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



**End Semester Examination – Nov/Dec– 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. |  | With neat block diagram, explain the different the parts of Electrical Drives. Also, mention how electric drives are classified. | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | Describe about braking of DC Motor Drives. | CO2 | 10 |
| b. | Brief about closed loop speed control of electric drives with necessary diagrams. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Estimate the first quadrant chopper control of separately excited motor for continuous conduction. | CO2 | 8 |
|  | b. | Describe the operation of voltage source inverter (VSI) fed induction motor drive. | CO3 | 12 |
| (OR) | | | | |
| 4. |  | Explain single phase fully controlled rectifier of DC separately excited motor, with neat diagrams and waveforms. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Sketch neatly and brief about Synchronous motor variable speed drives. | CO3 | 10 |
|  | b. | Explain the operation of Pole changing method of speed control. | CO3 | 10 |
| (OR) | | | | |
| 6. |  | Elucidate the various methods of speed control of a three phase induction motor when fed through semiconductor devices. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Design a cycloconverter fed induction motor drive for variable frequency operation. | CO3 | 20 |
| (OR) | | | | |
| 8. | a. | Write short notes on slip power recovery control of slip ring induction motor. | CO2 | 10 |
|  | b. | Give details about the functioning of Sinusoidal PMAC motor drives. | CO3 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | With neat diagrams, explain the construction and operation of variable reluctance stepper motor. | CO3 | 15 |
|  | b. | List the advantages and disadvantages of permanent magnet Brushless DC motors. | CO3 | 5 |

ALL THE BEST