. Explain in detail the glycolysis pathway and its regulatory mechanism. 10

9. Write detailed note on the following: 5 each

(a) Role of folic acid in amino acid metabolism

(b) ATP-driven active transport

10. Explain the following: 3+4+3

(a) Free energy, enthalpy and entropy

(b) Electron carriers in mitochondrial respiration.

(c) Gap junctions and its significance