







BSNL TTA Question Paper-Electrical Specialization 2007

- 1. In a D.C. generator, if the brushes are given a small amount of forward shift, the effect of armature is
- a. Totally demagnetizing
- b. Totally magnetizing
- c. Partly demagnetizing and partly cross magnetizing
- d. Totally cross magnetizing
- 2. The air gap between stator and armature of an electric motor is kept as small as possible
- a. To get a stronger magnetic field
- b. to improve the air circulation
- c. To reach the higher speed of rotation
- d. To make the rotation easier.
- 3. Two series motors are coupled. One motor runs as generator and other as motor. The friction losses of the two machines will be equal when
- a. Both operates at same voltage
- b. Both have same back emf
- c. Both have same speed
- d. both have same excitation
- 4. Plugging of D.C. motor is normally executed by
- a. Reversing the field polarity
- b. Reversing the armature polarity
- c. Reversing both the armature and field polarity
- d. Connecting a resistance across the armature.
- 5. Transformer oil transformer provides
- a. Insulation and cooling
- b. B. Cooling and lubrication
- c. Lubrication and insulation











- d. Insulation, cooling and lubrication
- 6. Leakage fluxes of transformer may be minimized by
- a. Reducing the magnetizing current to the minimum
- b. Reducing the reluctance of the iron core to the minimum
- c. Reducing the number of primary and secondary turn to the minimum
- d. Sectionalizing and interleaving the primary and secondary windings
- 7. Electric power is transformed upon one coil to other coil in a transformer
- a. Electrically
- b. Electro Magnetically
- c. Magnetically
- d. Physically
- 8. The most suitable and economical connection for small high voltage transformer isa.

Star- Delta connection

- b. Delta- Delta connection
- c. Delta- Star connection
- d. Star- Star connection
- 9. An alternator is said to be over excited when it is operating at
- a. Unity power factor
- b. Leading power factor
- c. Lagging power factor
- d. Either lagging or leading power factor
- 10. In an A.C. machine, the armature winding is kept stationary while the field winding is kept rotating for the following rason
- a. Armature handles very large currents and high voltages
- b. Armature friction involving deep slots to accommodate large coils is easy if armature is kept stationary
- c. Ease of cooling the stator than rotor
- d. None of the above.















- 11. In a synchronous motor, the torque angle is the
- a. Angle between the rotating stator flux and rotor poles
- b. Angle between the magnetizing current and back emf
- c. Angle between the supply voltage and back emf
- d. None of the above
- 12. A 3-phase synchronous motor is said to be "floating" when it operates
- a. On no load and without loss
- b. On constantly varying load
- c. On pulsating load
- d. On high load and variable supply voltage
- 13. Speed of synchronous motor depends upon
- a. Number of poles
- b. Supply frequency
- c. Both (a) and (b)
- d. Neither (a) nor (b)
- 14. Imbalance in the shaft of an induction motor occurs due to
- a. Slip rings
- b. Overheating of winding
- c. Non uniform of air gap
- d. Rigid consturcion
- 15. Squirrel cage induction motor has
- a. Zero starting torque
- b. Very small starting torque
- c. Medium starting torque
- d. Very high starting torque
- 16. The principle of operation of a 3-phase induction motor is similar to that of a
- a. Synchronous motor











- b. Repulsion start induction motor
- c. Transformer with a shorted secondary
- d. Capacitor start, induction run motor
- 17. The speed/load characteristics of a universal motor are similar to those
- a. D.C. shunt motor
- b. D.C. series motor
- c. A.C. motor
- d. None of the above
- 18. Single phase A.C. motor generally used for vacuum cleaners is
- a. Universal motor
- b. Repulsion motor
- c. Hysteresis motor
- d. Reluctance motor
- 19. Buchholz relay is used for the protection of
- a. Switch yard
- b. Transformers
- c. Alternators
- d. Transmission lines
- 20. The type of braking used in traction system is
- a. Mechanical braking
- b. Electro pneumatic braking
- c. Vacuum braking system
- d. All the above
- 21. The function of processing zenger diode in a UJT circuit used for triggering of SCRs is to
- a. Expedite the generation of triggering pulses
- b. Delay the generation of triggering pulses
- c. Provide a constant voltage to UJT to prevent erratic firing
- d. Provide a variable voltage to UJT as the source voltage changes













