

**M. Sc. (Biotechnology) Sem-III (2012 Course)(Choice Based Credit System) : SUMMER - 2019**

**SUBJECT : ANIMAL TISSUE CULTURE**

Day : Tuesday  
Date : 09/04/2019

**S-2019-1414**

Time : 10.00 AM TO 01.00 PM  
Max. Marks : 60

**N.B.:**

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Answer **ANY TWO** from questions 2, 3, 4 and 6,7, 8.
- 2) Answers to both the sections should be written in **SAME** answer books.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.

**SECTION – I**

- Q.1** Answer **ANY FIVE** of the following questions in brief: [10]
- a) State the principle of laminar air flow hood.
  - b) What is senescence of a cell line?
  - c) Define organ culture.
  - d) Why glutamine is added freshly in tissue culture medium?
  - e) Enlist any two cell lines and state their use.
  - f) State the role of phenol red in tissue culture medium.
- Q.2** a) What is inverted microscope? State its design and applications in ATC. [05]  
b) What are major contaminating agents in cell culture? How are they prevented? [05]
- Q.3** a) What is EMEM? Explain its constitution and role in tissue culture. [05]  
b) Describe the method for preparation of explant culture. [05]
- Q.4** Write short notes on **ANY TWO** of the following: [10]
- a) Anchorage independent cells
  - b) CO<sub>2</sub> Incubator
  - c) Serum free medium

**SECTION – II**

- Q.5** Answer **ANY TWO** of the following questions: [10]
- a) Define primary culture. Describe the principle and choice of enzymes for enzymatic disaggregation method.
  - b) Explain various methods used for assessment of viability.
  - c) Compare normal diploid cell line with continuous cell line.
- Q.6** a) What is Nunc cell factory? For what purpose it is used? [05]  
b) Describe the design and applications of Hollow fibre reactor. [05]
- Q.7** Write short notes on **ANY TWO** of the following: [10]
- a) Stem cells
  - b) Hybridoma
  - c) Microcarriers
- Q.8** Answer **ANY ONE** of the following questions: [10]
- a) Describe any two cellular assays used for testing of anticancer drugs.
  - b) Give a detailed account on various types of vaccines.