

BACHELOR OF SCIENCE (BIOTECHNOLOGY) (2010 COURSE)
T.Y.B.Sc. (Biotechnology) Sem-V : WINTER :- 2021
SUBJECT: INTRODUCTION TO ANIMAL TISSUE CULTURE (ATC)

Day : Tuesday

Date 1/2/2022

W-6285-2021

Time : 02:00 PM-05:00 PM

Max. Marks: 80

N.B.:

- 1) All questions are **COMPULSORY**.
- 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 A)** Answer **ANY ONE** of the following: [06]
i) What is animal tissue culture? Explain its advantages and limitations.
ii) Describe aseptic techniques used for maintaining sterility in tissue culture laboratory.
- B)** Answer **ANY TWO** of the following: [10]
i) Explain the role of sodium bicarbonate buffer in tissue culture medium.
ii) Define anchorage dependent and independent cell lines and compare them.
iii) Describe the method used for sterilization of heat sensitive reagents.
- Q.2** Write short notes on **ANY FOUR** of the following: [16]
a) Continuous cell line
b) Balanced salt solution
c) Serum free medium
d) Organ culture
e) Explant culture

SECTION – II

- Q.3 A)** Answer **ANY ONE** of the following: [06]
i) Outline the steps involved in subculturing of cell line.
ii) What is generation number? Why it is important to record generation number for subculturing of normal cell line?
- B)** Answer **ANY TWO** of the following: [10]
i) Describe the method of preservation of cell line.
ii) What is primary culture? Explain any one method for its preparation.
iii) What is MTT assay? For what purpose it is used?
- Q.4** Write short notes on **ANY FOUR** of the following: [16]
a) Viable counting
b) Revival of cell line
c) Suspension culture
d) Monoclonal antibodies
e) Hollow fibre reactor
- Q.5** Attempt **ANY ONE** of the following: [16]
a) i) What are stem cells?
ii) State the types of stem cells.
iii) Explain the applications of stem cells.
b) i) Define Vaccine.
ii) State the types of vaccines.
iii) Describe any one method for production of vaccine.

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