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

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

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| **Code :** | **19EE1001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASIC ELECTRICAL AND ELECTRONICS ENGINEERING** | **Max. Marks :** | **100** |

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| **Q. No.** | **Questions** | **Course**  **Outcome** | **Marks** |
| **PART – A (10X1 = 10 MARKS)** | | | |
| 1. | State kirchoff’s current law. | CO1 | 1 |
| 2. | Two resistance of R1 = 10Ω and R2 = 10Ω are connected in parallel. Find total resistance. | CO1 | 1 |
| 3. | Two air conditioners are having star rating of 3 star and 5 star. What is the significance of 5 star AC when compared to 3 star? | CO2 | 1 |
| 4. | What is the unit for power rating in battery? | CO2 | 1 |
| 5. | A 1200 Watt hair dryer is plugged into a 120 volt circuit. Find the current drawn by the hair dryer. | CO3 | 1 |
| 6. | Which type of motor is used in fan and mixer? | CO3 | 1 |
| 7. | What is meant by WSN? | CO4 | 1 |
| 8. | Write the type of sensors employed in agriculture irrigation system. | CO4 | 1 |
| 9. | Mention the applications of zener diode. | CO5 | 1 |
| 10. | What is the acronym of GPS and GPRS? | CO5 | 1 |

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| **PART – B (6 X 3 = 18 MARKS)** | | | |
| 11. | Compute the total equivalent resistance, total current and current through 40 Ω in the following circuit. | CO1 | 3 |
| 12. | Specify the various electrical wiring system and safety measures followed in domestic wiring. | CO2 | 3 |
| 13. | Write short notes on basic working principle of refrigerator with neat block diagram. | CO3 | 3 |
| 14. | Describe the role of Gyroscope and accelerometers in Space crafts. | CO4 | 3 |
| 15. | Differentiate between the characteristic features of microprocessor, microcontroller and Embedded system. | CO5 | 3 |
| 16. | How does WIFI technology operates? | CO6 | 3 |

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| **PART – C (6 X 12 = 72 MARKS)**  **(Answer any five Questions from Q.no 17 to 23. Q.No 24 is a Compulsory Question)** | | | | |
| 17. | a. | Determine the current through R3 by applying superposition theorem. | CO1 | 6 |
| b. | Enumerate the various components of smart grid. | CO1 | 6 |
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| 18. |  | Describe with neat block diagram the various components present in home UPS and state the functions of each component. Distinguish the features of stabilizer from UPS. | CO2 | 12 |
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| 19. |  | Explain the construction and principle of operation of DC Motor with a neat diagram. | CO3 | 12 |
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| 20. |  | How to measure pressure and altitude in a space craft? Explain the concept of altitude and pressure measurement with functional diagram. | CO4 | 12 |
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| 21. | a. | Draw the symbol of NPN transistor and explain the working of transistor with its characteristic curves. | CO5 | 8 |
| b. | Explain the construction and working principle of LED. | CO5 | 4 |
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| 22. | a. | Explain the operation of electric car and its components. What are the merits of an electric car? | CO3 | 6 |
| b. | Describe the working of steam power plants with its schematic diagram. | CO1 | 6 |
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| 23. |  | Explain the AND, OR , NOT, NAND, NOR and EX-OR gates with its symbol, expression and truth table. | CO5 | 12 |
|  |  | **Compulsory:** | |  |
| 24. |  | Describe the concept of modulation and demodulation techniques with relevant diagrams. | CO6 | 12 |