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

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

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| **Code :** | **18EE1001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASIC ELECTRICAL ENGINEERING** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Course**  **Outcome** | **Marks** |
|  | **PART-A(10X1=10 MARKS)** | | |
| 1. | The charge of an electron is e = \_\_\_\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 2. | List out types of circuit elements. | CO1 | 1 |
| 3. | Define form factor. | CO2 | 1 |
| 4. | What is meant by frequency? | CO2 | 1 |
| 5. | Transformer is a \_\_\_\_\_\_\_\_\_\_\_ device. | CO3 | 1 |
| 6. | Classify different types of transformer according to construction. | CO3 | 1 |
| 7. | Write down speed equation of Dc motor. | CO4 | 1 |
| 8. | What is a Dc shunt motor? | CO4 | 1 |
| 9. | The official language for android development is \_\_\_\_\_\_\_\_\_\_\_. | CO5 | 1 |
| 10. | Point out any one applications of GCM. | CO5 | 1 |

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| **PART B (6 X 3= 18 MARKS)** | | | |
| 11. | Give the different forms of expressions of electrical power. | CO1 | 3 |
| 12. | What are the three types of power used in a.c circuit? | CO2 | 3 |
| 13. | Why the transformer rating is in kVA? | CO3 | 3 |
| 14. | Recall the significance of back emf in a Dc motor. | CO4 | 3 |
| 15. | Which platform is best for Android development? | CO5 | 3 |
| 16. | List out any components of LT switchgear. | 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. | Discuss the statements of KCL and KVL. | CO1 | 6 |
| b. | An aluminium wire 400 metres long has a resistance of 0.25Ω. Find its area of cross-section. Find the area of cross section required if the wire is of copper (specific resistances of copper and aluminium are 1.73x10-3 and 2.83x10-3 ohm-m respectively. | CO1 | 6 |
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| 18. | a. | An alternating voltage is given by v = 310sin314t. Calculate  (i) frequency (ii) period (iii) maximum value (iv) RMS value. | CO2 | 6 |
| b. | Mention the importance of power factor. | CO2 | 6 |
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| 19. | a. | Explain the construction and working principle of Dc motor. | CO3 | 6 |
| b. | Draw the circuit model of Dc generator and label the parts. | CO3 | 6 |
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| 20. | a. | Derive the emf equation of transformer. | CO4 | 6 |
| b. | Draw and explain core type transformer. | CO4 | 6 |
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| 21. | a. | Enumerate the concept of Android OS and its applications. | CO5 | 6 |
| b. | Discuss the concept of UI widget. | CO6 | 6 |
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| 22. | a. | Recall any six applications of transformers. | CO3 | 6 |
| b. | Derive the torque equations of Dc motor. | CO4 | 6 |
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| 23. | a. | Give the voltage, current, power equations of purely inductive circuit. | CO2 | 6 |
| b. | Compare ideal voltage source and ideal current source. | CO1 | 6 |
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| **Compulsory:** | | | |  |
| 24. | a. | Draw and explain the characteristics of batteries with suitable examples. | CO6 | 6 |
| b. | Write a short notes on miniature circuit breaker. | CO6 | 6 |