



RAN-2503001302021111 / 2503000502021111
B.Sc. Biotechnology (NEP) (Sem. II) Examination April - 2026
BT-NJ-202 : Biomolecules (Major)

Time: 1.30 Hours]

[Total Marks: 38

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book. (2) Figures to the right indicate full marks. (3) Draw neat and labelled diagrams wherever necessary.	Seat No.: <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> </table> Student's Signature						

Q. 1 Answer in Short (Any Eight). (08)

- a) Define epimers with an example and draw their structure.
- b) Differentiate between reducing and non-reducing sugars with examples
- c) List four essential amino acids required by the human body.
- d) Define salting in and salting out in protein chemistry.
- e) What are complex lipids? Provide examples.
- f) Give two examples of essential lipids.
- g) Mention the function and site of hyaluronic acid in biological systems.
- h) Define ketogenic and glycogenic amino acids and provide examples,
- i) Define RNAi with its application.

Q. 2 Short note: (Any Two). (10)

- a) Discuss in detail about heteropolysaccharide with its function.
- b) Draw a labelled structure of B-DNA and explain its key features.
- c) Give details of different types of RNA with its significance.

Q. 3 Short note: (Any Two). (10)

- a) Discuss the biological role of protein.
- b) Describe the properties of protein.
- c) Justify the structural and dynamic functions of proteins in biological processes.

Q. 4 Short note: (Any Two). (10)

- a) Elaborate on classification of lipids.
- b) Discuss the physical properties of lipids
- c) Mention the biological importance of lipids.