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



**End Semester Examination – Nov/Dec– 2017**

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| **Code :** | **14EI3030** | **Duration :** | **3hrs** |
| **Sub. Name :** | **AUTOMOTIVE SENSORS AND INTELLIGENT SYSTEMS** | **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. | Discuss in detail about the representation of various system application with a neat diagram. | CO1 | 10 |
| b. | Describe the characteristics of a digital electronic system. | CO2 | 10 |
| (OR) | | | | |
| 2. | a. | Explain the operation of limit-cycle controller to control oven temperature. | CO1 | 10 |
| b. | Describe the government test procedure for automobile. | CO2 | 10 |
|  |  |  |  |  |
| 3. | a. | Discuss the operation and working principle of throttle position sensor. | CO1 | 10 |
|  | b. | Bring out the relationship between the oxidizing catalyst conversion efficiency and temperature. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Describe the construction details about the exhaust gas oxygen sensor. | CO2 | 10 |
|  | b. | Explain the electronic engine control system with a neat diagram. | CO1 | 10 |
|  |  |  |  |  |
| 5. | a. | Illustrate the concept of magnetic reluctance position sensor with suitable sketch. | CO2 | 10 |
|  | b. | Discuss about the exhaust gas recirculation actuator in detail. | CO3 | 10 |
| (OR) | | | | |
| 6. | a. | Elucidate the working of Antilock braking system with a diagram. | CO1 | 10 |
|  | b. | Explain the concept and role of Air bags in automobile. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Discuss in detail about the implementation adaptive cruise controlling vehicle. | CO2 | 10 |
|  | b. | Describe about the electronic braking control in automobile. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | Mention the different steering system in automobile and explain any one steering system in detail. | CO3 | 10 |
|  | b. | Explain the working principle and the operation of traction control system in automobile. | CO3 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Discuss the role sensors used for intelligent transport systems in automobile industry. | CO3 | 20 |

ALL THE BEST