Sl. No.

No. of Printed Pages : **1**

21MBL3E1AL

M.Sc. III Semester (CBCS) Degree Examination, April/May - 2023

MICROBIOLOGY

Paper No. MB DSE 1 : Microbial Nanotechnology

Time : 3 Hours Maximum Marks : 70

Note : *Answer **any five** of the following questions with Question No. **1 (Q1) Compulsory**, each question carries **equal** marks.*

1. (a) Describe the quantam dot shell structures. **7**

(b) Explain types and properties of nanomaterials. **7**

2. Give a detailed account on uses of nanoparticles in the field of agriculture. **14**

3. Describe microbial synthesis approaches in nanotechnology. **14**

4. (a) Discuss concept and principle of AFM. **7**

(b) Describe particle size analysis using - Scherer's formula. **7**

5. Describe the Raman spectroscopic techniques in nanoparticles characterization. **14**

6. (a) Discuss applications of nanotechnology in seed science. **5**

(b) Explain Nanoporous polymers and their applications in water purification. **9**

7. (a) Briefly discuss principle and applications of SEM. **7**

(b) Explain working principle of Transmission Electron Microscopy and its applications in nanotechnology. **7**

8. (a) Write an account on nanotoxicology. **5**

(b) Explain waste mediated synthesis of nanoparticle. **5**

(c) Describe role of Infra-Redspectroscopy (IR) in nanotechnology. **4**

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