

**FACULTY OF SCIENCE**  
**B.Sc. I Year (practical) Examination**  
**Semester-I**  
**Subject: MICROBIOLOGY**  
**Paper-I**  
**QUESTION BANK**

**Time: 2 Hours**

**Max. Marks: 25**

**Note: Each candidate has to perform one experiment and four spotters.**

**I. Experiment Question**

**(12 Marks each)**

1. A light compound microscope, stage micrometer and ocular micrometer are provide to you. Calibrate the microscope for its measurement in 10 x (low power) and 45 x (high power). Report the calibrated values in each magnification.
2. A calibrated microscope arranged with ocular micrometer is provided to you. Prepare a slide of microscopic object (fungal spore or pollen grain) and measure the size of microscopic object with the help of calibrated ocular micrometer in low power and high power. Report the result and demonstrate at least one observation to the examiner.  
(Note: Internal examiner concerned is required to pre-calibrate the microscope and give the calibrated values in consultation with co-examiner)
3. A bacterial pure culture is provided to you. Prepare the smear of same and stain by differential (Grams) staining method. Observe the microscopic characteristics of stained culture and report the microscopic morphology, arrangement and staining nature. Demonstrate your observation.
4. Stain the given bacterial culture by endospore staining and report your observation by demonstrating your observed field.
5. An actively growing bacterial culture is provided to you. Prepare a smear for capsular staining, perform the staining and report the presence or absence of capsules. Demonstrate your observation.
6. Stain the given fungal culture and report your observation by demonstrating your observed field.

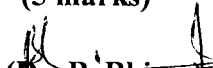
**II. Specimen for Spotting**

**(4 Spotters 4 × 2 = 8)**

7. Microscope
8. Inoculation loop/Needle (Specimen)
9. Gram positive bacilli (Slide microscopic focusing)
10. Gram positive cocci (Slide microscopic focusing)
11. Gram negative bacilli (Slide microscopic focusing)
12. Nostoc (Slide microscopic focusing)
13. Spirulina (Slide focusing)
14. Aspergillus (Slide focusing)
15. Rhizopus (Slide focusing)
16. Fusarium (Slide focusing)
17. Penicillium (Slide focusing)
18. Electron Microscopic Image of TMV
19. Electron Microscopic Image of HIV

**III. Record**

**(5 marks)**

  
**(Dr. B. Bhima)**  
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