PGCIL DT EE 27 10 2018

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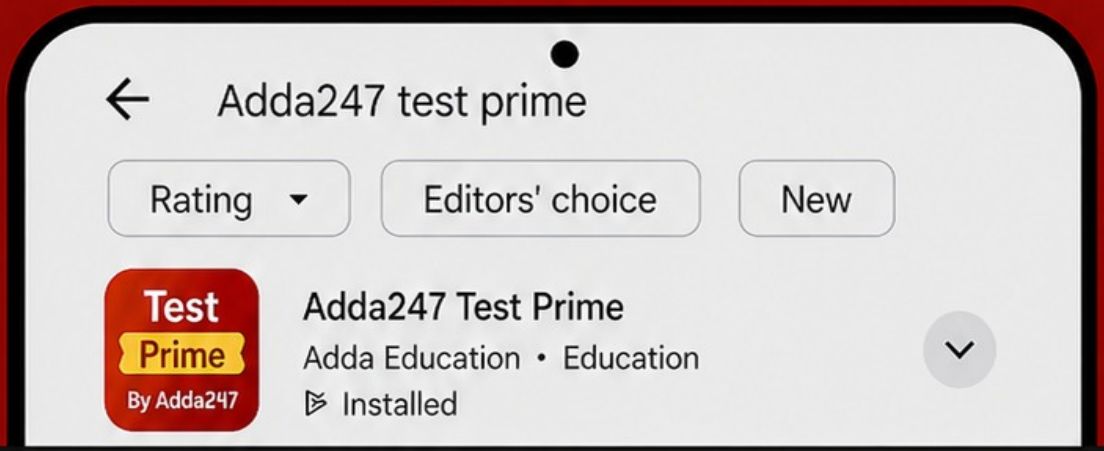

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Section : **Electrical Engineering**

Q.1 One 750 kV line can normally carry as much power as how many 400 kV circuits for equal distance of transmission?

Question ID : **6967212632**
Status : **Answered**
Chosen Option : **2**

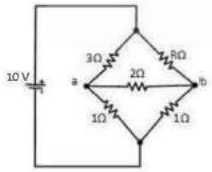
Ans
✗ 1. 3
✗ 2. 2
✓ 3. 4
✗ 4. 1

Q.2 The Laplace transform of $e^{-at}\sin \omega t$ is:

Question ID : **6967212644**
Status : **Answered**
Chosen Option : **1**

Ans
✓ 1. $\frac{\omega}{(s+a)^2+\omega^2}$
✗ 2. $\frac{\omega}{(s+a)+\omega}$
✗ 3. $\frac{s+a}{(s+a)+\omega}$
✗ 4. $\frac{s+a}{(s+a)^2+\omega^2}$

Q.3 For a given electrical circuit, determine the value of R, such that NO power is dissipated across the 2 Ω resistor.



Question ID : **6967212569**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. 1 Ω
✓ 2. 3 Ω
✗ 3. 4 Ω
✗ 4. 2 Ω

Q.4 Which relay is also called angle impedance relay?

Question ID : **6967212648**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. Impedance relay
✗ 2. Reactance relay

✔ 3. Mho relay

✘ 4. Frequency relay

Q.5 An insulator is so designed that it should fail only by:

Question ID : **6967212610**
Status : **Answered**
Chosen Option : **2**

Ans
✘ 1. a line breakdown
✔ 2. a flash-over
✘ 3. a puncture
✘ 4. less sag

Q.6 Which of the following power plants has a high initial cost, low running and maintenance cost and no standby losses?

Question ID : **6967212647**
Status : **Answered**
Chosen Option : **3**

Ans
✘ 1. Nuclear power plant
✘ 2. Steam power plant
✔ 3. Hydro-electric power plant
✘ 4. Diesel power plant

Q.7 The ratio of the capacity of the star-star bank to the delta-delta bank of a transformer is:

Question ID : **6967212596**
Status : **Answered**
Chosen Option : **3**

Ans
✘ 1. 86.6%
✘ 2. 66.7%
✔ 3. 57.7%
✘ 4. 50%

Q.8 The type lightning arrester commonly used on systems operating at voltages up to 33 kV is a:

Question ID : **6967212649**
Status : **Answered**
Chosen Option : **3**

Ans
✘ 1. horn gap arrester
✘ 2. rod gap arrester
✘ 3. valve type arrester
✔ 4. protector tube

Q.9 If the length of the cross-arm of tower is increased what is the net effect on the string efficiency?

