

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER 2013****Subject Code: 160803****Date: 28-05-2013****Subject Name: Switch Gear and Protection****Time: 10.30 am - 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) What do you mean by Arc Interruption? Explain in brief the two methods of arc interruption. **07**

(b) Define the following terms: (1) Recovery Voltage (2) RRRV
(3) Current Chopping **07**

Q.2(a) What is the function of Fuse? Explain Current-Time Characteristic of Fuse? **07**

(b) Explain the basic trip circuit of relay. Give the classification of relay. **07**

OR

(b) Explain the properties of SF₆ Gas. Explain the working principle and construction of SF₆ Circuit Breaker. **07**

Q.3 (a) Explain the working principle and construction of Air Blast Circuit Breaker. **07**

(b) Explain the Ratio error and Phase angle error of current Transformer. **07**

OR

Q.3 (a) Explain the working principle and construction of Induction Cup type relay. **07**

(b) Define Plug-setting Multiplier (PSM). Explain Inverse, Very Inverse and Extremely Inverse characteristic of Inverse Relay. **07**

Q.4(a) Explain the Resistance, Reactance and Mho type characteristic of Distance relay. **07**

(b) Explain the faults and abnormalities of Generator. Explain the Restricted Earth Fault Protection of Generator. **07**

OR

Q.4 (a) Explain the construction and working principle of Buchholz Relay. **07**

(b) Explain the zone protection of transmission Lines by Distance Relay. **07**

Q.5 (a) Explain the function of Lightning Arrester. Explain the different types of Lightning Arrester. **07**

(b) Explain the comparison of static versus Electromagnetic relay **07**

OR

Q.5 (a) What is the need of Neutral Grounding? Explain Resistance Neutral grounding. **07**

(b) Explain the generation of Over-voltages in power system. **07**
