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

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

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| **Code :** | **14EI2011** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ELECTRONIC 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. | Outline the complete circuit of an emitter – follower voltmeter using a FET stage and explain the circuit operation. | CO1 | 15 |
| b. | Sketch a linear type ohmmeter as used with electronic voltmeter. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Summarize the block diagram and system waveforms for a ramp type DVM using analog to digital converter. | CO1 | 15 |
| b. | Draw the block diagram of Q meter. | CO1 | 5 |
| 3. | a. | Construct the basic circuit of an oscilloscope deflection amplifier together with an input attenuator and explain the operation of the circuit. | CO2 | 15 |
| b. | Build the block diagram of Vector Impedance meter. | CO1 | 5 |
| (OR) | | | | |
| 4. | a. | Draw a basic block diagram and waveforms for a Digital storage oscilloscope. Sketch the waveforms throughout the system and explain its operation | CO2 | 15 |
| b. | List any four types of displacement transducer and give one application of each type. | CO2 | 5 |
| 5. | a. | Explain the working principle of Harmonic Distortion meter and describe its working in detail. | CO2 | 15 |
| b. | Draw circuit diagrams to show how a triangular waveform may be converted into an approximation of a sine wave. | CO2 | 5 |
| (OR) | | | | |
| 6. | a. | Design the logic diagram for a decade counter, and explain its operation. Prepare a table showing the counter output states for each input pulse. | CO2 | 15 |
| b. | Compare an LED seven segment display with LCD based on the supply current requirement for LED and LCD displays. | CO2 | 5 |
| 7. | a. | Summarize the stages involved in engineering of products using virtual instrument with a neat schematic diagram. | CO3 | 15 |
| b. | Draft the Wein’s bridge oscillator circuit diagram | CO2 | 5 |
| (OR) | | | | |
| 8. |  | Demonstrate the working of function generator to produce various waveform signals with neat sketch. | CO2 | 20 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Discuss in detail about the process involved in LabVIEW environment. | CO3 | 10 |
|  | b. | Summarize the numeric and Boolean controls and indicators with an example. | CO3 | 10 |