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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May – 2017**

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| **Code :** | **14EE2001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ELECTRIC CIRCUITS AND NETWORKS** | **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. | Using current division rule, compute the current flowing through each resistor all resistance are in ohms. | CO1 | 10 |
| b. | From the following data, obtain the self inductance L1 and L2 and the mutual inductance M of two windings 1 and 2 of an ideal transformer. Given N1=500 turns, N2=750 turns, I1=2A, Φ1=10mwb, Φ12=6mwb. | CO2 | 10 |
| (OR) | | | | |
| 2. |  | State superposition theorem.Also estimate the power loss at resistor R3 using superposition theorem. | CO3 | 20 |
| 3. |  | Use mesh analysis, to calculate the current through 40 ohm resistor  C:\Users\hp\Desktop\node4a.png | CO3 | 20 |
| (OR) | | | | |
| 4. |  | With a neat diagram, derive an expression for single tuned coupled circuit to obtain output voltage, gain and current at resonant condition. | CO1 | 20 |
| 5. |  | Find the current through 20 kilo ohm resistor using Thevenin’s theorem. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | Use Nodal analysis, to find E1,E2 and the current through 5 ohm resistor. | CO3 | 20 |
| 7. |  | A symmetrical 3 Φ, 3 wire 400v supply is connected to a delta connected load. The impedances in each branch are as follows ZRY=10 └ 30◦, ZYB= 10└ -45◦, and ZBR=2.5└60◦. Find its equivalent star connected load. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | With a neat diagram, Derive the transient response of RL circuit excited with DC. Also find transient current, voltage and power. | CO1 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | Find the Y parameters for the following circuit and also draw the equivalent circuit of it. Assume V1 and I1 at the input port, V2 and I2 at the output port. | CO2 | 20 |

ALL THE BEST