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TEST -2 EXAMINATION- Oct 2017

B.Tech/M.Tech IX/III Semester

COURSE CODE: L-14B1WBT739

MAX. MARKS: 25

COURSE NAME: Stem Cell and regenerative medicine

COURSE CREDITS: 3

MAX. TIME: One Hour Thirty Minutes

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*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

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**Part A: Answer the following (1 marks)**

1. Discuss about biodegradable polymers
2. What is cancer stem cell?
3. Why is it important that the pores of a tissue scaffold be interconnected and be not be too much smaller or too much larger than the size of a cell?

**Part B: Answer the following (2.5 marks)**

1. List biological applications of composites with respect to their mechanical properties.
2. Explain the basic steps in wound healing
3. What are the characterization required for the fabrication of successful 3D scaffolds.
4. Explain why carbohydrates are well suited as biomaterials
5. What is a decellularized tissue and why does this attractive for a good tissue engineering scaffold?
6. Write a note on T cell lineage commitment and alternative lineage potentials

**Part C: Answer the following**

1. Detailed explanation of Current Strategies for Isolating Cancer Stem Cells (5)
2. Bioactive glass (2)