

Total page: 1

**PG (NEW) CBCS**  
**M.Sc. Semester-IV Examination, 2020**  
**BOTANY**  
**PAPER: BOT 402D**  
**(MICROBIOLOGY- BASIC)**

**Full Marks: 40**

**Time: 2 Hours**

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**Answer any one question from your allotted special paper: (400 words)    40X1=40**

1. What is retrovirus? Discuss its life cycle.
2. Write down the function of topoisomerase, gyrase, and methylase. What is c-DNA library?
3. Write down the process of infection and nodule formation in leguminous plants by *Rhizobium* sp. Discuss the structure of nitrogenase found in *Azotobacter* sp.
4. How do you isolate a pure culture? Mention role of bacterial membrane in drug resistance.
5. Discuss the different parts of SEM. Mention its advantages and disadvantages.
6. Write short notes on plasmid and cosmid.
7. Write down general characteristics of Spirochetes and Actinomycetes.
8. Mention different steps for cultivation of plant viruses.
9. Write short note on purple sulfur bacteria.
10. Mention role of different oncogenes in cancer formation.
11. Write down mode of action and applications of protease.
12. Mention stages of biofilm formation.

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