

(20518)

Roll No.

(2)

B. Sc.(Biotech.)-III Year

NS-3476

B. Sc. (Biotechnology) Examination, May 2018

Nanobiotechnology

(B-304)

(New)

Time : Three Hours]

[Maximum Marks : 75

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

1. Explain the term 'Nanotechnology' and 'Bionanotechnology'. Discuss the properties of nanomaterials which make them different from bulk material. 15
2. Write in detail three examples of nanomaterials in biological research. 15

3. Explain the principle and working of SEM or TEM with the help of suitable diagrams. 15
4. Write an essay on viruses as Nanoparticles. 15
5. Give an account of biomedical polymers and their application in pharmaceutical industry. 15
6. Write notes on the following :
 $7\frac{1}{2} \times 2 = 15$
 - (a) Nanobatteries
 - (b) Difference between thin sheet, nanowire and nanoparticle.
7. Compare the advantages and disadvantages of the following :
 $7\frac{1}{2} \times 2 = 15$
 - (a) Sol-gel methods
 - (b) Chemical vapour deposition.

8. What do you mean by Immunonanotechnology ?
Describe any three achievements of scientists in this field. 15
9. Discuss in detail three examples of nanomaterials in Biological research. 15
10. Write notes on the following : $7\frac{1}{2} \times 2 = 15$
(a) Advantages of AFM
(b) Anti AIDS drug.