



M.Sc. III Semester Degree Examination, April/May - 2024

BOTANY

DSE-II : Nano Biotechnology

(NEP)

Time : 3 Hours

Maximum Marks : 70

Note : Answer **any five** of the following questions with question **No.1(Q.1) Compulsory**. Each question carries **equal** marks.

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| 1. | (a) Define nano Biotechnology and write the historical evolution. | 6 |
| | (b) Types of nano materials and their classifications. | 8 |
| 2. | Discuss the Top-down and bottom-up approaches. | 14 |
| 3. | (a) Surfactants, polymers and emulsions. | 6 |
| | (b) DNA-based metallic nano wires and networks. | 8 |
| 4. | (a) X-ray diffraction. | 6 |
| | (b) Lipid nano particles for drug delivery. | 8 |
| 5. | (a) Give an account of nano-composite for food packaging. | 6 |
| | (b) Nano immuno conjugates. | 8 |
| 6. | (a) Give a detailed account on microbial nano particles. | 6 |
| | (b) Discuss UV-Visible spectroscopy and its role in characterizing nano particles. | 8 |
| 7. | (a) MRI | 8 |
| | (b) MEMS/NEMS nano materials | 6 |
| 8. | (a) Nano particles in the treatment of cancer | 5 |
| | (b) Auto-immune disease | 4 |
| | (c) Neuro degenerative disease | 5 |