Question ID : **6967212663**
Status : **Answered**
Chosen Option : **4**

Ans
✔ 1. Increases
✘ 2. No change
✘ 3. Zero
✘ 4. Decreases

Q.10 The material which is to be electroplated:

Question ID : **6967212630**
Status : **Answered**
Chosen Option : **3**

Ans
✘ 1. can be connected to either cathode or anode
✘ 2. is freely kept in the electrolytic tank
✔ 3. is connected to the terminal of the cathode
✘ 4. is connected to the terminal of the anode

Q.11 A 3-phase, 12-pole alternator driven at a speed of 500 rpm supplies power to an 8-pole, 3-phase induction motor. Calculate the approximate full load speed of the motor if the slip of the motor at full load is 3%.

Question ID : **6967212598**
Status : **Not Attempted and**

Ans
1. 615 rpm
2. 730 rpm
3. 510 rpm
4. 800 rpm

Marked F
Chosen Option : --

Q.12 Which of the statement is FALSE with respect to a shaded-pole induction motor?

Question ID : **6967212606**
Status : **Answered**
Chosen Option : **3**

Ans
1. Efficiency vary from 5% to 35%
2. Extremely rugged
3. High starting torque
4. Very little overload capacity

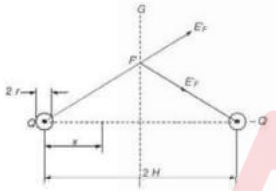
Q.13 The angle between the rotor poles of a synchronous motor and synchronously rotating stator flux is called as:

Question ID : **6967212591**
Status : **Answered**
Chosen Option : **1**

Ans
1. torque angle
2. slip angle
3. power factor angle
4. synchronising angle

Q.14 The figure shows two conductors of equal radius r located at a centre-to-centre distance of 2H. The charge on each conductor is Q C/m and of opposite polarity. On a unit, a positive charge is located at F at a distance of x from the centre of the left conductor. The total force exerted is given by:

Question ID : **6967212668**
Status : **Not Attempted and Marked For Review**
Chosen Option : --



Ans
1. $E_f = \frac{Q}{2\pi\varepsilon_o}\left(\frac{1}{x} - \frac{1}{2H+x}\right)$
2. $E_f = \frac{Q}{2\pi\varepsilon_o}\left(\frac{1}{x} - \frac{1}{2H-x}\right)$
3. $E_f = \frac{Q}{2\pi\varepsilon_o}\left(\frac{1}{x} + \frac{1}{2H+x}\right)$
4. $E_f = \frac{Q}{2\pi\varepsilon_o}\left(\frac{1}{x} + \frac{1}{2H-x}\right)$

Q.15 The transient voltage that appears across the contacts at or near current zero during arcing period is known as:

Question ID : **6967212666**
Status : **Answered**
Chosen Option : **1**

Ans
1. restriking voltage
2. recovery voltage
3. arc voltage
4. rated voltage

Q.16 Fusing factor is the ratio of:

Question ID : **6967212618**

Ans ✗ 1. current rating of fuse to the minimum fusing current

Status : Answered
Chosen Option : 2

✓ 2. minimum fusing current to the current rating of fuse

✗ 3. minimum fusing current to the fault current

✗ 4. minimum fusing current to the arcing time constant

Q.17 Which among the following is used as a voltage regulator?

