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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**Supplementary Examination – June – 2017**

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| **Code :** | **14EE2012** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ELECTRIC DRIVES AND CONTROL** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. |  | Explain the components of load torque and classification of load torque. | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | Categorize the classes of motor duty. | CO2 | 5 |
| b. | With neat diagram explain the closed loop speed control of electric drives. | CO1 | 15 |
| 3. |  | Discuss the following closed-loop control of drives: |  |  |
| a. | Current Limit Control. | CO1 | 10 |
| b. | Closed loop speed control of multi-motor drives. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Explain with diagrams, different methods of starting of Induction motor. | CO2 | 14 |
| b. | Evaluate first quadrant chopper control of separately excited motor for continuous conduction. | CO2 | 6 |
| 5. |  | Explain the operation of voltage source inverter (VSI) fed induction motor drive with neat sketch. | CO3 | 20 |
| (OR) | | | | |
| 6. |  | Explain the various methods of speed control of a three phase induction motor when fed through semiconductor devices. | CO2 | 20 |
| 7. |  | Explain the operation of Sinusoidal PMAC motor drives. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Design a closed speed control of induction motor drive with constant v/f control strategy. | CO3 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | With neat diagrams, explain the construction and operation of permanent magnet Brushless DC motors. Mention its advantages and disadvantages. | CO3 | 20 |

ALL THE BEST