

**UKA TARSADIA UNIVERSITY**

**B.Pharm. (3rd Semester)**

**Subject :030020302-Pharmaceutical Microbiology**

Time : 2.30 pm to 5.30 pm

**Duration : 3 Hours**

Date : 19/05/2014

**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) Who is the father of microbiology?
- II) Enumerate different types of optical microscopes.
- III) Explain the term: chemoorganotrophs.
- IV) Enumerate major characteristics of microorganisms.
- V) Explain the term: Protoplasts
- VI) Enumerate different types of media.
- VII) Explain the term: Obligate Parasites.

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

**[08]**

- I) Write major contributions of Sir Alexander Fleming in microbiology.
- II) Explain: Haeckel's kingdom Protista.
- III) Write down Baltimore classification of virus.
- IV) Write down functions of capsule on bacteria.
- V) Classify microorganisms according to their temperature requirement.
- VI) Write beneficial and harmful effects of fungi.

**Q-2 Answer the following.**

**[10]**

- A) Discuss: Applied areas of microbiology.

**OR**

- A) Write a note on: Electron microscopy.  
B) Write a detail note on: Nutritional requirements for bacteria.

**OR**

- B) Discuss in detail: Physical conditions required for growth of bacteria.

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

**[10]**

- A) Write a detail note on: Taxonomical methods to classify bacteria.
- B) Write in detail: Quantitative measurement of bacterial growth.
- C) Write a detail note on: Normal growth cycle of bacteria under batch culture conditions.

## **SECTION - 2**

### **Q-4 (A) Do as directed.**

**[07]**

- I) List out classes of immunoglobulins.
- II) Define: Chemostat.
- III) Explain the term: Antigen.
- IV) Define: Hypersensitivity.
- V) Explain: Polyvalent vaccine.
- VI) Explain the term: Sterilization.
- VII) Explain the term: Z-Value.

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

**[08]**

- I) Give one example of biological method for selection of bacteria.
- II) Write down the advantages of streak plate method.
- III) Explain: Phagocytosis.
- IV) Write down ideal properties of disinfectant.
- V) Differentiate between Active and passive immunity.
- VI) Explain: Mantoux test.

### **Q-5 Answer the following.**

**[10]**

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

**OR**

- A) Write down applications of antigen-antibody reaction.
- B) Explain factors affecting on disinfectant actions.

**OR**

- B) Write a detail note on: Diphtheria toxoid.

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

**[10]**

- A) Write in detail: Chemical classification of disinfectants.
- B) Sterility testing for pharmaceutical products according to Indian Pharmacopeia.
- C) Write a detail note on: Bacillus Calmette-Guerin (BCG) Vaccine.