

UKA TARSADIA UNIVERSITY

B.Pharm. (3rd Semester)

Subject :030020302 - Microbiology

Duration: 3 Hours

Max. Marks: 70.

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

Section-1

Q-1 (A) Do as directed. [07]

- I) Define taxonomy.
- II) Explain autotrophs.
- III) What is microscope?
- IV) Define aerobic bacteria.
- V) Explain lithotrophs.
- VI) What is mesosomes?
- VII) Explain magnification.

Q-1 (B) Answer the following in brief. (Any 4) [08]

- I) Describe applications of fluorescence microscope.
- II) Write a note on Koch's postulates.
- III) Write the function of capsule.
- IV) Write the disadvantages of the pour plate method.
- V) Write a note on spread plate method.
- VI) Write the principle for acid-fast staining.

Q-2 Answer the following. [10]

A) Write a note on Whittaker's five-kingdom concept.

OR

A) Describe the structure of Bacteria with the help of neat and labeled diagram.

B) Write in brief about applications and scope of Pharmaceutical Microbiology.

OR

B) Write a note on phase contrast microscope.

Q-3 Answer the following in detail. (Any 2) [10]

- A) Write the principle and application of transmission electron microscope.
- B) Explain in detail structure of the cell wall of gram-positive and gram-negative bacteria.
- C) Write the classification of bacteria depending on the nutritional requirements.

Section-2

Q-4 (A) Do as directed. [07]

- I) What is sanitization?
- II) Explain Preservative.
- III) Explain inactivation factor.

- IV) Enlist any two methods used for evaluation of disinfectants.
- V) Define immunity.
- VI) Explain killed vaccines.
- VII) What is cell mediated immune response?

Q-4 (B) Answer the following in brief. (Any 4)

[08]

- I) Write a note on gaseous sterilization.
- II) Write a note on quaternary ammonium compounds.
- III) Describe factors affecting disinfection action.
- IV) Differentiate between T-lymphocytes and B-lymphocytes.
- V) Explain the term phagocytosis.
- VI) Write a note on Brown's tubes.

Q-5 Answer the following.

[10]

- A) Explain in detail application of monoclonal antibodies.

OR

- A) Describe the importance of actinomycetes.
B) Explain in short the classification of fungi.

OR

- B) Write a note on interferon.

Q-6 Answer the following in detail. (Any 2)

[10]

- A) Explain in short different techniques used for cultivation of viruses.
- B) Define sterilization. List the different methods used for sterilization with suitable examples. Explain the sterilization by radiation.
- C) Write a note on production of monoclonal antibodies.