Question ID : **6967212561**
Status : **Answered**
Chosen Option : **4**

Ans ✗ 1. Light emitting diode

✗ 2. Photodiode

✗ 3. Shockley diode

✓ 4. Zener diode

Q.18 An alternating current series motor run on:

Question ID : **6967212581**
Status : **Answered**
Chosen Option : **3**

Ans ✗ 1. Alternating current only

✗ 2. Direct current only

✓ 3. AC and DC both

✗ 4. pulsating DC

Q.19 What is the effect of armature reaction when the generator supplies a load at unity power factor?

Question ID : **6967212603**
Status : **Answered**
Chosen Option : **3**

Ans ✗ 1. Demagnetising

✗ 2. Magnetising

✓ 3. Cross-magnetising

✗ 4. Partly magnetising and partly cross magnetising

Q.20 For a DC welding Motor-Generator set, which type of DC generator is used?

Question ID : **6967212628**
Status : **Answered**
Chosen Option : **1**

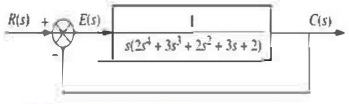
Ans ✓ 1. Differential compound DC generator

✗ 2. DC Series generator

✗ 3. DC Shunt generator

✗ 4. Cumulative compound DC generator

Q.21 Find the number of poles in the right-half plane (RHP) for the system as shown. Is the system stable?



Question ID : **6967212643**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans ✓ 1. 2 RHP poles; System is unstable

✗ 2. 2 RHP poles; System is stable

✗ 3. 3 RHP poles; System is unstable

✗ 4. 3 RHP poles; System is stable

Q.22 Calculate the frequency of the rotor current when the synchronous speed is 1,500 rpm and rotor speed is 1,440 rpm and supply frequency is 50 Hz.

Question ID : **6967212605**
Status : **Answered**
Chosen Option : **1**

Ans
✔ 1. 2 Hz
✘ 2. 5 Hz
✘ 3. 1 Hz
✘ 4. 0.5 Hz

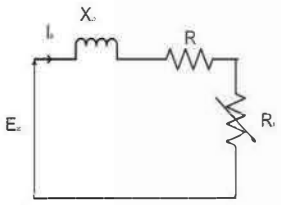
Q.23 In a 3-phase induction motor for large value of slip the torque is:

Question ID : **6967212599**
Status : **Answered**
Chosen Option : **4**

Ans
✘ 1. proportional to square of slip
✘ 2. proportional to slip
✘ 3. inversely proportional to square of slip
✔ 4. inversely proportional to slip

Q.24 In the per phase rotor equivalent circuit of a three-phase induction motor as shown below:

Question ID : **6967212577**
Status : **Answered**
Chosen Option : **3**



Expression for R_1 will be given by:

Ans
✘ 1. R
✘ 2. 0
✔ 3. $R\left(\frac{1-s}{s}\right)$
✘ 4. $R\left(\frac{1}{s}\right)$

Q.25 In a 3-phase induction motor the torque under running conditions will be maximum when:

Question ID : **6967212604**
Status : **Answered**
Chosen Option : **1**

Ans
✔ 1. the rotor resistance per phase is equal to the rotor reactance per phase
✘ 2. the rotor resistance becomes zero
✘ 3. the rotor resistance is not equal to the rotor reactance
✘ 4. the rotor resistance is twice the rotor reactance

Q.26 Which of the following motor is used in vacuum cleaner?

Question ID : **6967212589**
Status : **Answered**
Chosen Option : **3**

Ans
✘ 1. Reluctance motor
✘ 2. Single-phase AC series motor
✔ 3. Universal motor
✘ 4. Hysteresis motor

Q.27 The relation between the old and new per unit impedance values is given by:

Question ID : **6967212651**
Status : **Answered**
Chosen Option : **2**

Ans

1. $Z_{pu}^{new} = Z_{pu}^{old} \frac{S_B^{old}}{S_B^{new}} \left(\frac{V_B^{old}}{V_B^{new}}\right)^2$

2. $Z_{pu}^{new} = Z_{pu}^{old} \frac{S_B^{new}}{S_B^{old}} \left(\frac{V_B^{old}}{V_B^{new}}\right)^2$

