Assignment 3

1. For all your answers, please remember to always use an assignment format.

   Value the same variable using both settings for a given overcurrent relay (OCR) with a rated current rating of 20 A.

   (A) 20 A  (B) 19 A  (C) 10 A  (D) 15 A

2. What will be the operating time of an overcurrent relay if the OCR has a maximum current of 100 A and the setting is 10 A? The OCR has a characteristic that the fault current is 150 A at 15 A, respectively.

   (A) 5 s  (B) 15 s  (C) 6 s  (D) 2.7 s

3. Relays by configurations with E. Both relays have E = 0.5. Maximum fault current at bus B is 150 A. Relays are connected in series at bus B. All the settings of relays are equal to 10 A. Which of the two relays will operate first?

   (A) A  (B) A, B  (C) B  (D) None

4. Discuss the characteristics of the current characteristic of the OCR. The OCR is set at 10 A. The time constant is 5 s. The OCR characteristic is shown in the figure. Which of the following statements is correct?

   (A) 10 s  (B) 20 s  (C) 15 s  (D) 25 s

5. Different sets of feedback settings are shown in the figure. Which one of them is incorrect?

   (A) 0.8  (B) 0.9  (C) 1.0  (D) 1.2

6. Considering the pickup setting for all the relays to be 1.5 times the maximum load current at the corresponding bus and a coordination time interval (CTI) of 0.3 s, which is the correct set of TCR settings for the relays B, F, and E respectively?

   (A) 0.95 s  (B) 1.0 s  (C) 1.05 s  (D) 1.15 s

7. Considering pickup and TCR settings of the relays as calculated in Question 6, what will be the operating time (in seconds) of the relays B, F, and E at maximum load current at bus F?

   (A) 0.8 s  (B) 0.9 s  (C) 1.0 s  (D) 1.1 s

8. For the system shown consider all the relays one of thermal-overcurrent type. For both at A, which relays will operate the instant breakers in case of failure of primary relay from A?

   (A) A, B  (B) A, B, C  (C) B, C  (D) None