

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

SUBJECT: ANIMAL TISSUE CULTURE

Day: Monday
Date: 08/04/2019

S-2019-1507

Time: 02.00 PM TO 05.00 PM
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 **SAME** answer books.

SECTION-I

- Q.1** Answer the following questions in brief: (10)
- a) Define- i) Cell culture ii) Explant culture
 - b) What is cross contamination?
 - c) State the principle of sterilization using membrane filtration.
 - d) What is embryoid body?
 - e) What are pluripotent cells? Give suitable example.
 - f) State the role of serum free medium in animal tissue culture.
- Q.2** a) Define primary culture. Describe enzymatic disaggregation method for preparation of primary culture. (05)
- b) Explain dye inclusion and dye exclusion methods for determination of cell viability. (05)
- Q.3** a) Give an account on characteristics and types of epithelial tissue. (05)
- b) What are anchorage independent cells? How are they cultured? (05)
- Q.4** Write short notes on any **TWO** of the following: (10)
- a) MTT assay
 - b) Organ culture
 - c) Hollow fiber reactor

SECTION-II

- Q.5** Attempt any **TWO** of the following: (10)
- a) Describe attenuated and killed vaccines giving example of each.
 - b) Describe properties, differentiation potential and source of mesenchymal stem cells.
 - c) Give an account on applications of stem cells.
- Q.6** a) Explain the method and applications of skin bioconstruct. (05)
- b) Why it is important to characterize stem cells? How are they characterized? (05)
- Q.7** Write short notes on any **TWO** of the following: (10)
- a) Embryonic stem cells
 - b) Scaffold
 - c) Monoclonal antibodies
- Q.8** Attempt any **ONE** of the following: (10)
- a) Give a detailed account on applications of animal tissue culture in drug screening.

OR

- b) What is a bioreactor? Describe various methods for scale up of anchorage independent cells.

* * *