

Unit 1: Electrical Drives

1. What is the advantage of electrical drives?

1. The electric drive has very large range of torque, speed and power.
2. Absence of mechanical gears i.e. speed is changed electrically.
3. The electric drives are non polluting.
4. Four quadrant operation - motoring, braking with reversible speed.
5. All of the above

Answer: 5

2. What are the parts of electrical drives?

1. Electrical motors and load
2. Power Modulator
3. Sources
4. Control Unit & Sensing unit
5. All of the above

Answer: 5

3. What is meant by four quadrant operation?

1. Motor can provide motoring and braking operations for forward directions.
2. Motor can provide motoring and braking operations for both reverse directions.
3. Motor can provide motoring and braking operations for both forward and reverse directions.
4. Motor can provide only motoring operations for both forward and reverse directions.

Answer: 3

4. What are the different factors for the selection of electrical drives?

1. Steady state operation requirements
2. Transient operation requirements
3. Requirements related to the source
4. Capital and running cost, maintenance needs, life
5. All of the above

Answer: 5

5. The consideration involved in the selection of the type of electric drive for a particular application depends upon

1. Speed control range and its nature
2. Starting Nature
3. Environmental condition
4. All of the above

Answer: 4

6. Which of the following motor is preferred for automatic drives?

1. Ward Leonard controlled dc motors
2. Squirrel cage induction motor
3. Synchronous motors
4. Shunt Motor

Answer: 1

7. The consideration involved in the selection of the type of electric drive for the Load Variation application depends upon

1. Constant Load
2. Continuous Variable Load

- 3. Pulsating Load
- 4. All of the above

Answer: 4

8. _____ drive is also called as Line shaft drive

- 1. Individual drive
- 2. Multi motor drive
- 3. Group Drive
- 4. None of the above

Answer: 3

9. The advantages of a group driver electric drive are

- 1. High efficiency
- 2. Low Noise
- 3. Constant speed
- 4. All of the above

Answer: 1

10. The disadvantages of group drive electric machine is/are

- 1. Low efficiency
- 2. Low overload capacity
- 3. Can't be used for constant operation
- 4. All of the above

Answer: 3

11. In _____ drive each machine is driven by its own separate motor with the help of gears and pulley

- 1. Individual drive
- 2. Multi motor drive
- 3. Group Drive
- 4. None of the above

Answer: 1

12. The advantages of the individual drive is/are

- 1. Flexibility in operation
- 2. Each machine can be run or stop as desired
- 3. Maintenance of Line shaft, bearing is eliminated
- 4. All of the above

Answer: 4

13. The drive which is used for metal-cutting machines tools, rolling mills etc. are

- 1. Individual drive
- 2. Multi motor drive
- 3. Group Drive
- 4. None of the above

Answer: 2

14. What type electric drive is used in cranes?

- 1. Multi motor.
- 2. Group.
- 3. Individual.
- 4. Both A and C.

Answer: 1

15. Electric drive is becoming more and more popular because

1. It provides smooth and easy control.
2. It is cheaper in cost.
3. It is simple and reliable.
4. All of below.

Answer: 4

16. The basic elements of a electric drive are

1. Electric motor.
2. Control system.
3. Electrical motor and control system.
4. None of the above.

Answer: 3

17. Electric drive is becoming more and more popular because

1. It is simple, cleaned, compact and reliable
2. It provides easy and smooth control, flexibility in layout, easy starting and facility for remote control
3. It is cheaper in initial as well as in maintenance cost
4. All of the above

Answer: 1

18. Introduction of automation in production process has become possible only because of the use of

1. An electric drive
2. Group drives
3. Individual and multi motor drives
4. Individual Drive

Answer: 3

19. A typical active load is

1. Hoist
2. Lathe
3. Blower
4. Pump

Answer: 1

20. Out of the following, identify Disadvantage of Electrical Drive

1. The application of the drive is limited because it cannot use in a place where the power supply is not available.
2. It can cause noise pollution.
3. The initial cost of the system is high.
4. It has a poor dynamic response.
5. All of the above

Answer: 5

21. What is the different type of load used in electrical drive system.

1. Constant torque type load.
2. Torque proportional to speed (generator type load)
3. Torque proportional to square of the speed (fan type load)
4. Torque inversely proportional to speed (const power type load)
5. All of the above

Answer: 5

22. Identify the component of load torque

1. Friction Torque (TF)
2. Windage Torque (Tw)
3. Torque required to do useful mechanical work (Tm)
4. All of the above

Answer: 4

23. Equilibrium speed of the system can be obtained when motor torque equals the load torque

1. Friction Torque (TF)
2. Motor load
3. Windage Torque (Tw)
4. Torque required to do useful mechanical work (Tm)

Answer: 2

24. At speed, motor will operate in steady-state

1. Equilibrium
2. Uniform
3. Variable
4. Instantaneous

Answer: 1

25. Different kind of power modulator used in electrical drive is

1. Rectifier
2. Chopper
3. Inverter
4. AC voltage regulator
5. All of the above

Answer: 5

26. Which type of power modulator is use in electric drive dependant on

1. Source
2. Load
3. Sensing unit
4. Control unit

Answer: 1

27. The drive is said to be in equilibrium, if

1. The torque developed by the motor is exactly equal to the load torque
2. The torque developed by the motor is greater than the load torque
3. The torque developed by the motor is less than the load torque
4. The torque developed by the motor is greater or than the load torque

Answer: 1