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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 :** | **11EI201** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **Electrical And Electronic Instrumentation** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | Define Lenz law. | (1) |
| 2. | What is the use of wattmeter? | (1) |
| 3. | Write the methods used for measurement of low resistance. | (1) |
| 4. | What is the use of balance condition in bridges? | (1) |
| 5. | Mention the use of rectifier. | (1) |
| 6. | List two categories of spectrum analysis. | (1) |
| 7. | Write the various deflection plates in CRT. | (1) |
| 8. | Give the name of pattern for measurement of accurate frequency in CRO. | (1) |
| 9. | Name the transducer used for measurement of displacement. | (1) |
| 10. | Define XY recorder. | (1) |

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| **PART B(5 X 3= 15 MARKS)** | | |
| 11 | State Faraday’s law of electromagnetic induction. | (3) |
| 12 | What are the advantages of using Wheatstone bridge in instrumentation? | (3) |
| 13 | Describe the usesof a True RMS voltmeter. | (3) |
| 14 | Write the expression for deflection factor of a CRT. | (3) |
| 15 | What is data logger? | (3) |

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| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. | a. | With neat sketch, describe the importance of various components of moving coil instrument. | 10 |
|  | b. | Describe the principle of attraction type moving iron instrument. | 5 |
| (OR) | | | |
| 17. | a. | Explain in detail about principle operation of an induction type energy meter with neat diagram. | 10 |
| b. | What is Error? List the various types of an error. | 5 |
| 18. | a. | Describe the working of Anderson bridge with necessary diagram. | 10 |
| b. | Write short notes on different techniques used for reducing errors in AC bridges. | 5 |
| (OR) | | | |
| 19. | Discuss the principle of direct deflection and loss of charge methods for measurement of high resistance. | | 15 |
| 20. | Elaborate the measurement of magnitude and phase angle of impedance using vector impedance meter. | | 15 |
| (OR) | | | |
| 21. | Define Wave Analyzer. With a neat diagram, explain the different types of wave analyzer. | | 15 |
| 22. | a. | Draw the block diagram of a general purpose oscilloscope. | 5 |
|  | b. | With necessary sketches, explain the working parts of cathode ray tube. | 10 |
| (OR) | | | |
| 23. | a. | Explain the working principle of sampling oscilloscope with a neat block diagram. | 10 |
| b. | Draw the lissajous pattern for measurement of phase and frequency. | 5 |
| 24. | What is recorder? With neat sketch, illustrate the working principle of magnetic tape recorder. | | 15 |
| (OR) | | | |
| 25. | Describe the following  (a) Digital frequency meter.  (b) Ultraviolet Recorder. | | 15 |

ALL THE BEST