

JR-3663

M. Sc. (Second Semester) Examination, June 2022

BIOTECHNOLOGY

Paper : Third

(Biomolecules and Metabolism)

Time Allowed : Three hours

Maximum Marks : 40

Note : Attempt questions of all two sections as directed. Distribution of marks is given with sections.

Section-A

(Short Answer Type Questions) 5×3=15

Note : Attempt all five questions. One question from unit is compulsory. Each question carries 03 marks. Answer should not exceed the limit of 100 words. Give diagram wherever necessary.

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Unit-I

1. What do you understand by Ultracentrifuge?

Or

Explain turns and loops

Unit-II

2. Explain fractionation

Or

Explain solvage of purine.

Unit-III

3. Explain DNA damage.

Or

Describe mismatch repair.

Unit-IV

4. Explain oxidative phosphorylation.

Or

Write a note on electron transport system

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Unit-V

5. Explain lipid bilayer fluidity

Or

Write a note on liposomes

Section-B

(Long Answer Type Questions) 5×5=25

Note : Attempt all five questions. One question from unit is compulsory. Each question carries 5 marks. Answer should not exceed the limit of 800 words. Give diagram wherever necessary.

Unit-I

6. Explain electrophoretic separation of proteins

Or

Write the principle of chromatography. Explain the chromatographic separation of protein.

Unit-II

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7. Describe the process of pyrimidine de-oxy-ribonucleotides.

Or

Describe the biosynthesis of purine ribonucleotides.

Unit-III

8. Explain DNA synthesis in detail.

Or

Explain the importance of transcription factors in gene expression.

Unit-IV

9. Describe tricarboxylic acid cycle (TAC) in detail.

Or

Explain pathways of beta oxidation of fatty acids.

Unit-V

10. Describe passive mediated transport through membrane.

Or

Give an account of integral membrane protein and lipid-linked membranes.

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