

Time allowed: 3 Hours

Max. Marks: 40

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

X-X-X

I. Give the answer of following questions in very brief:-

- a) Why water bath used in lab?
- b) What is use of autoclave?
- c) Calibration of measuring apparatus?
- d) Where we must store the chemicals?
- e) What is light microscope?
- f) Dark field of microscopes in lab.
- g) Write the application of electron microscope.
- h) Why we use dark field microscope?

(8x1)

### UNIT - I

- II. a) What is the colorimeter? Write the structure and applications of colorimeter in the lab.
- b) What is the hot air oven? Describe in brief the structure of hot air oven. (4,4)

- III. a) Write the names of four instruments which are used in biochemical analysis.
- b) Describe common methods to clean laboratory equipments in labs. (4,4)

### UNIT - II

- IV. a) What are the various methods to clean of machine in laboratory?
- b) What are the major reasons which cause the errors in results in labs? (4,4)
- V. a) What are the different methods used to maintained and cleaning of glassware?
- b) What are the calibration methods of instruments? (4,4)

### UNIT - III

- VI. a) What is principle of polarization microscope?
- b) Write the working principle of phase contrast microscope. (4,4)



- VII. a) What is the UV light microscope? Write its various applications.  
b) Write the only applications of polarizing microscope. (4,4)

#### UNIT - IV

- VIII. a) What is microscopic examination of bacteria?  
b) Describe the one museum technique. (4, 4)
- IX. a) What is the Lab safety methods.  
b) Describe in brief about the fluorescence microscope. (4,4)

x-x-x