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



**End Semester Examination – Nov/Dec – 2017**

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

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Discuss about the pros and cons of animal cell culture. | CO1 | 10 |
| b. | Describe aseptic culture techniques in animal cell culture. | CO1 | 10 |
| (OR) | | | | |
| 2. |  | Describe the various types of stem cells and describe cell symmetry. | CO2 | 20 |
|  |  |  |  |  |
| 3. | a. | Describe in detail the model, conserved components and two examples of stem cell niche. | CO2 | 10 |
|  | b. | Explain how stem cells are maintained in the self renewal state. | CO2 | 10 |
| (OR) | | | | |
| 4. |  | Describe the application of stem cells in tumor treatment. | CO3 | 20 |
|  |  |  |  |  |
| 5. | a. | Describe the method of isolation of cord blood cells in detail. | CO3 | 15 |
|  | b. | Discuss the approved treatments of cord blood cells. | CO3 | 5 |
| (OR) | | | | |
| 6. | a. | Explain how Pleuripotent stem cells are derived and isolated. | CO3 | 10 |
|  | b. | Explain how Pleuripotence is induced and what are the advantages and disadvantages. | CO3 | 10 |
|  |  |  |  |  |
| 7. |  | Describe the process of derivation, differentiation and application of adult stem cells. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Describe the use of stem cells in tissue engineering and Gene therapy. | CO3 | 20 |
|  |  |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Discuss the ethical implications and problems of stem cell technology. | CO3 | 20 |

ALL THE BEST