- 22. The frequency of a ripple in the output voltage of a 3 phase semi converter depends upon
- a. Firing angle and load resistance
- b. Firing angle and supply frequency
- c. Firing angle and load inductance
- d. Only on load circuit parameters
- 23. The SCR is turned off when the anode currents falls below
- a. Forward current rating
- b. Break over voltage
- c. Holding current
- d. Latching
- 24. V4 characteristics of emitter of a UJT is
- a. Similar to CE with linear and saturation region
- b. Similar to FET with a linear and pinch of region
- c. Similar to tunnel diode in some respects
- d. Linear between the peak point and valley point
- 25. A transformer works on
- a. DC
- b. AC
- c. AC & DC both
- d. Neither AC not DC
- 26. Which of the following device is used in transformer?
- a. Tube light
- b. Electric heater
- c. Mobile phone
- d. Rectifier module
- 27. Earth electrodes can be in the form of
- a. rods or piper









- b. stripes
- c. plates
- d. any of above
- 28. Carbone or metal brushes are used in
- a. DC generators only
- b. AC generators only
- c. Both AC & DC generation
- d. None of above
- 29. Energy is lost due to Joule's heating effects in winding of transformer. This is called
- a. Copper loss
- b. Eddy current loss
- c. Flux loss
- d. None
- 30. In refrigeration cycle heat is lost in
- a. Cooling coil
- b. Condenser
- c. Compressor
- d. Expansion valve
- 31. The power factor of AC circuit is
- a. R/X
- b. R/Z
- c. Z/R
- d. Zero
- 32. Silicon controlled output is good if ripple factor is
- a. Switch
- b. Transformer
- c. Amplifier
- d. None of above













- 33. The rectifier output is good if ripple factor is\
- a. More
- b. Less
- c. Constant
- d. None of above
- 34. Protective relays can monitor large AC current by means of
- a. Current transformer
- b. Potential transformer
- c. Micro transformer
- d. None of above
- 35. The combines AM of two similar batteries connected in parallel is:
- a. halved
- b. doubled
- c. remain constant
- d. none of above
- 36. The current in circuit having 5 V EMI source and 10 Ohm resistance is:
- a. 2 Amp
- b. 50 Amp
- c. 5 Amp
- d. 1/4mp
- 37. The chopper is a device to change
- a. Voltage
- b. Current
- c. Frequency
- d. None of these
- 38. The power consumption, in case of centrifugal loads (like pump, fan, blower etc) is proportional to:









- a. speed
- b. square of speed
- c. cube of speed
- d. none of these
- 39. Which of these need to be measured after rewinding the motor:
- a. no load current
- b. air gap
- c. winding resistance
- d. all of the above
- 40. Five percent increase in supply frequency will change the synchronous speed of motor by:
- a. -5%
- b. +5%
- c. -10%
- d. +10%
- 41. Which of the following is the best inverter?
- a. square wave inverter
- b. sine wave inverter
- c. pure sine wave inverter
- d. triangular wave inverter
- 42. For driving a motor in a tape recorder or record player, the motor used is generally:
- a. a synchronous motor
- b. a hydraulic motor
- c. an induction motor
- d. a dc series motor
- 43. The DC motor starter used with a constant speed shunt motor is:
- a. 2 point starter
- b. 3 point starter
- c. 4 point starter













- d. 5 point starter
- 44. A commutator in a DC motor converts
- a. AC to DC
- b. DC to AC
- c. Both AC to DC and DC to AC
- d. None of these
- 45. Two transformers running in parallel will share the load according to their:
- a. leakage reactance
- b. pu impedance
- c. efficiency
- d. rating
- 46. The size of the Earth Wire is determined by:
- a. the ampere capacity of the service wires
- b. the atmospheric conditions
- c. the voltage of service wires
- d. none of these
- 47. The function of lightning arrester is:
- a. to limit the short circuit fault current
- b. to provide path to high voltage surge to earth
- c. to reduce arcing
- d. none of these
- 48. Surge protector provide:
- a. high impedance to normal voltage
- b. low impedance to surge
- c. both (a) and (b)
- d. none of these
- 49. Earthing is necessary to give protection against











- a. voltage fluctuation
- b. overloading
- c. danger of electric shock
- d. high temperature of conductors
- 50. The primary function of fuse is to
- a. protect the appliance
- b. open the circuit
- c. prevent excessive current
- d. protect the line





