



RAN-2503001302011111/2503000502011111

B.Sc. Biotechnology (NCF-NEP) (Sem.-II) Examination April - 2026

BT-MJ-201: Biochemistry of Water (Paper-III)

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 border="1"> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> Student's Signature						

- Q.1. Attempt the following questions (Any Eight) 08**
1. Mention requirements for forming hydrogen bond.
 2. Determine difference between hydrophobic and hydrophilic interaction.
 3. State the meaning of chirality.
 4. Define role of enzyme in biological system.
 5. Differentiate between weak acid and strong acid.
 6. Mention product of ionization.
 7. Quote the formula of Henderson Hasselbalch equation.
 8. Enlist any two emergent properties of water.
 9. Justify: Water is a polar molecule.
- Q.2. Attempt the following questions (Any Two) 10**
1. Explain the scope and significance of Water Biochemistry.
 2. Describe the major landmarks in the evolution of life on Earth.
 3. Discuss the biological significance of weak interactions.
- Q.3. Explain in detail (Any Two) 10**
1. Write a note on water ionization and its importance in biological systems.
 2. Explain how buffer systems resist changes in pH when small amounts of acid or base are added.
 3. Justify: Weak acids and weak bases are important for biological systems.
- Q.4. Explain in detail (Any Two) 10**
1. List the properties of water that make it suitable for life.
 2. Describe the term 'fitness of the aqueous environment' in relation to living organisms.
 3. Explain the role of water in temperature regulation of living organisms.