



বিদ্যাসাগর বিশ্ববিদ্যালয়

**VIDYASAGAR UNIVERSITY**

**M.Sc. Examinations 2020**  
**Semester IV**  
**Subject: MICROBIOLOGY**  
**Paper: MCB 402**

**Full Marks: 40**

**Time: 2Hrs.**

*Candidates are required to give their answers in their own words as far as practicable.*

**Group-A (Natural Therapeutics)**

**Answer any one of the following:**

1. Write on principles of drug delivery system.
2. Classify antibiotics on the basis of chemical nature, mode of action and generations.
3. Write notes on the production of recombinant proteins, amino acids, vitamins and therapeutic enzymes.
4. Mushrooms is nutraceuticals rich food resource – justify the statement.
5. State the health benefits of probiotics.
6. Describe the bacterial antibiotic resistance mechanism.

**Group-B (Advanced Bio-products and Norms)**

**Answer any one of the following:**

1. Describe the pathway of PHA biosynthesis.
2. Critically comment on the following fact - Dendrimer is more efficient than liposome in terms of controlled and slow delivery of bioactive particles
3. Write the mechanism of targeted drug delivery by carbon nanotubes
4. Comment on the advantages of enzyme immobilization
5. Write a comparative account of QA and QC
6. “Anti-microbial nano-particles can kill microbes more efficiently than anti-microbial antibiotics” – Give your opinion