

(i) Printed Pages : 2

Roll No. ....

(ii) Questions : 9

Sub. Code : 

1	1	7	0	4
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Exam. Code : 

5	0	1	1
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**Bachelor of Science (FYUP) 1<sup>st</sup> Semester  
(2124)**

**MICROBIOLOGY**

**Paper : Basic Microbiology MICDSC1**

**Time Allowed : Three Hours]**

**[Maximum Marks : 60**

**Note :—** Attempt **FIVE** questions in total. Question No. 1 is compulsory. Attempt **ONE** question from each Unit.

1. (a) What is the difference between spontaneous generation and biogenesis ?
- (b) What is the principle of Gram staining ?
- (c) What is significance of culture maintenance and preservation ?
- (d) What is diauxic growth ?
- (e) Explain with example broad-spectrum antibiotic.
- (f) Explain the role of normal microbial flora in the intestinal tract. 2×6

**UNIT—I**

2. (a) Discuss the contributions of Antoni van Leeuwenhoek and Joseph Lister to the field of microbiology.
- (b) Explain the germ theory of disease and its significance in microbiology. 6,6

3. (a) Compare and contrast bright field microscopy and electron microscopy.  
(b) Describe the principle and procedure of capsule staining. 7,5

## UNIT—II

4. Write short notes on the following :  
(a) Structure and function of fimbriae and pili in bacteria.  
(b) Plasmids in bacteria. 6,6
5. (a) What are the different methods for pure culture isolation ?  
Explain the streaking technique in detail.  
(b) Discuss the method used for the cultivation of anaerobic bacteria. 6,6

## UNIT—III

6. (a) Describe the different phases of bacterial growth curve.  
(b) Explain various factors affecting microbial growth. 6,6
7. Explain various methods for measurement of growth in microorganisms. 12

## UNIT—IV

8. Describe the physical methods of sterilization used in microbiology laboratories. 12
9. (a) Explain the concept of germ-free and gnotobiotic life.  
(b) Discuss the distribution and occurrence of normal microbial flora in the respiratory tract. 6,6