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



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

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| **Code :** | **17EE1001** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **BASIC ELECTRICAL ENGINEERING** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Course Outcome** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | | |
| 1. | When R1=5Ω, R2=5Ω are connected in parallel their equivalent resistance is \_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 2. | Define Kirchoff’s law. | CO1 | 1 |
| 3. | Whenever a conductor is moved in a stationary magnetic field \_\_\_\_\_\_\_\_\_\_ e.m.f. is produced. | CO1 | 1 |
| 4. | The rotor of DC generator is called as \_\_\_\_\_\_\_\_. | CO3 | 1 |
| 5. | Give the voltage and current equations for purely resistive circuit. | CO2 | 1 |
| 6. | The operating voltage of super tension cable is \_\_\_\_\_\_\_\_. | CO4 | 1 |
| 7. | The transformer works on the principle of \_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 8. | Give the types of 3-phase induction motor. | CO3 | 1 |
| 9. | High voltage is induced in the tube light, due to the presence of \_\_\_\_\_\_\_\_\_. | CO6 | 1 |
| 10. | \_\_\_\_\_\_\_\_\_\_ instruments are used for both a.c. and d.c. measurements. | CO5 | 1 |

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| **PART B(5 X 3= 15 MARKS)** | | | |
| 11. | Why are electrical home appliances connected in parallel? | CO2 | 3 |
| 12. | Write the Law’s of Electromagnetic Induction briefly. | CO1 | 3 |
| 13. | Why are thermal power stations located near sea / river / lake? | CO4 | 3 |
| 14. | List the applications of DC shunt motor. | CO3 | 3 |
| 15. | Mention the drawbacks of PMMC instrument. | CO5 | 3 |

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| **PART C(5 X 15= 75 MARKS)** | | | | | |
| 16. | a. | | Discuss about Krichoff’s current and voltage law with suitable example. | CO2 | 10 |
| b. | | Elucidate about the resistances in parallel and current division technique. | CO2 | 5 |
|  | | (OR) | | | |
| 17. | a. | | Using Kirchhoff’s laws, find the current in various resistors in the circuit shown below: | CO2 | 10 |
| b. | | Define Ohm's law and mention its limitations. | CO1 | 5 |
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| 18. |  | | Explicate the self inductance with necessary equations. Also derive the relationship between self-induced emf and self inductance | CO3 | 15 |
|  | | (OR) | | | |
| 19. | a. | | The equation of an alternating quantity is given by i=40 sin 314t. Determine i. Maximum value of current ii. Average value of current iii. RMS value of current iv. Frequency and angular frequency v. form factor vi. peak factor. | CO2 | 10 |
| b. | | Compare magnetic circuit with electric circuit. | CO3 | 5 |
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| 20. |  | | Illustrate the Power generating mechanism in a Thermal Power Generating Station with neat diagram. | CO4 | 15 |
|  | | (OR) | | | |
| 21. | a. | | A 400V, DC shunt motor takes a current of 3A when running at 1000 RPM. Calculate the speed of the motor when it draws a current of 30A. Take the armature and field winding resistances as 0.5Ω and 500Ω respectively. | CO3 | 6 |
| b. | | Discuss about the merits and demerits of underground system versus overhead system. | CO5 | 9 |
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| 22. |  | | Elucidate the working principle and construction of DC Generator with neat Diagram. | CO3 | 15 |
|  | | (OR) | | | |
| 23. | a. | | Sketch the layout of Hydro Power Generating Station. | CO4 | 8 |
| b. | | Draw the single-line Power System Diagram . | CO4 | 7 |
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| 24. |  | | With neat diagram, explain the construction of permanent magnet type instruments. | CO5 | 15 |
|  | | (OR) | | | |
| 25. | a. | | Describe the operation of fluorescent tube wiring with neat diagram. | CO6 | 8 |
| b. | | Brief about the different types of wiring system. | CO6 | 7 |

ALL THE BEST