

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2023

B.Tech-VII

VII Semester (BT)

COURSE CODE(CREDITS): 14B1WBT739 (3)

MAX. MARKS: 15

COURSE NAME: Stem Cells & Regenerative Medicine

COURSE INSTRUCTORS: Dr. Udayabanu, M.

MAX. TIME: 1 Hour

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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. Myostatin is a regulator of muscle growth and is involved in fibrosis after injury in skeletal muscle. Describe the function of Decorin and Suramin. [2 Marks] (CO2)
2. Define preplate technique? How it is used to isolate the muscle derived stem cells [3 Marks] (CO2)
3. What are the distinguishing Features of Progenitor Cells and Stem Cells. Explain with examples [2 Marks] (CO1)
4. Explain the advantages and disadvantages of embryonic stem cells as compared to adult stem cells. [3 Marks] (CO1,2)
5. Stem cells are capable of dividing and renewing themselves for long periods and are unspecialized cells. Design an experiment to isolate and culture mesenchymal stem cells from mouse bone marrow. [5 Marks] (CO1,2)