**Assignment 5**

The due date for submitting this assignment has passed. Due on 2019-03-06, 23:59 IST.

As per our records you have not submitted this assignment.

1) The effect of field flux variation at typical machine oscillating frequency of about 1 Hz is to

   i. Slightly increase the synchronizing torque component
   ii. Slightly decrease the synchronizing torque component
   iii. Increase the damping torque component
   iv. Decrease the damping torque component

   Consider constants $K_2, K_3, K_4$ are positive. Which of the following option is correct?

   a. Only (iv)
   b. Both (iii) and (iv)
   c. Only (i)
   d. Both (ii) and (iii)

   ![Radio buttons options]

   **No, the answer is incorrect.**
   **Score: 0**
   **Accepted Answers:**
   d

2) The order of the block diagram representation of a synchronous machine with constant voltage is

   a. 3
   b. 4
   c. 7
   d. 8

   ![Radio buttons options]

   **1 point**
The order of the block diagram representation of a synchronous machine with thyristor excitation and AVR.

a. 3
b. 4
c. 7
d. 8

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
b

4) Consider that in the synchronous machine model the constants $K_2, K_3, K_4$ and $K_5$ are positive while the constant $K_5$ is negative. Consider a synchronous machine block diagram with excitation and AVR. The effect of AVR under steady state condition is to

a. Increase the synchronizing torque component  
b. Decrease the synchronizing torque  
c. Has no effect on synchronizing torque  
d. Cannot be ascertained

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
a

5) At rotor oscillation frequency, the effect of AVR (Consider $K_5$ to be negative while all other constants are positive) is to

i. Slightly increase the synchronizing torque component  
ii. Slightly decrease the synchronizing torque component  
iii. Increase the damping torque component  
iv. Decrease the damping torque component

Which of the following option is correct?

a. Only (i)  
b. (ii) and (iii)  
c. (i) and (iv)  
d. Only (iv)

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
c
6) The value of the constant $K_s$ in the block diagram representation of a synchronous machine exciter and AVR is positive when

i. High values of external system reactance
ii. Low value of external system reactance
iii. High generator outputs
iv. Low generator outputs

Which of the following options is correct

a. Only (i)
 b. Only (iii)
 c. Both (i) and (iii)
 d. Both (ii) and (iv)

No, the answer is incorrect.
Score: 0
Accepted Answers: d

7) In a power system stabilizer, following which of the following blocks are used?

i. Washout filter
ii. Phase lead compensator
iii. Phase lag compensator

a. (i) and (ii)
 b. (i) and (iii)
 c. Only (iii)
 d. (i), (ii) and (iii)

No, the answer is incorrect.
Score: 0
Accepted Answers: a

b) When the phase compensation network compensates exactly for the phase lag between $\Delta T$, $\Delta T_p$. The power system stabilizer has the following effect

i. Enhances the damping torque
ii. Enhances the synchronizing torque
iii. Reduces the damping torque
iv. Reduces the synchronizing torque

Which of the following options is correct?

a. Only (i)
 b. Only (iii)
 c. Both (i) and (ii)
 d. Both (i) and (iv)
9) A power system stabilizer comprising an overcompensated phase lead network has the following effect:
   i. Enhances the damping torque
   ii. Enhances the synchronizing torque
   iii. Reduces the damping torque
   iv. Reduces the synchronizing torque

   Which of the following options is correct?
   a. Only (i)
   b. Only (iii)
   c. Both (i) and (ii)
   d. Both (i) and (iv)

No, the answer is incorrect.
Score: 0
Accepted Answers: d

10) A power system stabilizer comprising an undercompensated phase lead network has the following effect:
   i. Enhances the damping torque
   ii. Enhances the synchronizing torque
   iii. Reduces the damping torque
   iv. Reduces the synchronizing torque

   Which of the following options is correct?
   a. Only (i)
   b. Only (iii)
   c. Both (i) and (ii)
   d. Both (i) and (iv)

No, the answer is incorrect.
Score: 0
Accepted Answers: c