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 – April/May – 2017**

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| **Code :** | **14EE2016** | **Duration :** | **3hrs** |
| **Sub. Name :** | **POWER SYSTEM PROTECTION AND SWITCH GEARS** | **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. | Classify the different types of faults and hence, explain them in detail. | CO1 | 10 |
| b. | Discuss the need of Potential transformers. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | With the help of a neat diagram, explain the construction, working principle, advantages of buchholz relay. | CO1 | 15 |
| b. | Briefly write the significance of negative sequence relay. | CO1 | 5 |
| 3. | a. | Explain the balanced voltage principle used in wire pilot protection. | CO2 | 10 |
|  | b. | Compare and Contrast Carrier and Microwave pilot. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Write the function of directional overcurrent relay. | CO1 | 10 |
|  | b. | Explain the circulating current scheme used in wire pilot protection. | CO2 | 10 |
| 5. | a. | List the different faults happening in the motor and explain them in detail. | CO2 | 15 |
|  | b. | Write the significance of bus zone protection. | CO2 | 5 |
| (OR) | | | | |
| 6. | a. | List the different faults happening in the transformer and explain them in detail. | CO2 | 15 |
|  | b. | Explain the concept of impedance relay. | CO1 | 5 |
| 7. | a. | Differentiate between axial blast and cross blast air circuit breakers. | CO3 | 10 |
|  | b. | Explain the constructional features of vaccum circuit breaker. | CO3 | 10 |
| (OR) | | | | |
| 8. |  | Discuss in detail the construction, working principle and advantages of SF**6** circuit breaker. | CO3 | 20 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Discuss briefly about the lightning phenomenon and the lightning strokes. | CO3 | 15 |
|  | b. | Write short notes on arc suppression coil. | CO3 | 5 |

ALL THE BEST