

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

P. Pages : 2

Time : Three Hours



GUG/W/24/11559

Max. Marks : 50

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1. Write in detail about principle, working and application of SEM. 10
OR
- a) Explain numerical aperture in brief. 2½
- b) Describe the principle of Phase contrast microscope. 2½
- c) Write a short note on oil immersion objective. 2½
- d) Explain the working of Dark Field Microscope. 2½
2. Write Mechanism, Procedure and Application of Gram Staining. 10
OR
- a) Explain acid fast staining. 2½
- b) Write about Negative staining 2½
- c) Write a short note on Classification of stain. 2½
- d) Describe the process of Endospore staining. 2½
3. Explain the methods of preservation of Pure culture in detail. 10
OR
- a) Describe Streak plate method for isolation of Culture. 2½
- b) Write a short note on selective media for cultivation of bacteria. 2½
- c) Write a short note on basic nutritional requirement of bacteria. 2½
- d) Explain the role of peptone in nutrient media. 2½
4. Give detail account on Physical agent of Sterilization. 10
OR
- a) What are the characteristics of an ideal disinfectant? 2½
- b) Describe the use of radiation in microbial control. 2½
- c) Write a short note on alcohols and detergents as chemical agents of sterilization. 2½
- d) Write a short note on moist heat sterilization. 2½

5. Solve **any ten** of the following.

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| a) What is resolving power? | 1 |
| b) What is TEM? | 1 |
| c) What is the use of dark field condenser? | 1 |
| d) Define stain and dye. | 1 |
| e) What are indicator dyes? | 1 |
| f) Which stain is used in capsule staining? | 1 |
| g) What is incineration? | 1 |
| h) What is thermal death point? | 1 |
| i) Give two names of stock culture collection centers in India. | 1 |
| j) Give the example of Quaternary ammonium compounds. | 1 |
| k) What is enrichment media? | 1 |
| l) Define Germicide. | 1 |
