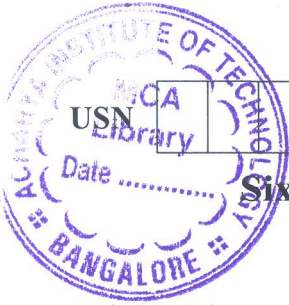


GBCS SCHEME

21BT644



Sixth Semester B.E. Degree Examination, June/July 2024 Stem Cell Technology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Describe Adult stem cells and their properties. (10 Marks)
b. Illustrate the process of Stem cells preservation , detailing its applications. (10 Marks)

OR

- 2 a. Describe and classify Stem cells and their properties. (10 Marks)
b. Delineate the process of Embryonic stem cell isolation. (10 Marks)

Module-2

- 3 a. Outline the procedure for Stem cell culture. (10 Marks)
b. Detail the processes of Cell sorting and Protein tagging. (10 Marks)

OR

- 4 a. Describe the requirements for an effective cell culture media. (10 Marks)
b. Articulate the procedure for Transplantation. (10 Marks)

Module-3

- 5 a. Demonstrate the self renewal mechanism of Intestinal stem cells. (10 Marks)
b. Explain skeletal muscle stem cells. (10 Marks)

OR

- 6 a. Ascertain the importance of stem cells in plant growth. (10 Marks)
b. Illustrate mechanism of tumor stem cells. (10 Marks)

Module-4

- 7 a. Distinguish between Stem cell therapy and Stem cell protection. (10 Marks)
b. Explore the potential applications of tissue engineering with suitable examples. (10 Marks)

OR

- 8 a. Cellular screening assay is a critical process in drug discovery - justify. (10 Marks)
b. Explain Target identification in stem cells. (10 Marks)

Module-5

- 9 a. Evaluate Current policies and Ethics associated with Steam cell research. (10 Marks)
b. Analyze the therapeutic applications of stem cells with substantial examples. (10 Marks)

OR

- 10 a. Demonstrate the procedure of gene therapy. (10 Marks)
b. Analyze the potential outcomes of stem cell therapy in treating neurological and cardiovascular disorders. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.