A (Printed Pages 3)

(20622) Roll No. .....

B.Sc. (Bio.Tech.)-III Yr.

NS-3476

B.Sc. (Bio-technology)

Examination, June-2022

NANOBIOTECHNOLOGY

(B-304)

(B.Sc. Biotech.)

Time : Three Hours] *[Maximum Marks : 75*

Note : Attempt any five questions. All questions carry equal marks.

1. What is bottom up and top down approach. Explain any three top down approaches of nanofabrication. 15

2. Discuss the basic principle and fabrication of AFM and STM. 15

P.T.O.

3. Write short notes on the following:

   (a) Advances in nanobiotechnology 5

   (b) Nano sensors 5

   (c) Carbon fullerenes 5

4. (a) Explain the biological synthesis of nano particles. 7½

   (b) Define lithography. 7½

5. What does the prefix 'nano' in the word nanotechnology indicate? Differentiate between nanotechnology and nanobio-technology. Mention in brief the scope of nanobiotechnology in modern life.

   2+3+10=15

6. Write short notes on:

   (a) Nano medicines 5

   (b) Nano wires 5

   (c) Nano robots 5

7. (a) What is nano biosensors? Explain how nano structures are useful as effective biosensors. 10

(b) Explain the use of nano structure is drug delivery. 5

8. Write short notes on:

(a) Role of nano technology in cardio-vascular diseases. 7½

(b) Viruses as nano particles 7½

9. What is quantum dots? How they can synthesize? Discuss in details roles of quantum dots. 2+8+5=15

10. (a) Nano particles based immobilization assays 8

(b) Immuno nano technology 7