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



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

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| **Code :** | **19BT3020** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED ANIMAL BIOTECHNOLOGY AND TISSUE CULTURE** | **Max. Marks :** | **100** |

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| **Q. No.** | **Sub Div.** | **Questions** | **Course Outcome** | **Marks** |
| **ANSWER ANY FIVE QUESTIONS (5 x 16 = 80 Marks)** | | | | |
| 1. | a. | Elucidate on artificial insemination. | CO1 | 8 |
| b. | Discuss the steps involved for sperm and ova quality analysis. | CO1 | 8 |
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| 2. | a. | Discuss the importance of cloning for the conservation of endangered species. | CO1 | 8 |
| b. | Elaborate the ethical issues in animal biotechnology. | CO6 | 8 |
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| 3. | a. | Describe the importance and tests involved for the genetic screening of the foetus before transplantation in the uterus. | CO2 | 8 |
| b. | Appraise about gene knock out in animal models. Discuss with suitable examples. | CO3 | 8 |
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| 4. |  | Outline the detection of adulteration in animal meat using DNA based methods. | CO3 | 16 |
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| 5. | a. | Discuss the membrane intergrity assays and MTT assay for analyzing the toxicity of the cells. | CO4 | 8 |
| b. | Describe in detail about cell line preservation with suitable procedures. | CO4 | 8 |
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| 6. |  | Illustrate the procedure involved for vaccine production and discuss about different types of vaccines. | CO4 | 16 |
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| 7. |  | Appraise the scaling up of molayer and suspension type of cells with suitable examples. | CO5 | 16 |
|  | | **COMPULSORY QUESTION (1 x 20 = 20 Marks)** |  |  |
| 8. | a. | Elucidate the process involved for the production 3D and spheroid culture. | CO5 | 10 |
| b. | Discuss the materials for the tissue engineering of the cells and write note on the applications of tissue engineering. | CO5 | 10 |