

**M. SC. (BIOTECHNOLOGY) SEM-III (2012  
COURSE)(CHOICE BASED CREDIT SYSTEM) : SUMMER -  
2018**

**SUBJECT: ANIMAL TISSUE CULTURE**

Day: **Thursday**  
Date: **05/04/2018**

Time: **10.00 am to 01.00 pm**  
Max Marks. 60

**S-2018-1088**

**N.B.**

- 1) Question No. 1 and Question No. 5 are **COMPULSORY**. Attempt Any Two from the remaining questions in Section - I and Section - II.
- 2) Figures to the right indicate full marks.
- 3) Attempt Section - I and Section – II on **SEPARATE** answer books

**SECTION - I**

- Q.1** Answer the following in brief (Attempt **ANY FIVE**) **(10)**
- a) State the role of HEPA filters in animal tissue culture.
  - b) Give important features of inverted microscope.
  - c) State the role of phenol red in tissue culture medium.
  - d) What is senescence of a cell line?
  - e) Why EDTA is used in dissociation of cells?
  - f) Give significance of Hanks Balanced Salt Solution.
- Q.2** a) Define explant culture. Explain the method for preparation of explant culture. **(05)**  
b) What is split ratio? Why normal diploid cell lines are subcultured using split ratio? **(05)**
- Q.3** a) Why tissue culture medium turns yellow during log phase of culture? How its pH is maintained? **(05)**  
b) Describe the role of serum in tissue culture medium. **(05)**
- Q.4** Write short notes on **ANY TWO** of the following. **(10)**
- a) Mechanical disaggregation
  - b) Organ culture
  - c) Continuous cell line

**SECTION - II**

- Q.5** Attempt **ANY TWO** of the following. **(10)**
- a) Draw a neat diagram of Neubaur's chamber. Explain the method for enumeration of cells and estimation of viability using Neubaur's chamber.
  - b) What are anchorage independent cells? How are they cultured?
  - c) Describe any one method for determining cytotoxicity to cells.
- Q.6** a) What are microcarriers? What is its role in tissue culture? **(05)**  
b) Explain the design of Biostat bioreactor. **(05)**
- Q.7** a) What is HAT medium? What is its use in tissue culture? **(05)**  
b) State the advantages of tissue culture over animal experiments. **(05)**
- Q.8** Write short notes on **ANY TWO** of the following. **(10)**
- a) Live attenuated vaccines
  - b) Hollow fiber reactor
  - c) Recombinant proteins

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