

Seat No: \_\_\_\_\_

Enrollment No: \_\_\_\_\_

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**M.Tech., Winter 2017 - 18 Examination**

**Semester: 2**

**Subject Code: 03203151**

**Subject Name: Power System Protection**

**Date: 08/01/2018**

**Time: 02:00PM to 04:30PM**

**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** A) What is compensation in transmission line? Give explanation of series compensation with Degree of Compensation. **(05)**

B) Write short note on Synchronism check. **(05)**

C) Explain gas actuated transformer protection. **(05)**

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

A) Explain Surge protection circuit.

B) Compare digital relays with conventional relays.

C) Define Sampling theorem and sample & hold circuit.

D) List out the advantages & disadvantages of linknet structure.

**Q.3** A) Draw and explain basic block diagram of digital relay. **(07)**

B) Explain the protection of series capacitor in transmission line. Discuss the problem associated with the series compensation. **(08)**

**OR**

B) Explain the phenomenon of magnetizing inrush current with neat diagram and derive the equation of core flux during the energization of transformer? **(08)**

**Q.4** A) Draw and explain generalized algorithm for Relay Co-ordination. **(07)**

**OR**

A) Explain the classification of auto re-closing relays based on number of phases and attempts. **(07)**

B) Explain the percentage differential protection of transformer and compare it with traditional differential protection. **(08)**