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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **15BT2004** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BIOMATERIALS AND ARTIFICIAL ORGANS** | **Max. marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Elucidate in detail the Properties of Biomaterials with a neat informative application diagram. | CO1 | 10 |
| b. | Interpret the need forBiocompatibility of Biomaterials. | CO1 | 10 |
| (OR) | | | | |
| 2. |  | Describe in detail “*A Short History of Material Science and Engineering*” in Biomedical Research from the research paper ***“The Intersection of Biology and Materials Science”.*** | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Explain the process of Wound Healing in detail. | CO2 | 20 |
| (OR) | | | | |
| 4. | a. | Describe in detail the concept of Blood Compatibility and Blood Grouping. | CO2 | 10 |
| b. | Infer the role played by the Human Circulatory system in responding to presence of Biomaterials. | CO2 | 10 |
|  |  |  |  |  |
| 5. |  | Elaborate the Properties, Functions and Application of Ceramic Implant Materials. | CO3 | 20 |
| (OR) | | | | |
| 6. |  | Elaborate the Properties, Functions and Application of Metallic Implant Materials. | CO3 | 20 |
|  |  |  |  |  |
| 7. |  | Illustrate and describe the process of Phagocytosis in detail and state its importance in Implantation and corresponding Immune response. | CO2 | 20 |
| (OR) | | | | |
| 8. |  | Summarize the various methods of Testing Implants for biological performance. | CO2 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain the Characteristics, Features, Functions and Durability and Oxygenators. | CO3 | 20 |