3. $Z_{pu}^{new} = Z_{pu}^{old} \frac{S_B^{new}}{S_B^{old}} \left(\frac{V_B^{new}}{V_B^{old}}\right)^2$

4. $Z_{pu}^{old} = Z_{pu}^{new} \frac{S_B^{new}}{S_B^{old}} \left(\frac{V_B^{old}}{V_B^{new}}\right)^2$

Q.28 Binary addition of 16 and -83 using 2's compliment results in:

Ans

1. -1000011_2
2. 1000011_2
3. 1000010_2
4. -1000010_2

Question ID : **6967212670**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.29 The speed at which a four-pole alternator should be driven to generate 50 cycles per second is:

Ans

1. 1,400 rpm
2. 500 rpm
3. 1,000 rpm
4. 1,500 rpm

Question ID : **6967212587**
Status : **Answered**
Chosen Option : **1**

Q.30 For the transmission of power, a direct drive is only preferred when:

Ans

1. the slip is negligible
2. the speed of the driven machine equals the motor speed
3. the high speed motor is to drive a low speed machine
4. a noiseless, slipless and smooth operation is required

Question ID : **6967212667**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.31 Compensating winding is used in an AC series motor in order to:

Ans

1. decrease starting current
2. reduce effect of armature reaction
3. reduce sparking at brushes
4. increase torque

Question ID : **6967212661**
Status : **Answered**
Chosen Option : **3**

Q.32 The maximum HVAC transmission level in India is:

Ans

1. 900 kV
2. 765 kV
3. 400 kV

Question ID : **6967212636**
Status : **Answered**
Chosen Option : **2**

✗ 4. 220 kV

Q.33 A generating station supplies the following loads to various consumers

A = 1,500 kW, B = 750 kW, C = 100 kW, D = 450 kW. If the maximum demand on station is 2,500 kW, find the diversity factor.

Question ID : **6967212615**
Status : **Answered**
Chosen Option : **1**

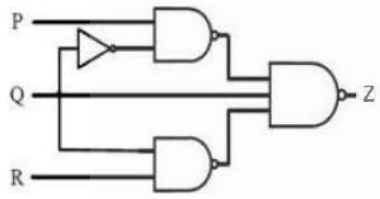
Ans
✓ 1. 1.12
✗ 2. 1.89
✗ 3. 1.56
✗ 4. 0.8

Q.34 A 200 V separately excited DC motor has an armature resistance of 0.05 draws an armature current of 20 A, running at 1,200 rpm. Calculate the approximate torque developed for given armature current.

Question ID : **6967212576**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. $\pi/200$ Nm
✗ 2. 10/4 Nm
✓ 3. $100/\pi$ Nm
✗ 4. $\pi/100$ Nm

Q.35 From the given logic circuit, determine the expression for Z.



Question ID : **6967212654**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
✗ 1. $\bar{P} + R$
✗ 2. $\overline{PQ} + R$
✗ 3. $\bar{Q} + P$
✓ 4. $\bar{Q} + R$

Q.36 The solid angle subtended by a sphere surface at its centre is:

Question ID : **6967212629**
Status : **Answered**
Chosen Option : **4**

Ans
✗ 1. $\pi/2$ steradians
✗ 2. 2π steradians
✗ 3. π steradians
✓ 4. 4π steradians

Q.37 If the residual magnetism of a DC shunt generator is destroyed accidentally, it may be restored by connecting its shunt field:

Question ID : **6967212597**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. in reverse
✓ 2. to a DC source
✗ 3. to an AC source
✗ 4. to the earth

Q.38 If the percentage reactance of the system up to the fault point is 30% and the base kV·A is 9,000. Find the value of the short circuit kV·A.

Question ID : **6967212617**
Status : **Answered**

Ans
✗ 1. 50,000

✗ 2. 45,000
✓ 3. 30,000
✗ 4. 33,000

Chosen Option : 3

Q.39 Stroboscopic effect is NOT observed in:

Question ID : **6967212631**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
✗ 1. sodium vapour lamps
✗ 2. fluorescent lamps
✓ 3. incandescent lamps
✗ 4. mercury vapour lamps

Q.40 At which power factor, a transformer has negative voltage regulations?

