2003001105020003
EXAMINATION OCTOBER 2024
BACHELOR OF SCIENCE (FIFTH SEMESTER)
BT-13 INTRODUCTION TO NANOBIOTECHNOLOGY - LEVEL 2

[Time: As Per Schedule] **[Max. Marks: 50]**

Instructions:
1. Fill up strictly the following details on your answer book
   a. Name of the Examination: **BACHELOR OF SCIENCE (FIFTH SEMESTER)**
   b. Name of the Subject: **BT-13 INTRODUCTION TO NANOBIOTECHNOLOGY - LEVEL 2**
   c. Subject Code No: **2003001105020003**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

Student's Signature

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

(a) What is DX, and DX+J?
(b) What are Dendrimers?
(c) Define Bionanotechnology and its applications.
(d) What is SPR?
(e) What is CVD?

Q.2 Attempt Any Two: **14**

(a) Explain any two size dependent properties of nanomaterials.
(b) Write in details any two physical methods for synthesis of nanoparticles.
(c) What are carbon nanotubes? Explain its structure, properties, application and limitations

Q.3 Explain in detail Any Two: **14**

(a) What are the obstacles in synthesis of biomachines? and explain the effects of miniaturisation.
(b) Explain ball milling and spray pyrolysis technique for nanoparticle synthesis
(c) Write a note on DNA Tweezers and DNA actuators.

Q.4 Attempt Any Two of the following: **14**

(a) State the usage of nanobiotechnology in gene and drug delivery systems.
(b) Explain with example: VLP motors.
(c) How Nanobiotechnology can be used for photocatalysis of pollutants?

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