

**M. Sc. (Medical Biotechnology) Sem-III (Choice Based Credit System)
: WINTER - 2018**

SUBJECT: ANIMAL TISSUE CULTURE

Day: Tuesday
Date: 23/10/2018

W-2018-1298

Time: 02.00 PM TO 05.00 PM
Max. Marks: 60

NB.

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the remaining attempt any **TWO** questions from each section.
- 2) Figures to the right indicate full marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

- Q.1** Attempt any **FIVE** of the following: **(10)**
- a) Define: i) Cell line ii) Cell strain
 - b) What are anchorage independent cell lines? Give any two examples.
 - c) State the role of phenol red in tissue culture medium.
 - d) Enlist the types of connective tissue.
 - e) What is cross contamination?
 - f) How heat sensitive tissue culture reagents are sterilized?
- Q.2** Attempt the following: **(10)**
- a) Explain the role of serum in tissue culture medium.
 - b) Define primary culture. Describe enzymatic disaggregation method for its preparation.
- Q.3** Attempt the following: **(10)**
- a) Define organ culture. Describe advantages and limitations of organ culture.
 - b) What are isoenzymes? How cell lines are characterized using isoenzyme analysis.
- Q.4** Write short notes on any **TWO** of the following: **(10)**
- a) MTT assay
 - b) Cell adhesion molecules
 - c) Nunc cell factory.

SECTION-II

- Q.5** Attempt any **TWO** of the following: **(10)**
- a) What are monoclonal antibodies? How are they synthesized?
 - b) Describe any one method for scale up of anchorage independent cells.
 - c) What are mesenchymal stem cells? Describe their properties and source.
- Q.6** Attempt the following: **(10)**
- a) Explain various types of scaffolds.
 - b) Describe the principle and application of fluorescence activated cell sorter in animal tissue culture.
- Q.7** Attempt the following: **(10)**
- a) What is tissue engineering? Explain its role in regenerative medicine.
 - b) Compare live attenuated with inactivated vaccine.
- Q.8** Write short notes on any **TWO** of the following: **(10)**
- a) Skin bioconstruct
 - b) Embryonic stem cells
 - c) Recombinant proteins

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