Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **14BT2042** | **Duration :** | **3hrs** |
| **Sub. Name :** | **STEM CELL TECHNOLOGY** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

**(Draw diagrams wherever needed)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Elucidate the pros and cons of animal cell culture. | CO3 | 10 |
| b. | Elaborate on aseptic culture technique. | CO3 | 10 |
| **(OR)** | | | | |
| 2. |  | Describe in detail how would you enumerate live cells harvested from a culture vessel to be seeded on a new culture dish. Draw diagrams wherever needed. | CO3 | 20 |
|  |  |  |  |  |
| 3. |  | List the characteristics of stem cells and describe the various types of stem cells and explain cell symmetry. | CO2 | 20 |
| **(OR)** | | | | |
| 4. |  | Define stem cell niche illustrating it with 2 examples and elaborate on the conserved components of stem cell niche. | CO2 | 20 |
|  |  |  |  |  |
| 5. |  | Describe the method of isolation of cord blood cells and discuss some of the approved treatments. | CO2 | 20 |
| **(OR)** | | | | |
| 6. |  | Elaborate the clinical use of bone marrow stem cells. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Explain the role of stem cells in cancer therapy. | CO2 | 20 |
| **(OR)** | | | | |
| 8. |  | Illustrate the prospects of stem cell technology for the treatment of Type II diabetes. | CO2 | 20 |
|  | | **Compulsory**: |  |  |
| 9. |  | Discuss the ethical implications of stem cell technology. | CO1 | 20 |