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 – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14EE2016** | **Duration :** | **3hrs** |
| **Sub. Name :** | **POWER SYSTEM PROTECTION AND SWITCHGEARS** | **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. | Explain fault current calculation using symmetrical components. | CO1 | 14 |
| b. | What is CT and PT and state its application in protection scheme. | CO1 | 6 |
| (OR) | | | | |
| 2. | a. | Explain the nature and causes of faults. | CO1 | 12 |
| b. | Discuss per unit representation. | CO1 | 4 |
| c. | Give the various types of fault. | CO1 | 4 |
| 3. |  | With the help of a neat diagram explain about the construction and working of Induction type directional power relay. | CO1 | 20 |
| (OR) | | | | |
| 4. |  | Reproduce the mathematical expresions of distance protection and also explain the function of admittance relay. | CO2 | 20 |
| 5. |  | Explain the operation principle, construction and working of bulk oil circuit breaker elobraltly. Also give the advantages of oil cuircuit breakers. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | Explain the operation principle, construction and working of a SF6 circuit breaker elobraltly. Also give the advantages of SF6 gas. | CO2 | 20 |
| 7. |  | Discuss about the lightning phenomenon with a suitable diagram. | CO2 | 20 |
| (OR) | | | | |
| 8. |  | Explain the operation of any three types of lightning arresters with neat sketches. | CO2 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | What is insulation level? Discuss in detail insulation levels of various substation equipments. | CO3 | 20 |

ALL THE BEST