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

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

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| **Code :** | **16EE1001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ELECTRICITY FOR ENGINEERS** | **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. | Determine the equivalent resistance between the terminals A and B. | CO1 | 10 |
| b. | Sketch the layout of a Thermal power plant and explain how electricity is generated in the plant. | CO1 | 10 |
| (OR) | | | | |  |  | (OR) |
| 2. | a. | With a neat diagram describe the wind energy conversion system. | CO3 | 10 |
| b. | State Ohm’s law and mention its limitations. Also illustrate Kirchoff’s Laws. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Describe with a neat diagram the transmission and distribution system. Highlight on the electrical components in a substation. | CO1 | 10 |
|  | b. | Outline the features of a smart grid. | CO3 | 10 |
| (OR) | | | | |
| 4. | a. | Bring out a table of comparison between LED, CFL and incandescent lamps. | CO3 | 10 |
| b. | Compare overhead transmission line and underground cable system. | CO1 | 10 |
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| 5. | a. | Present the working principle and operation of home UPS and stabilizers. | CO3 | 10 |
| b. | With a neat block diagram, explain the Smart Energy meter. | CO3 | 10 |
|  |  |  |  |  |
| (OR) | | | | |
| 6. | a. | List down the electrical hazards with the effects of electricity on human body and also discuss the electrical protective devices. | CO2 | 10 |
| b. | Sketch the constructional diagram of a three phase induction motor and explain its operation. | CO1 | 10 |
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| 7. | a. | Outline the basic principle behind gyro and accelerometers in space crafts. | CO2 | 10 |
|  | b. | Summarize the instrumentation technology that powers altitude and pressure measurements in aircrafts. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | Give a brief description of the following :   1. Hall-effect sensor 2. Piezoelectric sensor | CO2 | 10 |
| b. | Discuss on Electric Vehicle in use today. | CO1 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Construct a system that will automatically control the water level in overhead tanks. | CO2 | 10 |
| b. | Point out in detail how instrumentation technology has revolutionized the agricultural industry. | CO2 | 10 |