

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 08

M.Tech. (Bio. Tech.) (Sem.-3)
CELL AND TISSUE CULTURE
Subject Code : MTBT-201
Paper ID : [E1056]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions in ALL.
2. Each question carries TWENTY marks.

1.
 - a) Explain why filter sterilization technique is important in animal cell culture. (5)
 - b) Elaborate mechanical and enzymatic disaggregation techniques for primary culture. (8)
 - c) State the utility aspects and various methods of animal organ culture. (7)
2.
 - a) Depict the design and operational aspects of animal cell bioreactor. (8)
 - b) Highlight the importance of somatic cell fusion technique. (5)
 - c) Write the underlying principle and applications of flow cytometry. (7)
3.
 - a) Discuss the merits and demerits of long-term cultured animal cells. (6)
 - b) How do you employ cell culture in gene therapy? (5)
 - c) Describe in detail any two major applications of animal cell culture. (9)
4.
 - a) How do you prepare and modify the antigens for polyclonal antibody production? (6)
 - b) How do you purify monoclonal and polyclonal antibodies? (5)
 - c) Elaborate any three major applications of monoclonal antibodies. (9)
5.
 - a) Differentiate between the features of chloroplast and nuclear genes. (5)
 - b) How do you produce herbicide resistant plants by chloroplast engineering? (7)
 - c) Write a comprehensive note on virus induced gene silencing. (8)

6.
 - a) Give an account of various protein kinases in plants associated with signaling. (5)
 - b) Explain why various abiotic stresses affect growth and development of plants. (9)
 - c) Write a precise note on different major molecular markers. (6)
7.
 - a) Elucidate the role of molecular markers in crop improvement. (6)
 - b) What are the ways for conservation of biodiversity? (7)
 - c) Give an overview of QTL mapping in plants with examples. (7)
8.
 - a) Justify why nutraceuticals are regarded as alternative for pharmaceuticals. (7)
 - b) Outline the strategy for production of edible vaccines in plants. (7)
 - c) Explain why plant-based molecular farming of proteins is gaining importance. (6)

www.FirstRanker.com