


RAN-2003001105020003

B.Sc. Biotechnology (Sem. -V) Examination October - 2025
Introduction To Nanobiotechnology (OLD)

Time: 2 Hours]
[Total Marks: 50
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.:

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Student's Signature

Q.1. Define/Answer in short Any Four:
(8)

- (a) What is DNA scissor?
- (b) What is Top down approach for synthesis of nanoparticles.
- (c) State and explain in short any two properties of Nanomaterials.
- (d) What is Dendrimers? State its application.
- (e) What are G-Quadruplexes?

Q.2. Attempt Any Two:
(14)

- (a) Explain process of Drug binding on nanoparticles.
- (b) State and explain the forces and laws that do not apply to nanoparticles
- (c) Write a note on Nanolithography.

Q.3. Explain in detail Any Two:
(14)

- (a) "DNA is a Nanostructure" Justify the statement.
- (b) What is photocatalysis? Justify the use of nanoparticles as photocatalyst.
- (c) How to use nanoparticles in food harvesting and tissue engineering.

Q.4. Attempt Any Two of the following:
(14)

- (a) Write a note on structure and application of Liposomes.
- (b) Describe structure and application of DNA Tweezers and DNA actuators
- (c) What is the role of CNT in Pollution Control?