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



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

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| **Code :** | **14EC2054** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BIO-MEDICAL SIGNAL PROCESSING** | **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. | Explain the basic procedure involved in computer aided diagnosis of biomedical signals. | CO2 | 15 |
| b. | List the difficulties of biomedical signal analysis. | CO2 | 5 |
| **(OR)** | | | | |
| 2. | a. | Illustrate with a neat sketch, the electrical activities of the heart, and its recording system. | CO3 | 15 |
| b. | Explain the objectives of biomedical signal analysis. | CO2 | 5 |
|  |  |  |  |  |
| 3. | a. | Elaborate on the propagation of action potentials in nerves. | CO3 | 10 |
| b. | Analyze the Fetal ECG with neat representations. | CO1 | 10 |
| **(OR)** | | | | |
| 4. | a. | Differentiate between Normal and Ectopic ECG beats with relevant diagrams. | CO3 | 10 |
| b. | Interpret on the automated diagnosis based on decision theory. | CO3 | 10 |
|  |  |  |  |  |
| 5. |  | What are evoked potentials? Describe the various evoked potentials with relevant diagrams. | CO1 | 20 |
| **(OR)** | | | | |
| 6. | a. | Classify and discuss the various lung sounds observed in the human being. | CO1 | 10 |
| b. | List the different waves observed in EEG. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Illustrate about EMG - Generation of electrical changes during muscle contraction. | CO3 | 10 |
| b. | Infer on K- means Clustering. | CO1 | 10 |
| **(OR)** | | | | |
| 8. | a. | Extend your perception about the Bayesian Classifier. | CO1 | 10 |
| b. | Explain Backpropagation Algorithm. | CO1 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain the adaptive signal processing. | CO2 | 10 |
| b. | Assess and extend your perception about wavelets. | CO2 | 10 |