

M. SC. (MEDICAL BIOTECHNOLOGY) SEM-III (CHOICE
BASED CREDIT SYSTEM) : WINTER - 2017

SUBJECT: ANIMAL TISSUE CULTURE

Day: **Friday**
Date: **03/11/2017**

W-2017-1054

10.00 AM TO 01.00 PM
Time:
Max Marks: 60

N.B:

- 1) **Q. No 1 & Q. No 5 are COMPULSORY.** Out of the remaining Questions, attempt any **TWO** in Section-I & Section-II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION-I

- Q.1** Answer the following questions in brief: **(10)**
- a) Define – **i) Cell line** and **ii) Cell strain**
 - b) What is senescence of cell line?
 - c) What are totipotent cells? Give suitable example.
 - d) State the role of sodium bicarbonate in tissue culture medium.
 - e) What are microcarriers?
 - f) What is a feeder layer?
- Q.2** a) What is continuous cell line? Compare the growth characteristics of normal and continuous cell line. **(05)**
- b) Explain the characteristics and types of connective tissue. **(05)**
- Q.3** a) Why it is important to characterize cell lines? Describe any one method for characterization of cell lines. **(05)**
- b) What is Nunc cell factory? For what purpose it is used? **(05)**
- Q.4** Write short notes on any **TWO** of the following: **(10)**
- a) Suspension culture
 - b) Serum free media
 - c) Biostat

SECTION-II

- Q.5** Attempt any **TWO** of the following: **(10)**
- a) Define organ culture. Describe its advantages and limitations.
 - b) Explain properties, differentiation potential and source of embryonic stem cells.
 - c) Explain the principle and applications of flow cytometer.
- Q.6** a) What is a scaffold? Explain various types and properties of scaffold. **(05)**
- b) Explain tissue bioconstruct giving suitable example. **(05)**
- Q.7** Write short notes on any **TWO** of the following: **(10)**
- a) Adult stem cells
 - b) Therapeutic proteins
 - c) Recombinant vaccines
- Q.8** Attempt any **ONE** of the following: **(10)**
- a) Give an account on method and applications of tissue engineering.
- OR**
- b) Give an account on applications of animal tissue culture in drug screening and therapeutics.