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



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

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| **Code :** | **14BI2002** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INSTRUMENTAL METHODS OF ANALYSIS** | **Max. marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Outline the two electrodes in pH meter and the working principle of pH meter with a neat diagram. | CO2 | 20 |
| (OR) | | | | |
| 2. | a. | Explain in detail the different types of buffers and its importance in extraction of biomolecules. | CO2 | 17 |
|  | b. | State industrial applications of pH meter. | CO2 | 3 |
|  |  |  |  |  |
| 3. |  | Define Beer’s law. Elaborate the instrumentation and workind procedure of spectrophotometer with a neat diagram. | CO1 | 20 |
| (OR) | | | | |
| 4. |  | Explain in detail the instrumentation and working principle of Atomic Absorption Spectroscopy. | CO1 | 20 |
|  |  |  |  |  |
| 5. |  | Give a detailed account on purification and quantification of secondary metabolites using HPLC with a neat diagram. | CO1 | 20 |
| (OR) | | | | |
| 6. | a. | Define electrophoresis? | CO1 | 3 |
|  | b. | Explain in detail the instrumentation and working protocol of SDS PAGE with a neat diagram. | CO1 | 17 |
|  |  |  |  |  |
| 7. |  | Explain the principle and instrumentation of Geiger Muller Counter in detection of radioactive isotope molecules. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Elaborate on radioactive decay and detection of radioactive isotopes using Scintillation counter with a neat diagram. | CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Outline the principle of thermogravimetry and determination of thermal stability of the compounds using DSC. | CO3 | 20 |

ALL THE BEST