

SUBJECT : PHARMACEUTICAL MICROBIOLOGY – I

Day : Sunday
Date : 05/05/2019

S-2019-4386

Time : 02.00 PM TO 05.00 PM
Max. Marks : 60

N.B.:

- 1) Q.No.1 and Q.No.5 are **COMPULSORY**. Out of the remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION – I

- Q.1** Answer **ANY FIVE** of the following: [10]
- a) Draw a neat, labeled diagram of fluorescence microscope.
 - b) Write the diverse contributions of Robert Koch in the field of pharmaceutical microbiology.
 - c) Enlist the features of *Escherichia coli*.
 - d) Classify bacteria based on their physicochemical requirements.
 - e) Write the types of objective lens in compound microscope and compare them.
 - f) Give advantages of streak plate method over pour plate method.
- Q.2** a) Explain principle and working of Transmission Electron Microscope (TEM). [06]
b) Draw the structure of and compare between gram positive and gram negative bacterial cell walls. [04]
- Q.3** a) How to measure bacterial growth? [06]
b) Comment on 'discovery of antibiotics'. [04]
- Q.4** Write short notes on **ANY TWO** of the following: [10]
- a) Spread Plate Method
 - b) Maintenance and preservation of microbial cultures
 - c) *Pseudomonas* species

SECTION – II

- Q.5** Answer **ANY FIVE** of the following: [10]
- a) Draw a neat, labeled diagram of *Aspergillus niger*.
 - b) What are the advantages of using embryonated eggs for cultivation of viruses?
 - c) Write the sterilization mechanism of autoclave.
 - d) How to treat rickettsial infections?
 - e) Highlight general features of actinomycetes.
 - f) Justify why "Phenol is widely accepted antiseptic and disinfectant".
- Q.6** Define and classify disinfectants. Discuss various tests used for evaluation of disinfectants. [10]
- Q.7** a) Explain multiplication of human viruses in detail. [06]
b) How to validate physical sterilization methods? [04]
- Q.8** Write short notes on **ANY TWO** of the following: [10]
- a) Isolation of actinomycetes
 - b) Significance of Fungi
 - c) Cold Sterilization Techniques

* * * *