

MIC-02 - Microbiology : Paper-II (Microscopy and Microbial Techniques)

P. Pages : 2

Time : Three Hours



GUG/W/16/3320

Max. Marks : 50

- Notes : 1. All questions are compulsory & carry equal marks.
2. Draw diagram wherever necessary.

1. Write in details about transmission electron Microscope. **10**

OR

Write about

- i) Acid fast staining. **5**
ii) Endospore staining. **5**

2. Describe the methods of maintenance and preservations of pure culture. **10**

OR

Write about mode of action and application of penicillin and tetracycline.

3. a) Write about working mechanism of bright field microscope. **2½**
b) Give the classification of stains. **2½**
c) Describe the streak plate method. **2½**
d) Give the characteristics of ideal disinfectant. **2½**

OR

- e) Describe the concept of numerical aperture. **2½**
f) Give the principle of Gram staining. **2½**
g) Describe the method of serial dilution for isolation of pure culture. **2½**
h) Give the mechanism of cell injury. **2½**
4. a) Explain the use of oil immersion objective. **2½**
b) Write about Negative staining. **2½**
c) Give the use of selective and differential media. **2½**
d) Describe the phenol co-efficient experiment. **2½**

OR

- e) Write about the principle of fluorescent microscope. 2½
- f) Explain chemical theory of staining. 2½
- g) Give any three characteristics of pure culture. 2½
- h) Describe the microbial control by gaseous sterilization. 2½

5. Solve any ten of followings.

- a) What is the use of Irish diaphragm? 1
- b) What is chromogen? 1
- c) What is axenic culture? 1
- d) Explain microbiostatic. 1
- e) What is resolving power? 1
- f) Name the stain used for fungal staining. 1
- g) Give the name of international culture collection centres. 1
- h) What is desiccation? 1
- i) What is refractive index? 1
- j) Give the example of acidic and basic stain. 1
- k) What is micromanipulator? 1
- l) What is thermal death point? 1
