

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech Summer 2022-23 Examination

Semester: 4**Subject Code: 203142259****Subject Name: Electrical Technology & Safety in Electrical Systems****Date: 24/03/2023****Time: 2.00 pm to 4.30 pm****Total Marks: 60**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions**(15)**

1. What is Circuit Breaker?
2. List out various application of DC Machine.
3. State the difference between Relay and Fuse.
4. What are the types of Induction Motor?
5. Why safety is necessary for any equipment?
6. Draw 3 stepped characteristic of Distance Relay.
7. Define Restriking Voltage.
8. What do you mean by Electric shock?
9. What is the function of commutator in DC machine?
10. Why continuity test is performed?
11. List out essential safety system.
12. What is Step Potential?
13. What is the function of Transformer?
14. State working principle of Alternator.
15. Give example of Symmetrical Faults occur in Power system.

Q.2 Answer the following questions. (Attempt any three)**(15)**

- A) What factors should be considered for field quality and safety during installations?
- B) List out different methods of arc extinction. Explain any one in detail.
- C) What is the Statutory Requirements from Electrical Inspectorate?
- D) Discuss protection and interlock system on safety.

Q.3 A) Explain working of MCB and ELCB with neat diagram.**(07)****B) Explain the prevention techniques of electric shock in brief.****(08)****OR****B) Introduce Electricity Act and also list out Rules of Electricity act.****(08)****Q.4 A) Explain working of SF6 Circuit breaker. Also state the Advantage and Disadvantages of SF6 Circuit Breaker.****(07)****OR****A) What factors should be considered for field quality and safety during installations?****(07)****B) State advantages and disadvantages of fuse. Also state the criteria for selection of fuse.****(08)**