

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 11

M.Sc. (BT) EL-I (2018 Batch) (Sem.-1)

NANOBIOTECHNOLOGY

Subject Code : MBT-112

M.Code : 75665

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SEVEN questions carrying SIX marks each and students have to attempt any FIVE questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write short note on following :

- a. Nanofertilizers
- b. Carbon nanotubes and its applications
- c. Protein based nanostructures
- d. Unique properties of nanomaterials
- e. Magnetosomes
- f. Biomolecular sensing
- g. Nanomission scheme of DST
- h. Hybrid conjugates
- i. Top down and bottom up approach
- j. Nanotechnology in biosecurity

SECTION-B

2. Enlist current opportunities and challenges related to nanobiotechnology in India.
3. Explain the process for microbial production of inorganic nanoparticles.
4. Describe the structure and properties of buckyball.
5. Explain in detail the impact of nanomaterials in biological processes.
6. Describe the limitations existing for application of nanotechnology in food sector.
7. What are nanobased insecticides? How these are better than conventional insecticides?
8. Describe the concept of smart packaging with examples.

SECTION-C

9. What are DNA based nanomaterials? Describe the major strategies used for their production. Enlist some applications of these nanomaterials.
10. What do you mean by nanobiotechnology? Narrate its historical prospective. Discuss the scope and applications of nanobiotechnology in different sectors.
11. Write a detailed note on following :
 - a. Quantum dots and its applications in biological sciences.
 - b. Principle of Nanobioelectronic devices and applications of these devices.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.