Assignment 8

The due date for submitting the assignment has passed. As per our records, you have not submitted the assignment.

Group A

A 6-phase rectifier circuit connected to an AC source has a DC link voltage of 600 V. The converter is operated using space vector PWM with switching frequency = 10 kHz and fundamental frequency = 50 Hz and modulation index is 1.8. The converter is feeding power for balanced 3-phase RL load where R = 10 ohms and L = 20 mH.

1. The fundamental rms line to line voltage of the inverter is given as:
   - 100 V
   - 200 V
   - 300 V
   - 250 V
   
   No, the answer is incorrect.
   Accepted Answer: 250 V

2. The magnitude of the current in rms is close to:
   - 6A
   - 9A
   - 10A
   - 12A
   
   No, the answer is incorrect.
   Accepted Answer: 9A

Group B

3. The resultant space vector for BL (1) combination of Positive is:
   
   No, the answer is incorrect.
   Accepted Answer: 

4. For the given vector vector shown in the following phase vector diagram, the direct vector is:

   No, the answer is incorrect.
   Accepted Answer: 

5. The location of a reference vector (0) is shown in the small hexagon of three-level space vector diagram in the given figure. If u_R < u_I < u_A, then what among the following conditions is true for u_C, u_I, and u_O, strong functions of A, B, and C vectors separately?

   No, the answer is incorrect.
   Accepted Answer: 

6. For realizing the reference vector (u_R), which among the following switching sequence is correct (consider minimum instantaneous error)?

   No, the answer is incorrect.
   Accepted Answer: 

7. In question 6, if the reference vector shifts its position from sector 4 to sector 6, what is the change that can be observed in starting vector?

   No, the answer is incorrect.
   Accepted Answer: 

   - It does not change
   - It changes to pu vector
   - It changes to V_L
   - It changes to V_C

   No, the answer is incorrect.
   Accepted Answer: It does not change