Question ID : **6967212593**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. Lagging
✓ 2. Leading
✗ 3. Unity
✗ 4. Zero

Q.41 The maximum efficiency is achieved in a transformer when the:

Question ID : **6967212580**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. iron loss becomes twice the copper loss
✗ 2. Iron loss becomes zero
✓ 3. copper loss equals to the iron loss
✗ 4. copper loss is not equal to the iron loss

Q.42 Synchronous motor can be used for power factor improvement when it operates with:

Question ID : **6967212611**
Status : **Answered**
Chosen Option : **1**

Ans
✓ 1. Over excitation
✗ 2. No excitation
✗ 3. Normal excitation
✗ 4. Under excitation

Q.43 Which of the following is the transfer function of:

$$\frac{dc(t)}{dt} + 2c(t) = r(t)$$

Question ID : **6967212642**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
✗ 1. $G(s) = \frac{s}{s-2}$
✗ 2. $G(s) = \frac{1}{s-2}$
✗ 3. $G(s) = \frac{s}{s+2}$
✓ 4. $G(s) = \frac{1}{s+2}$

Q.44 Which method is opted to achieve speed control above the rated RPM for a DC motor?

Question ID : **6967212585**
Status : **Answered**
Chosen Option : **1**

Ans
✓ 1. Flux control method
✗ 2. Armature circuit resistance

3. Ward Leonard Method

4. Voltage control method

Q.45 The transfer function of the lead compensator is:

Question ID : **6967212669**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Ans

1. $G_c(s) = \frac{1}{\beta}\frac{s+\frac{1}{T}}{s+\frac{1}{\beta T}}$ where $\beta < 1$

2. $G_c(s) = \frac{1}{\beta}\frac{s-\frac{1}{T}}{s-\frac{1}{\beta T}}$ where $\beta > 1$

3. $G_c(s) = \frac{1}{\beta}\frac{s+\frac{1}{T}}{s+\frac{1}{\beta T}}$ where $\beta > 1$

4. $G_c(s) = \frac{1}{\beta}\frac{s-\frac{1}{T}}{s-\frac{1}{\beta T}}$ where $\beta < 1$

Q.46 A universal motor is preferred for which application?

Question ID : **6967212607**

Status : **Answered**

Chosen Option : **3**

Ans

1. High speed and high torque

2. Low speed

3. Low torque and high speed

4. Low torque

Q.47 Determine the charging current (I_c) at 50 Hz of a single-conductor EHV transmission line having voltage to ground of 500 kV and capacitance per unit length of the conductor to ground 2 nF/km.

Question ID : **6967212633**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Ans

1. 0.1π A

2. π A

3. 0.01π A

4. 0.001π A

Q.48 Calculate the demand factor if the maximum demand on a station is 20 MW and the connected load is 43 MW.

Question ID : **6967212623**

Status : **Answered**

Chosen Option : **3**

Ans

1. 0.9

2. 0.834

3. 0.465

4. 0.056

Q.49

Question ID : **6967212659**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Consider a circular conductor and a bar magnet as shown below and state which of the following statements is/are true?

I) The induced current in the conductor when the north pole of bar magnet is pushed towards the conductor is in an anticlockwise direction.

II) The induced current in the conductor when the south pole of bar magnet is pushed away from the conductor is in a clockwise direction.

III) The induced current in the conductor when the south pole of bar magnet is pushed away from the conductor is in an anticlockwise direction.

IV) The induced current in the conductor when the north pole of bar magnet is pushed away from the conductor is in an anticlockwise direction.

Ans

✔ 1. I and III only

✘ 2. I and II only

✘ 3. III and IV only

✘ 4. II and IV only

Q.50 The maintenance of the transmission line passing through polluted or coastal areas should be completed ___ before the onset of winter.

