Unit 3: Induction motor Drives I

1. Full form of VVVF control
1. Variable voltage VAr frequency.
2. VAr variable voltage frequency.
3. Variable VAr voltage frequency.
4. Variable voltage variable frequency.
Answer: 4
2. Speed control by variation of field flux results in
1. Constant power drive.
2. Constant torque drive.
3. Variable power drive.
4. None of the above.
Answer: 1
3. While operating on variable frequency supplies, the AC motor requires variable voltage in order to
1. Protect the insulation.
2. Avoid effect of saturation.
3. Improve the capabilities of the inverter.
4. Protect thyristor from dV / dt.
Answer: 2
4. What are the advantages of V/F control?
1. Smooth speed control
2. Small input current and improved power factor at low-frequency start
3. Higher starting torque for low case resistance
4. All the above
Answer: 4
5. What is meant by stator current control?
1. The stator current can be varied by using current source inverter.
2. The rotor current can be varied by using current source inverter.
3. The stator current can be varied by using voltage source inverter.
4. The stator current can be varied by using voltage source inverter.
Answer: 1
6. What is meant by dynamic braking?
1. It occurs, when the energy stored in the rotating mass is dissipated in an electrical resistance.
2. When the energy released in the rotating mass is dissipated in an electrical resistance.
3. When the energy stored in the stationary mass is dissipated in an electrical resistance.
4. When the energy stored in the stationary field is dissipated in an electrical inductor.
Answer: 1
7. What are the basic requirements of a braking system?
1. Easy to use for driver to operate
2. The maintenance should be a minimum
3. It should be simple, quick, robust and reliable in action
4. All of the above
Answer: 4
8. Give some of advanced methods of speed control of traction motors
1. Thyristor control

2. Chopper control
3. Microprocessor control
4. All of the above
Answer: 4
9. The dynamic braking can be used for
1. Series motors
2. Shunt motors
3. Compound motors
4. All above motors
Answer: 4
10. In induction motor, the regenerative braking is possible only for
1. Speeds greater than synchronous speed
2. Speeds less than synchronous speed
3. Speeds equal to synchronous speed
4. Synchronous speed greater than normal speed
Answer: 1
11. In DC Dynamic Braking
1. The stator of induction is connected across the AC supply
2. The stator of induction is connected in series with the DC supply
3. The stator of induction is connected across the DC supply
4. The stator of induction is connected across the AC supply
Answer: 3
12. For VSI fed Induction Motor Drives, the voltage source inverter is defined as
1. The inverter which takes a variable frequency from a DC supply.
2. The inverter which takes a constant frequency from a DC supply.
3. The inverter which takes a variable voltage from a DC supply.
4. The inverter which takes a variable frequency from a AC supply.
Answer: 1
13. The voltage source inverter fed induction motor drives use self-commutated device like
1. MOSFET
2. IGBT
3. GTO
4. All of the above
Answer: 4
14. When the voltage source inverter is operated as a stepped-wave inverter, then the transistor is switched in the sequence of their number with a time difference of
1. T/6
2. T/2
3. T/3
4. T/4
Answer: 1
15. In VSI fed Induction Motor Drives, when the supply is DC, then the variable DC input is obtained by connecting
1. The inverter between DC supply and chopper.
2. The chopper between DC supply and inverter.
3. The chopper between AC supply and inverter.
4. The chopper between DC supply and rectifier.

Answer: 2
16. In VSI fed Induction Motor Drives, When the supply is AC, then the DC input voltage is obtained by connecting
1. The controlled rectifier between the AC supply and inverter
2. The controlled rectifier between the AC supply and chopper
3. The AC voltage regulator between the AC supply and inverter
4. The controlled rectifier between the DC supply and inverter
Answer: 1
17. The main drawback of the VSI induction motor drive is
1. The large harmonics of the low frequency in the output voltage.
2. The large harmonics of the high frequency in the output voltage.
3. Cause the unsteady motion of the rotor at low speed.
4. Both 1 & 2
5. Both 1 & 3
Answer: 5
18. The current source inverter converts
1. The input direct current into an alternating voltage
2. An alternating current into direct current
3. The input direct current into an alternating current
4. The input direct current into an variable current
Answer: 3
19. In CSI fed induction motor, the ..... act as a current source due to large inductance LD in DC link
1. Rectifier
2. Chopper
3. Inverter
4. Cycloconverter
Answer: 3
20. The output voltage of the current source inverter is
1. Independent of the load.
2. Dependent of the load.
3. Dependent of the switching devices.
4. Dependent of the source voltage.
Answer: 1
21. The major advantage of current source inverter is its
1. Reliability
2. High efficiency
3. Low Noise
4. Constant speed
Answer: 1
22. In Regenerative braking and Multi quadrant Operation of CSI, When the motor speed is less than the synchronous speed then machine work as a
1. Generator
2. Motor
3. Actuator
4. All of the above
Answer: 1

23. The drive can have regenerative braking capability and four quadrant operation if a twoquadrant
chopper provides current in one direction, but voltage in ..... direction is used.
1. Only forward
2. Only reverse
3. Either
4. None of them
Answer: 3