

**S.Y.B.PHARM. SEMESTER-III (2011 COURSE) : SUMMER - 2018**  
**SUBJECT: PHARMACEUTICAL MICROBIOLOGY - I**

Day: **Thursday**  
Date: **03/05/2018**

Time: **02.00 PM TO 05.00 PM**  
Max. Marks: **80**

**S-2018-3955**

**N.B.:**

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

**SECTION - I**

- Q.1** Answer the following: (**ANY FIVE**) **(10)**
- a) Write function of flagella.
  - b) How will you calculate microbial generation time?
  - c) Differentiate between Gram + ve and Gram - ve bacterial cell.
  - d) Write importance of *Penicillium* species.
  - e) Enlist Koch postulates.
  - f) Define Numerical Aperture and Resolving Power.
- Q.2** Answer the following. **(15)**
- a) Write in detail Whittakar's five kingdom concept.
  - b) Draw a ray diagram of compound microscope and explain the function of different parts of it.
  - c) Write in detail different methods used for preservation of bacterial culture.
- Q.3** a) Explain the different methods used for isolation of pure cultures. **(08)**
- b) Describe different method for measurement of bacterial growth. **(07)**
- Q.4** Write short note **ANY THREE** of the following: **(15)**
- a) Reproduction of bacteria by asexual method
  - b) *Candida albicans*
  - c) Importance of Actinomycetes
  - d) Phase contrast microscope

**P.T.O.**

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**SECTION - II**

- Q.5** Answer **ANY FIVE** of the following: **(10)**
- a) Draw a neat labeled diagram of T-even bacteriophages.
  - b) What are biohazards? Give its symbol.
  - c) How HEPA filters are validated?
  - d) Compare between sterilization and disinfection.
  - e) Define and explain *interferons*.
  - f) How will you sterilize zinc oxide powder and fixed oil?
- Q.6** a) Classify disinfectants. Explain mechanisms and applications of various disinfectants. **(08)**
- b) Discuss different tests used in testing of Aseptic Areas. **(07)**
- Q.7** a) Explain different sterilization indicators. **(08)**
- b) Classify viruses. Describe the morphology of viruses in detail. **(07)**
- Q.8** Write short notes on **ANY THREE** of the following: **(15)**
- a) Non-thermal Sterilization Techniques
  - b) Phenol Coefficient Tests
  - c) Multiplication of Human Viruses
  - d) Design of Aseptic Area

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