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 – April/May – 2017**

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| **Code :** | **15EI2007** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MEDICAL DIAGNOSTIC EQUIPMENTS** | **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. | Illustrate the detailed methodology of heart rate measurement system. | CO2 | 10 |
| b. | List few applications of respiration measurements in humans. | CO1 | 10 |
| (OR) | | | | |
| 2. |  | Explain the applications of following equipments in medical diagnosis. |  |  |
| a. | Photoplethysmography . | CO3 | 10 |
| b. | Spirometer. | CO3 | 10 |
| 3. | a. | Discuss the detailed functions of 12 lead electrocardiogram recording system. | CO2 | 10 |
|  | b. | Explain the artifacts in ECG measurements and methods to reduce it. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | With a block diagram present the methodology of acquiring the ElectroRetinogram signal. | CO2 | 10 |
|  | b. | Infer the applications of electromyography in medical field. | CO3 | 10 |
| 5. | a. | Show the detailed architecture of Spectro photometer and explain its components. | CO1 | 14 |
|  | b. | Summerize the merits of double beam spectro photometer. | CO2 | 6 |
| (OR) | | | | |
| 6. | a. | Illustrate the liquid chromatography with a neat sketch. | CO2 | 14 |
|  | b. | Point out the applications of chromatography in clinical measurements. | CO3 | 6 |
| 7. |  | Write elaborate notes on the following : |  |  |
|  | a. | Fluorescence optical pH sensor. | CO1 | 5 |
|  | b. | Intravascular blood gas analyser. | CO1 | 5 |
|  | c. | Write notes on ion sensitive field effect transistor. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | List the tools required for endoscopic techniques. | CO1 | 5 |
|  | b. | Mention the advantages of endoscopes. | CO1 | 5 |
|  | c. | Discuss the construction and working of capsule endoscope. | CO2 | 10 |
|  | | | | |
|  | | **Compulsory:** |  |  |
| 9. | a. | Discuss the architecture of multiparameter patient monitoring system. | CO2 | 10 |
|  | b. | Identify the applications of computer based medical diagnosis. | CO3 | 10 |

ALL THE BEST