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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

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

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12EE214/EE273** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **ELECTRIC DRIVES AND CONTROL** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | | **Marks** |
| **PART-A(10X1=10 MARKS)** | | | |
| 1. | Define: Drives | | (1) |
| 2. | What is meant by braking in an Electric Drives? | | (1) |
| 3. | Why motor characteristics are important? | | (1) |
| 4. | What are the classifications of Load Torqu? | | (1) |
| 5. | Write the Speed Equation of DC Motor. | | (1) |
| 6. | State the control strategies of Chopper. | | (1) |
| 7. | What is meant by stator voltage control in Induction Motor Drives? | | (1) |
| 8. | What is meant by Kramer system? | | (1) |
| 9. | Define the term Cycloconveter. | | (1) |
| 10. | What is the use of Solar Panel? | | (1) |
| **PART B(5 X 3= 15 MARKS)** | | | |
| 11. | Define regenerative braking. | | (3) |
| 12. | What is meant by frequency control of induction motor? | | (3) |
| 13. | Write short notes on Brushless Motor Drive. | | (3) |
| 14. | Suggest most suitable DC motor for high starting torque and heavy torque overloads.  Draw its speed-torque characteristics. | | (3) |
| 15. | Give the application of DC motors. | | (3) |
| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. |  | Explain the multiquadrant operation of an electric drive with an example. | 15 |
| (OR) | | | |
| 17. | a. | State essential parts of electrical drives. | 5 |
| b. | What are the functions of a power modulator? | 10 |
| 18. |  | How do you select the motor rating while that motor is operated for short time duty and draw its curves. | 15 |
| (OR) | | | |
| 19. |  | Discuss the following closed-loop control of drives:  Current Limit Control  Closed Loop Torque Control | 15 |
| 20. |  | Elucidate single phase half controlled rectifier control of dc separately excited motor in continuous conduction. | 15 |
| (OR) | | | |
| 21. |  | How is the chopper used to operate the DC separately excited motor in motoring? | 15 |
| 22. |  | Describe the operation of voltage source inverter fed induction motor drive with neat sketch. | 15 |
| (OR) | | | |
| 23. |  | Discuss about the speed control of three phase Induction motor using static scherbius schemes. | 15 |
| 24. |  | Explain about Self controlled SM drive employing a cyclo converter. | 15 |
| (OR) | | | |
| 25. |  | Explain in detail about the solar powered pump drives. | 15 |

ALL THE BEST