Question ID : **6967212641**
Status : **Answered**
Chosen Option : **3**

Ans

✘ 1. four times

✘ 2. thrice

✘ 3. twice

✔ 4. once

Q.51 A 6-pole, 50-Hz, three-phase induction motor develops mechanical power 16.252 kW at a rotor frequency of 1.5 Hz. The value of the rotor copper loss will be:

Question ID : **6967212584**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

✘ 1. 235 W

✔ 2. 0.5026 kW

✘ 3. 1.23 kW

✘ 4. 0.6234 kW

Q.52 A linear system:

Question ID : **6967212645**
Status : **Answered**
Chosen Option : **4**

Ans

✘ 1. satisfies the properties of homogeneity but not of superposition

✘ 2. satisfies the properties of superposition but not of homogeneity

✘ 3. does not satisfy the properties of superposition and homogeneity

✔ 4. satisfies the properties of superposition and homogeneity

---

Q.53 A/an_____ system utilises luminaries which send most of the light downwards directly on the working plane but a considerable amount reaches the ceilings and walls also.

Question ID : **6967212625**
Status : **Not Answered**
Chosen Option : **--**

Ans

✘ 1. semi-indirect

✘ 2. direct

✔ 3. semi-direct

✘ 4. indirect

Q.54 What would be the magnitude of the induced emf in a conductor of length 2 m moving at a velocity of 20 m/s at an angle 45° to a magnetic field of flux density 0.5 Wb/m^2?

Ans
1. ✔ 14.14 V
2. ✘ 1 V
3. ✘ 0 V
4. ✘ 7.07 V

Question ID : **6967212558**
Status : **Answered**
Chosen Option : **1**

Q.55 For the protection of a delta-star transformer using differential protection scheme, which of the following CT connection is used?

Ans
1. ✘ Primary Star, Secondary Star
2. ✘ Primary Delta, Secondary Star
3. ✔ Primary Star, Secondary Delta
4. ✘ Primary Delta, Secondary Delta

Question ID : **6967212664**
Status : **Answered**
Chosen Option : **3**

Q.56 For lagging load power factor, the field of synchronous motor is:

Ans
1. ✘ overexcited
2. ✔ underexcited
3. ✘ normally excited
4. ✘ not excited

Question ID : **6967212592**
Status : **Answered**
Chosen Option : **2**

Q.57 A BJT has its base current as 0.02 mA, and the current amplification factor as 0.9. Determine the value of the emitter current if the I_{CBO} is found to be 30 μA.

Ans
1. ✘ 0.9 mA
2. ✘ 1 mA
3. ✔ 0.5 mA
4. ✘ 0.45 mA

Question ID : **6967212562**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.58 In a three-phase induction motor, the slip is generally:

Ans
1. ✘ 15% to 25%
2. ✔ 2% to 5%
3. ✘ 0
4. ✘ More than 45%

Question ID : **6967212583**
Status : **Answered**
Chosen Option : **2**

Q.59 Which type of instruments do NOT have a NON-linear scale?

Ans
1. ✘ Moving Iron
2. ✔ PMMC
3. ✘ Electrostatic
4. ✘ EMMC

Question ID : **6967212565**
Status : **Answered**
Chosen Option : **2**

Q.60 The basis of insulation design in modern EHV lines is:

Ans
1. ✔ switching voltage
2. ✘ power
3. ✘ current density

Question ID : **6967212635**
Status : **Answered**
Chosen Option : **1**

✗ 4. corona

Q.61 Secondary distribution is generally carried out at which voltage level?

Question ID : **6967212621**
Status : **Answered**
Chosen Option : **1**

Ans
✓ 1. 440 V/ 230 V
✗ 2. 11 kV/ 440 V
✗ 3. 11 kV/ 33 kV
✗ 4. 440 V/ 110 V

Q.62 Calculate the form factor of a voltage $v = 200\sin(2\pi 60t)$.

Question ID : **6967212571**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. 2.22
✗ 2. infinite
✓ 3. 1.11
✗ 4. 0.45

Q.63 A three-phase 500 V motor load has a power factor of 0.4. Two wattmeters connected to measure the input read 20 kW and 10 kW. Find the reactive power (Q).

