

UKA TARSADIA UNIVERSITY

B.Pharm. (3rd Semester)

Subject : 030020302-Pharmaceutical Microbiology

Time : 10:00 am to 1:00 pm

Date : 27/12/2013

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: Negative staining.
- II) Enumerate different types of media.
- III) Explain the term: Psychrophile bacteria.
- IV) Enumerate major characteristics of microorganisms.
- V) Explain the term: Autotrophs.
- VI) Explain the term: Binary Fission.
- VII) What do you understand by Obligate Parasites?

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

[08]

- I) Enumerate different types of microscopes.
- II) Explain: Bergey's manual of systematic bacteriology.
- III) Classify microorganisms according to their shape and arrangement.
- IV) Write down functions of capsule on bacteria.
- V) Differentiate between Gram positive and gram negative bacteria.
- VI) Write contributions of Louis Pasteur in microbiology.

Q-2 Answer the following.

[10]

- A) Explain: Differential staining techniques.

OR

- A) Discuss: Applied areas of microbiology.
B) Write a note on: Scanning Electron microscope

OR

- B) Write a detail note on: Spirochaetes.

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

[10]

- A) Write a detail note on: Nutritional requirements for bacteria.
- B) Write in detail: Quantitative measurement of bacterial growth.
- C) Write a detail note on: Taxonomical methods to classify bacteria.

SECTION - 2

Q-4 (A) Do as directed.

[07]

- I) Define: Pure culture.
- II) Explain the term: Hapten.
- III) Enumerate non specific defense mechanisms of body.
- IV) List out classes of immunoglobulins.
- V) Explain the role of Natural Killer Cells.
- VI) Explain the term: Disinfectant.
- VII) Explain the term: D-Value.

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

[08]

- I) Give one example of chemical method for selection of bacteria.
- II) Write down the advantages of streak plate method.
- III) Explain the role of Phagocytosis.
- IV) How tyndallization does differ from moist heat sterilization?
- V) Explain the role of complement system.
- VI) Explain: Precipitin Test

Q-5 Answer the following.

[10]

- A) Discuss: Methods for isolation of pure culture.

OR

- A) Discuss in detail: Cellular immunity.
B) Explain: Phenol Coefficient Tests.

OR

- B) Write down applications of antigen-antibody reaction.

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

[10]

- A) Write a detail note on: Hypersensitivity reactions.
- B) Write a detail note on: Bacillus Calmette-Guerin (BCG) Vaccine.
- C) Explain procedure for sterility testing for pharmaceutical products according to Indian Pharmacopeia.