

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2023

B.Tech-VII Semester (BT/BI)

COURSE CODE (CREDITS): 14B1WBT739 (3)

MAX. MARKS: 25

COURSE NAME: Stem Cells & Regenerative Medicine

COURSE INSTRUCTORS: Dr. Udayabanu

MAX. TIME: 1 Hour 30 Minutes

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*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

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1. Design an experiment to evaluate the effect of transplantation of human neural stem cells in the brains of rats with focal cerebral ischemia. [5 Marks] (CO4)
2. The bone marrow is in effect a highly specialized tissue comprising a range of cells. Discuss the haematopoietic processes that take place in the bone marrow. [5 Marks] (CO3)
3. What are the types of cells present in the nervous tissue? Explain the developmental stages of adult neurogenesis in the dentate gyrus of the hippocampus. [5 Marks] (CO3)
4. Briefly explain the different types of cells present in the islets of Langerhans and its importance. Detail the stepwise protocol attempted to generate insulin producing cells by researchers. [5 marks] (CO2,4)
5. Write a note on the application of muscle derived stem cells. Also demonstrate the role of muscle derived stem cell in muscle regeneration. [5 Marks] (CO1,3)