Question ID : **6967212566**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. 51.96 kvar
✗ 2. 10 kvar
✓ 3. 17.32 kvar
✗ 4. 30 kvar

Q.64 According to grid standard regulation by Central Electricity Authority (CEA), the maximum permissible value of voltage unbalance for a 220 kV line is:

Question ID : **6967212637**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
✓ 1. 2%
✗ 2. 1.5%
✗ 3. 4%
✗ 4. 3%

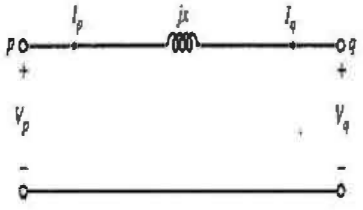
Q.65 For an identical DC generator, what should be the number of poles such that the emf generated in case of lap winding and wave winding configurations will be the same?

Question ID : **6967212572**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. 8
✗ 2. 6
✓ 3. 2
✗ 4. 4

Q.66 The Y_{bus} representation of the model of transformer shown is:

Question ID : **6967212652**
Status : **Answered**
Chosen Option : **3**



Ans
✗ 1. $\begin{bmatrix} I_p \\ I_q \end{bmatrix} = \begin{bmatrix} -\frac{1}{jx} & \frac{1}{jx} \\ \frac{1}{jx} & -\frac{1}{jx} \end{bmatrix} \begin{bmatrix} V_p \\ V_q \end{bmatrix}$

2. $\begin{bmatrix} V_p \\ V_q \end{bmatrix} = \begin{bmatrix} \frac{1}{jx} & -\frac{1}{jx} \\ -\frac{1}{jx} & \frac{1}{jx} \end{bmatrix} \begin{bmatrix} I_p \\ I_q \end{bmatrix}$

3. $\begin{bmatrix} I_p \\ I_q \end{bmatrix} = \begin{bmatrix} \frac{1}{jx} & -\frac{1}{jx} \\ 1 & 1 \\ \hline jx & jx \end{bmatrix} \begin{bmatrix} V_p \\ V_q \end{bmatrix}$

4. $\begin{bmatrix} V_p \\ V_q \end{bmatrix} = \begin{bmatrix} -\frac{1}{jx} & \frac{1}{jx} \\ \frac{1}{jx} & -\frac{1}{jx} \end{bmatrix} \begin{bmatrix} I_p \\ I_q \end{bmatrix}$

Q.67 Economisers are used to heat:

Question ID : **6967212608**
Status : **Answered**
Chosen Option : **4**

Ans
1. condensed steam
2. air
3. steam
4. feed water

Q.68 A circuit breaker is rated as a 1450 A, 1,200 MVA, 33 kV, 3 s, 3-phase oil circuit breaker. Find the breaking capacity.

Question ID : **6967212619**
Status : **Answered**
Chosen Option : **1**

Ans
1. 1,200 MVA
2. 33 kV
3. 3 s
4. 1,450 A

Q.69 Which of the following is NOT a self-starting motor?

Question ID : **6967212588**
Status : **Answered**
Chosen Option : **4**

Ans
1. Three-phase IM
2. DC shunt motor
3. DC series motor
4. One-phase IM

Q.70 The property of a magnetic circuit of opposing the passage of magnetic flux lines is called as _____.

Question ID : **6967212570**
Status : **Answered**
Chosen Option : **3**

Ans
1. impedance
2. resistance
3. reluctance
4. admittance

Q.71 The 'NO load' test on transformer is conducted mainly to determine which of the following losses?

Question ID : **6967212578**
Status : **Answered**
Chosen Option : **4**

Ans
1. Copper losses
2. No losses is found

✗ 3. Friction and windage losses

✓ 4. Core losses

Q.72 Consider a series circuit of a resistance and an inductance, both having 5 Ω resistance. A potential difference of 100 V (rms) is applied to it. If applied voltage is 0 V at a certain instant and is increasing then voltage drop across inductive reactance at that instant is:

Question ID : **6967212559**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

✗ 1. $20\sqrt{2}$ V

✓ 2. $50\sqrt{2}$ V

✗ 3. 50 V

✗ 4. 0 V

Q.73 What is the average value of a sinusoidally alternating voltage if its maximum value is equal to $10\sqrt{2}$ V?

