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BSCBTCN 201

**II Semester B.Sc. Degree Examination, September 2022
(NEP – 2020) (2021 – 22 Batch Onwards)
BIOTECHNOLOGY
Microbiological Methods and Techniques (DSCC)**

Time : 2 Hours

Max. Marks : 60

- Instructions :** 1) Answer *all* questions.
2) Draw diagrams *wherever* necessary.
3) Write **any four full** questions choosing **one** from **each** Unit.

UNIT – I

1. a) Write a note on Dark field microscope. 4
- b) What is TLC ? Explain its principle and applications. 4
- c) Give a detailed account on construction and applications of spectrophotometer. 7

OR

2. a) Give a note on resolving power of a microscope. 3
- b) Explain the principle of ultracentrifugation and mention its applications. 5
- c) Give a detailed account on principle and instrumentation of paper chromatography. 7

UNIT – II

3. a) Write a note on moist heat sterilization. 4
- b) Explain general properties of filter sterilization and add a note on any one type. 4
- c) Define sterilization. Explain chemical based sterilization in detail. 7

OR

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- 4. a) Note on microbicidal agents. **3**
- b) Explain construction of autoclave. **5**
- c) Give a detailed account on sterilization by radiation. **7**

UNIT – III

- 5. a) Write a note on selective media. **4**
- b) Explain cultivation of anaerobic bacteria. **4**
- c) Discuss principle and procedure of any one differential staining technique. **7**

OR

- 6. a) What are indicator media ? Write their significance. **3**
- b) Explain any two plating methods. **5**
- c) Explain the procedure involved in maintenance and preservation of cultures. **7**

UNIT – IV

- 7. a) Write a note on antifungal agents. **4**
- b) Explain the principle and application of agar well diffusion techniques. **4**
- c) Describe the mechanism of antiviral agents. **7**

OR

- 8. a) Discuss about metabolic inhibitors. **3**
- b) Write a note on MDR. **5**
- c) Give an account on protein synthesis inhibitors. **7**
