

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
Electrical Engineering Department

EE 466: Power System Protection
Project

For the industrial power system shown, design the protective schemes in details.
It is required to size all CT's, define type of protection and settings of the relays.

The power system voltage levels and the equipment size are as follows:

$$V1 = 132 \text{ kV}, \quad V2 = 69 \text{ kV}, \quad V3 = 2300 \text{ V}$$

$$V4 = 480 \text{ V}, \quad V5 = 4.16 \text{ kV}, \quad V6 = 480 \text{ V}$$

$$T1 = 17.5 \text{ MVA}, \quad T2 = 17.5 \text{ MVA}, \quad T3 = 1800 \text{ kVA}$$

$$T4 = 4000 \text{ kVA}, \quad T5 = 9500 \text{ kVA}, \quad T6 = 4500 \text{ kVA}$$

$$G = 15000 \text{ kVA}$$

$$M1 = 3000 \text{ hp}$$

$$M2 = 750 \text{ hp}$$

$$M3 = 3000 \text{ hp}$$

$$M4 = 1500 \text{ hp}$$

$$M5 = 8500 \text{ hp}$$

$$M6 = 1250 \text{ hp}$$

$$M7 = 900 \text{ hp}$$

