

TS TRASCO Sub Engineer Model Question Papers

(1) The two windings of a transformer is

- (A) conductively linked.
- (B) inductively linked.
- (C) not linked at all.
- (D) electrically linked.

Ans : B

(2) The d.c. series motor should always be started with load because

- (A) at no load, it will rotate at dangerously high speed.
- (B) it will fail to start.
- (C) it will not develop high starting torque.
- (D) all are true.

Ans: A

(3) The frequency of the rotor current in a 3 phase 50 Hz, 4 pole induction motor at full load speed is about

- (A) 50 Hz.
- (B) 20 Hz.
- (C) 2 Hz.
- (D) Zero.

Ans: C

(4) The power factor of a squirrel cage induction motor is

- (A) low at light load only.
- (B) low at heavy load only.
- (C) low at light and heavy load both.
- (D) low at rated load only.

Ans: A

(5) The generation voltage is usually

- (A) between 11 KV and 33 KV.
- (B) between 132 KV and 400 KV.
- (C) between 400 KV and 700 KV.
- (D) None of the above.

Ans: A

(6) When a synchronous motor is running at synchronous speed, the damper winding produces

- (A) damping torque.
- (B) eddy current torque.
- (C) torque aiding the developed torque.
- (D) no torque.

Ans: D

(7) If a transformer primary is energised from a square wave voltage source, its output voltage will be

- (A) A square wave.
- (B) A sine wave.
- (C) A triangular wave.
- (D) A pulse wave.

Ans: A

(8) In a d.c. series motor the electromagnetic torque developed is proportional to

- (A) I_a
- (B) $(I_a)^2$
- (C) $1/I_a$
- (D) $1/(I_a)^2$

Ans: B

(9) In a d.c. machine, the armature mmf is

- (A) stationary w.r.t. armature.
- (B) rotating w.r.t. field.
- (C) stationary w.r.t. field.
- (D) rotating w.r.t. brushes.

Ans: C

(10) Which of the following is usually not the generating voltage ?

- (A) 6.6 kV
- (B) 9.9 kV
- (C) 11 kV
- (D) 13.2 kV.

Ans: B

(11) Boosters are basically

- (A) inductors
- (B) capacitors
- (C) transformers
- (D) synchronous motors

Ans: C

(11) Which of the following is not the distribution system normally used

- (A) 3 phase-4 wire
- (B) 3 phase-3 wire
- (C) Single phase – 3 wire
- (D) Single phase -4 wire.

Ans: D

(12) Conductors for high voltage transmission lines are suspended from towers

- (A) to reduce clearance from ground
- (B) to increase clearance from ground
- (C) to reduce wind and snow loads

(D) to take care of extension in length during summer.

Ans: B

(13) Transmission efficiency increases as

(A) voltage and power factor both increase

(B) voltage and power factor both decrease

(C) voltage increases but power factor decreases

(D) voltage decreases but power factor increases.

Ans: A

(14) In overhead transmission lines the effect of capacitance can be neglected when the length of line is less than

(A) 200 km

(B) 160 km

(C) 100 km

(D) 80 km.

Ans: D

(15) Skin effect depends on

(A) size of the conductor

(B) frequency of the current

(C) resistivity of the conductor material

(D) all of the above.

Ans: D

(16) Instrument is a device for determining

(a) the magnitude of a quantity

(b) the physics of a variable

(c) either of the above

(d) both (a) and (b)

(17) Electronic instruments are preferred because they have

(a) no indicating part

(b) low resistance in parallel circuit

(c) very fast response

(d) high resistance in series circuit

(e) no passive elements.

(18) An accurate voltmeter must have an internal impedance of

(a) very low value

(b) low value

(c) medium value

(d) very high value

(19) The insulation resistance of a transformer winding can be easily measured with

(a) Wheatstone bridge

- (b) megger
- (c) Kelvin bridge
- (d) voltmeter

(20) A 100 V voltmeter has full-scale accuracy of 5%. At its reading of 50 V it will give an error of

- (a) 10%
- (b) 5%
- (c) 2.5%
- (d) 1.25%

(21) An analog instrument has output

- (a) Pulsating in nature
- (b) Sinusoidal in nature
- (c) Which is continuous function of time and bears a constant relation to its input
- (d) Independent of the input quantity

(22) Which of the following instrument is suitable for measuring both a.c. and d.c. quantities.

- (a) permanent magnet moving coil ammeter.
- (b) Induction type ammeter.
- (c) Quadrant electrometer.
- (d) Moving iron repulsion type ammeter.
- (e) Moving iron attraction type voltmeter.

(23) For a line voltage V and regulation of a transmission line R

Ans: B

(24) The temperature of resistance furnaces can be controlled by changing the:

- (A) applied voltage
- (B) number of heating elements
- (C) circuit configuration
- (D) All of the above

Ans: D

(25) A single phase Hysteresis motor

- (A) can run at synchronous speed only
- (B) can run at sub synchronous speed only
- (C) can run at synchronous and super synchronous speed
- (D) can run at synchronous and sub synchronous speed

Ans: A

(26) The armature of a dc machine is laminated to reduce:

- (A) Eddy current loss
- (B) Hysteresis loss
- (C) copper losses

(D) friction and windage losses

Ans: A

(26) No load current in a transformer:

(A) lags the applied voltage by 90°

(B) lags the applied voltage by somewhat less than 90°

(C) leads the applied voltage by 90°

(D) leads the applied voltage by somewhat less than 90°

Ans: B

(27) Fleming's left hand rule is applicable to ?

a) dc generator b) dc motor

c) alternator d) Transformer

ANS: (b)

(28) Which of the following power plants is the least reliable ?

a) wind b) tidal

c) geothermal d) solar

ANS: (a)

29) Which of the following power plants is the most reliable ?

a) diesel b) Hydro-electric

c) steam d) tidal

ANS: (b)

(30) Zener diodes , when used as voltage standards ?

a) are forward biased b) are reverse biased

c) cover a wide range of current d) operate in breakdown strength

e) all of above except (a)

ANS : (e)

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