

B.Sc. (CBCS Pattern) Semester-I
MIC-02 - Microbiology Paper-II - Microbial Techniques

P. Pages : 2

Time : Three Hours



GUG/S/25/11559

Max. Marks : 50

1. Explain in detail about principle and working of scanning Electron Microscope (SEM). **10**

OR

- a) Write a short note on Numerical aperture. **2½**
- b) Write a brief note on principle of phase contrast microscope. **2½**
- c) Write a note on applications of Electron Microscopy. **2½**
- d) Discuss in brief about objective lenses. **2½**

2. Discuss in detail mechanism and procedure of Gram's staining. **10**

OR

- a) Write a short note classification of stain. **2½**
- b) Write a brief note on endospore staining. **2½**
- c) Describe the theories of staining. **2½**
- d) Write a short note N. **2½**

3. Explain in detail methods of isolation of pure culture. **10**

OR

- a) Classify bacteria on the basis of carbon sources. **2½**
- b) write a note on selective media with examples. **2½**
- c) Write a brief note on nutritional requirements of microorganisms. **2½**
- d) Write a note on lyophilization method used for preservation of pure culture. **2½**

4. Describe different physical Agents used to control microbial growth. **10**

OR

- a) Write a short note on phenol coefficient experiment. **2½**
- b) Write a note on characteristics of ideal disinfectant. **2½**
- c) Explain the role of Heavy metals to control microbial growth. **2½**
- d) Write a brief note on gaseous Agent used in sterilization. **2½**

5. Answer any ten.

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|---|---|
| a) Define Resolving power? | 1 |
| b) Write down full form of TEM. | 1 |
| c) Write name of oil used in oil immersion objective lens. | 1 |
| d) Give one example of Acidic dye. | 1 |
| e) Define capsule? | 1 |
| f) Define Endospore? | 1 |
| g) What is Photolithotrophs? | 1 |
| h) Define broth culture? | 1 |
| i) Write down one example of Differential Media? | 1 |
| j) Define Microbiostatic? | 1 |
| k) Write down example of Ionizing radiation used for sterilization. | 1 |
| l) Write down full form of HEPA. | 1 |
