

Time allowed: 3 Hours

Max. Marks: 50

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

*x-x-x*

I. Answer the following questions:

- a. IPR is an acronym for \_\_\_\_\_
- b. Coacervates are defined as \_\_\_\_\_.
- c. Nephron is a part of nervous tissue. (T/F)
- d. First life form appeared on earth \_\_\_\_\_ years ago.
- e. What is the function of Cilia?
- f. The theory of natural selection was proposed by Lamark. True or False?
- g. Name any personal protective equipment that is used in microbiology laboratory \_\_\_\_\_.
- h. A common example of epithelial tissue is \_\_\_\_\_.
- i. \_\_\_\_\_ is the practice of safe handling of pathogenic micro-organisms and their toxins in the biological laboratory.
- j. An example of a human cell, which does not have nucleus is \_\_\_\_\_. (10x1)

**UNIT - I**

II. a) Differentiate between a Plant and an Animal Cell.

(5)

b) Write a short note on any two of the following

(i) Mitochondria

(ii) Golgi Apparatus

(iii) Nucleus

(2x2½)

P.T.O.



(2)

- III. a) Draw a labeled diagram of the Miller-Urey experiment, which was first used to test the Oparin-Haldane theory.  
b) Using a labeled diagram, explain the structure of a eukaryotic cell. (2x5)
- IV. a) Elaborate on different theories of evolution.  
b) Highlight the differences between a prokaryotic cell and a eukaryotic cell. (2x5)

### UNIT - II

- V. Describe various applications of biotechnology in agriculture, medical and food industry. (10)
- VI. Write short notes on any two :  
a) Types of muscular tissue  
b) Composition of blood  
c) Function of hormones (2x5)
- VII. a) There is a urgent need for application of biosafety norms in laboratories and industries in India. Justify this statement in light of recent developments in the field of biotechnology. (3)
- b) What is considered as bio-medical waste? How is it treated, transportation and disposed. Explain. (3)
- c) Differentiate between GLP and GMP. (4)

x-x-x