

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATION- Dec.-2017

B. Tech/M.Tech. (IX/III Semester)

COURSE CODE: L-14B1WBT739

MAX. MARKS: 35

COURSE NAME: Stem cell and regenerative medicine

COURSE CREDITS: 03

MAX. TIME: 2 HRs

Note: All questions are compulsory. Carrying of mobile phone during examination will be treated as case of unfair means. Marks are indicated below each question

Part A: Answer the following question (2 Marks each).

1. Explain the developmental event that transforms an egg into blastocyst-a very early embryo
2. Explain the initiation and function of cell lineage.
3. What is a biopolymer? How the properties of a biopolymer are evaluated?
4. Explain bioreactor and their application in functional tissue engineering.
5. Write a note on (a) radial glial cell (b) satellite cells.

Part B: Answer the following question (5 Mark).

1. What are stem cells? How do these differ from other somatic cells? Mention the type of stem cells.
2. What are scaffolds? Describe the freeze drying and particulate leaching technique methods which are used for the synthesis of scaffolds.
3. Explain different sources and in-vitro growth of neural stem cell generation and expansion
4. Explain the methods used for the isolation of muscle derived stem cells
5. What is the developmental stage of adult SVZ (sub ventricular zone) Neurogenesis