

**NRT/KS/19/3159**

**B.Pharm. Semester–III (C.B.S.) Examination**  
**PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY–I**  
**Paper–5**

Time : Three Hours]

[Maximum Marks : 80

**N.B. :—** (1) Question No. **1** is compulsory.

(2) Attempt any **four** questions out of remaining.

(3) All questions carry marks as indicated.

(4) Draw neat labelled diagram wherever necessary.

1. Solve any **five** :

(a) Discuss size, shape and arrangements of Bacterial cell.

(b) Write about various types of culture media.

(c) Explain the Whittaker's Five Kingdom concept.

(d) Discuss the contributions of Louis Pasteur, in the field of microbiology.

(e) Explain bacterial growth curve.

(f) Differentiate between the phase contrast and fluorescence microscope.

(g) Write a note on replica plate method.

5×4=20

2. (a) Discuss in brief about lytic growth cycle and lysogeny of viruses.

8

(b) Define Fungi and explain its reproduction.

7

3. Discuss in detail about bacterial recombination.

15

4. (a) Explain in brief about the measurement of bacterial growth.

8

(b) Write about mutation and its types.

7

5. Write etiology, pathophysiology, transmission prevention and treatment of the following diseases (any **three**) :

(1) AIDS

(2) Cholera

(3) Malaria

(4) Tuberculosis.

5×3=15

6. Discuss in detail about isolation and preservation of pure culture.

15

7. (a) Draw a well labelled diagram of bacterial cell and elaborate its parts.

10

(b) Add a note on Fungal Infection.

5