**Subject: Electric Drives**

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| 1 | A typical active load is    (a) hoist  (b) blower  (c) pump  (d) lathe |
| 2 | For a particular type of motor heating time constant    (a) increases with increase in size  (b) decreases with increase in size  (c) increases with decrease in size  (d) remains constant for all size |
| 3 | The most economical electric braking is  (a) plugging  (b) dynamic braking with separate excitation  (c) dynamic braking with self-excitation  (d) regenerative braking |
| 4 | For estimation of power rating of an electric drive, its losses can be considered to be proportional to  (a) power  (b) (power)2  (c) (power)3  (d) torque |
| 5 | A fly-wheel is generally used in  (a) a cement mill drive  (b) a paper mill drive  (c) a rolling mill drive  (d) a sugar centrifuge drive |
| 6 | A four quadrant operation requires  (a) two full converters in series  (b) two full converters connected back to back  (c) two full converters connected in parallel  (d) two semi converters connected back to back |
| 7 | The duty cycle of a motor is  Load Duration  20 kW 120 s  10 kW 120 s  Stopped 280 s  The continuous rating of the motor suitable for above application would be  (a) 20 kW  (b) 16.4 kW  (c) 14.14 kW  (d) 9 kW |
| 8 | Match the items given in List-1 and those in List-2. Select your answer to the question using the codes given.    List-1 (Types of Electric Loads) List-2 (Torque-speed characteristics)  A. Blowers, fans. 1. Intermittent periodic duty.  B. Sirens. 2. Continuous duty.  C. Machine tools. 3. Short time duty.  D. Wire drawing machine. 4. Continuous duty with starting and braking.  Codes: A B C D  (a) 2 3 4 1  (b) 1 2 3 4  (c) 3 4 1 2  (d) 4 1 2 3 |
| 9 | Load equalization is desirable in the case of  (a) very large refrigeration and air-conditioning plants  (b) rolling mills, electric hammers, reciprocating pumps, presses  (c) lathes, paper making machines, wood working machines  (d) travelling cranes, lifts |
| 10 | Load torque constant at all speeds is represented by a  (a) fan  (b) compressor  (c) centrifugal pump load  (d) none of the above |
| 11 | The selection of electric motor is governed by    (a) nature of load to be handled  (b) environmental conditions  (c) nature of electric supply available  (d) all of the above |
| 12 | Which of the following motors is preferred when quick speed reversal is the main consideration?  (a) Squirrel-cage induction motor  (b) Wound rotor induction motor  (c) Synchronous motor  (d) DC motor |
| 13 | The phase-controlled rectifiers used in speed control of dc motors convert fixed ac supply voltage into \_\_\_\_\_\_ output voltage  (a) variable dc  (b) variable ac  (c) variable frequency ac  (d) fully rectified ac |
| 14 | The slip power recovery scheme is used in induction motor for speed control in the range  (a) above synchronous speed  (b) below synchronous speed  (c) both above and below synchronous speed  (d) none of the above |
| 15 | The basic elements of an electric drive are  (a) electric motor and transmission system  (b) electric motor, transmission system and control system  (c) the transmission system and control system  (d) electric motor and conversion equipment |
| 16 | The plugging provides\_\_\_\_\_\_\_\_ braking torque in comparison to rheostatic and regenerative braking systems.  (a) negligible  (b) small  (c) highest  (d) none of the above |
| 17 | Dynamic braking is employed to brake  (a) non-reversing drive  (b) reversing drive  (c) both reversing and non-reversing drive  (d) None of the above |
| 18 | The least significant electrical characteristics in selection of electric motor for a flour mill is  (a) starting characteristics  (b) braking  (c) running characteristics  (d) efficiency |
| 19 | A dc series motor is used for an overhauling load. It can work stably if  (a) the armature is shunted by a resistor  (b) the field winding is reversed  (c) a resistor is put in series with the machine  (d) a diverter is put across the field |
| 20 | The load cycle for a motor driving a power press will be  (a) continuous  (b) variable  (c) intermittent and variable  (d) continuous but periodical |