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

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

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| **Code :** | **09EE101/12EE101/DEE101/EE101** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASIC ELECTRICAL ENGINEERING** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | Give the mathematical expression for electric power. | 1 |
| 2. | State Ohm’s law. | 1 |
| 3. | If the time period of a single cycle sinusoidal signal is 10ms, calculate its frequency? | 1 |
| 4. | Define peak factor. | 1 |
| 5. | The effect of temperature on metals is \_\_\_\_\_\_\_\_\_\_\_\_. | 1 |
| 6. | Write the equation for mutual inductance. | 1 |
| 7. | \_\_\_\_\_\_\_\_\_\_\_\_ is the conventional name for synchronous generator. | 1 |
| 8. | The transformer works on the principle of \_\_\_\_\_\_\_\_\_\_\_\_. | 1 |
| 9. | Name the instrument which is used for measuring DC quantities. | 1 |
| 10. | Need of Earthing is to provide \_\_\_\_\_\_\_\_\_\_\_\_. | 1 |
| **PART B(5 X 3= 15 MARKS)** | | |
| 11. | When three resistances R1=10Ω, R2=5Ω and R3=15Ω are connected in parallel, find the equivalent resistance? | 3 |
| 12. | An alternating voltage is expressed as v=10 sin 100t. Determine rms voltage and rms current. | 3 |
| 13. | List the advantages of 3-phase system. | 3 |
| 14. | “Induction motor is called as a rotating transformer”, Justify your answer. | 3 |
| 15. | Mention different types of wiring? | 3 |

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| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. |  | State Kirchoff’s Laws and mention the use of Kirchoff’s Laws in a circuit. For the given circuit calculate the equivalent resistances across the terminals of the supply and total current supplied by the source. | 15 |
| (OR) | | | |
| 17. |  | Write notes on Current source and Voltage source. Give the characteristics of series and parallel circuit. Obtain the equation for the voltage across any resistance in a series circuit having ‘n’ number of different resistances. | 15 |
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| 18. |  | Compare electric and magnetic circuits. Write down the laws of electromagnetic induction and explain their significance. | 15 |
| (OR) | | | |
| 19. |  | Sketch neatly and explain the construction and working principle of DC generator. | 15 |
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| 20. |  | Draw the schematic diagram of a nuclear power station and discuss its operation. | 15 |
| (OR) | | | |
| 21. |  | Describe the basic layout of a power system network with a neat diagram. | 15 |
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| 22. |  | Explain the construction and working principle of a transformer with necessary diagram. | 15 |
| (OR) | | | |
| 23. |  | Draw neatly and explain single phase induction motor with starting methods. | 15 |
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| 24. |  | Describe the operation of fluorescent tube wiring and staircase wiring with neat diagrams. | 15 |
| (OR) | | | |
| 25. |  | Explain the various torques which act on the moving system of the instruments for their satisfactory operation. | 15 |