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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14EI2017** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BIOMEDICAL INSTRUMENTATION** | **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. | With neat sketch explain the physiology of human brain. | CO1 | 10 |
| b. | Discuss about the peripheral nervous system. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Describe about the human respiration system with neat diagram. | CO1 | 10 |
| b. | Explain in detail about the following types of resistive transducerStrain gauge, Photodiode and Phototransistor. | CO1 | 10 |
| 3. | a. | Explain the various types of microelectrodes in detail used for biomedical  applications. | CO1 | 10 |
|  | b. | Explain the measurement of Total Lung capacity. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Explain in detail about the EEG recording system and different lead systems used in EEG measurement. | CO2 | 15 |
|  | b. | Discuss in detail about ERG and its recording setup. | CO2 | 5 |
| 5. | a. | Explain the process defibrillators using neat diagram. | CO2 | 10 |
|  | b. | Describe about the Audiometers with neat diagram. | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | What is the difference between haemodialysis and peritoneal dialysis? Explain anyone with a suitable diagram. | CO3 | 10 |
|  | b. | Describe about anesthesia machine and mention their applications. | CO3 | 10 |
| 7. | a. | Describe in detail about working principle and operation of MRI with neat sketch. | CO3 | 10 |
|  | b. | List out the applications of CT. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Explain about Ultrasonography with its types. | CO3 | 10 |
|  | b. | Investigate the functional blocks of a technique used for separation of ions or molecules that are dissolved in a solvent . | CO3 | 10 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Discuss in detail about Angiography technique with neat diagram. | CO3 | 20 |

ALL THE BEST