



RAN - 2503001302011111

**RAN-2503001302011111 / 2403001302010001**

**B. Sc. Biotechnology (NCF-NEP) (Sem. - II) Examination April - 2025**

**BT-MJ-201 : Biochemistry of Water**

**Time: 1:30 Hours ]**

**[ Total Marks: 38**

**સૂચના : / Instructions**

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.  
**Fill up strictly the details of signs on your answer book**

Name of the Examination:

**B. Sc. Biotechnology (NCF-NEP) (Sem. - II)**

Name of the Subject :

**BT-MJ-201 : Biochemistry of Water**

Subject Code No.: **2503001302011111 / 2403001302010001**

Seat No.:

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Student's Signature

- (2) Figures to the right indicate full marks.  
(3) Draw neat and labelled diagrams wherever necessary.

**Q. 1. Attempt the following questions (Any Eight)**

**08**

- Define the value of the bond angle between oxygen and hydrogen in water.
- List any four important characteristics of water.
- Identify the weakest and most universal type of interaction?
- Quote the formula of pH.
- Enlist any two names of weak acids.
- State the meaning of Kw.
- Recognise why water is a polar molecule.
- Label the term cohesion in relation to water.
- Mention the pH range for acid solutions.

**Q. 2. Attempt the following questions (Any Two)**

**10**

- Explain the significance of water in the context of biochemistry
- Determine how key events in the evolution of life influenced the development of complex biochemical systems.
- Generate a hypothesis on how changes in water availability might affect biochemical processes in living organisms.

RAN-2503001302011111 / 2403001302010001 ] [ 1 ]

[ P.T.O. ]

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**Q. 3. Explain in detail (Any Two) 10**

- a. Justify why water ionization is essential for maintaining pH balance in biological systems.
- b. Explain effect of temperature on ionization of water.
- c. Describe the autoionization of water and its equilibrium expression.

**Q. 4. Explain in detail (Any Two) 10**

- a. Justify: Water is the medium of life.
  - b. Discuss unusual properties of water.
  - c. Justify: Water can be act as an acid as well as base.
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