# SNS COLLEGE OF TECHNOLOGY

*(An Autonomous Institution)*
*Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai*
*Accredited by NAAC-UGC with 'A++' Grade (Cycle III) &*
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**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

**23EEB210 – ELECTRICAL MACHINES & DRIVES**

**QUESTION BANK**

**UNIT V: SOLID STATE SPEED CONTROL OF AC DRIVES**

## Part A – 2 Marks

1. What is an AC drive?
2. Define voltage control in AC drives.
3. Explain frequency control in AC motor drives.
4. What is the function of an inverter in AC drives?
5. What is the purpose of a voltage source inverter (VSI)?
6. Define current source inverter (CSI).
7. What is the V/f control method?
8. Explain the concept of slip power recovery.
9. Define cycloconverter.
10. How does PWM help in AC drives?
11. What is a soft starter?
12. Explain the principle of slip control in induction motors.
13. What are the types of inverters used in AC drives?
14. Define space vector modulation (SVM).
15. What are the advantages of using vector control in AC drives?
16. Explain the function of a variable frequency drive (VFD).
17. What is meant by regenerative braking in AC drives?
18. Explain the concept of direct torque control (DTC).
19. What are the main applications of AC drives?
20. What is the effect of harmonics in AC drives?
21. Define slip power recovery in AC drives.
22. Explain the working of an AC voltage regulator.
23. What is meant by pulse amplitude modulation?
24. Define total harmonic distortion (THD).
25. Explain the importance of energy-efficient AC drives.

## Part B – Detail

1. Explain the working principle of an inverter-fed AC drive.
2. Discuss different types of inverters used in AC drives.
3. Explain voltage and frequency control methods for AC drives.
4. Describe the V/f control method in detail.
5. Discuss the significance of slip power recovery in AC drives.
6. Explain vector control of AC motors.

7. Discuss the working of a cycloconverter-based AC drive.
8. Explain the use of PWM in AC drive control.
9. Discuss soft starting methods for AC drives.
10. Compare VSI and CSI in AC drives.