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



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

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **17BT2009** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASIC INDUSTRIAL BIOTECHNOLOGY** | **Max. Marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** |  | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Give a detailed account on the History of Biotechnology, Microscopes and Bio Reactors. | CO1 | 20 |
| **(OR)** | | | | |
| 2. |  | Give an account on the developmental process in Bioprocessing. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Give a detailed account on the production of Bio fuel. | CO2 | 20 |
| **(OR)** | | | | |
| 4. |  | Write in detail on the Downstream and Upstream Processing in a fermentation industry. | CO2 | 20 |
|  |  |  |  |  |
| 5. |  | With a process scheme, explain the production of Xanthan Gum. | CO3 | 20 |
| **(OR)** | | | | |
| 6. |  | Describe the industrial production of Citrate. | CO3 | 20 |
|  |  |  |  |  |
| 7. |  | Explain the production of Nisin with neat diagrams. | CO3 | 20 |
| **(OR)** | | | | |
| 8. |  | Explain in detail the utilization of *Penicillium chrysogenum.* | CO2 | 20 |
|  | | **Compulsory**: |  |  |
| 9. |  | Draw a neat sketch of a Bioreactor and explain its parts. | CO1 | 20 |