Question ID : **6967212560**
Status : **Answered**
Chosen Option : **2**

Ans

✗ 1. 14.14 V

✓ 2. 9.009 V

✗ 3. 1.414 V

✗ 4. 10 V

Q.74 The phenomenon of intermittent arc taking place in line to ground fault of a 3-phase system with consequent production of transients is known as:

Question ID : **6967212613**
Status : **Answered**
Chosen Option : **3**

Ans

✗ 1. resonance

✗ 2. insulation failure

✓ 3. arcing ground

✗ 4. current chopping

Q.75 Which of the following is NOT a cause of hunting in a synchronous motor?

Question ID : **6967212602**
Status : **Answered**
Chosen Option : **3**

Ans

✗ 1. Change in load

✗ 2. Cyclic variation of load torque

✗ 3. Changes in field current

✓ 4. Change in supply frequency

Q.76 Wave winding is suitable for *a*_____-voltage, _____-current *DC* generator.

Question ID : **6967212573**
Status : **Answered**
Chosen Option : **1**

Ans

✓ 1. High, low

✗ 2. High, high

✗ 3. Low, low

✗ 4. Low, high

Q.77 The first nuclear plant was built in India at:

Question ID : **6967212614**
Status : **Answered**
Chosen Option : **4**

Ans

✗ 1. Rana Pratap Sagar

✗ 2. Padghe

✗ 3. Kalpakkam

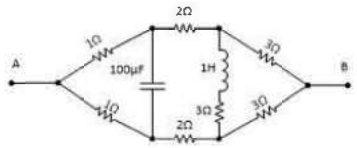
✓ 4. Tarapur

Q.78 If d is the diameter of an overhead transmission line conductor and t is the thickness of the ice covered over it then, the overall diameter of the ice-covered conductor becomes:

Question ID : **6967212639**
Status : **Answered**
Chosen Option : **4**

Ans
1. ✗ $D = d + 3t$
2. ✗ $D = d + 4t$
3. ✗ $D = d + t$
4. ✓ $D = d + 2t$

Q.79 Determine the value of equivalent resistance across nodes A and B.



Question ID : **6967212567**
Status : **Answered**
Chosen Option : **1**

Ans
1. ✓ $3\ \Omega$
2. ✗ $1.5\ \Omega$
3. ✗ $2.5\ \Omega$
4. ✗ $4.5\ \Omega$

Q.80 By improving the power factor of the system, the kW h delivered by the generating station:

Question ID : **6967212609**
Status : **Answered**
Chosen Option : **3**

Ans
1. ✗ decreases
2. ✗ does not change
3. ✓ increases
4. ✗ becomes zero

Q.81 An HRC fuse does NOT use which of the following?

Question ID : **6967212665**
Status : **Answered**
Chosen Option : **4**

Ans
1. ✗ Silver
2. ✓ Ceramic
3. ✗ Zinc
4. ✗ Lead

Q.82 A 250 V shunt motor has armature current 100 A and runs at a speed of 300 rpm. The armature resistance is 0.1 Ω. If the shunt field is reduced to 50% of its normal value and the armature current to 50 A, then the new speed of the shunt motor will be:

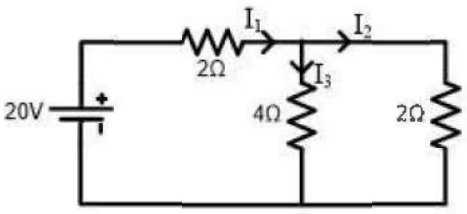
Question ID : **6967212660**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
1. ✓ 612.5 rpm
2. ✗ 910.5 rpm
3. ✗ 312.5 rpm
4. ✗ 577.5 rpm

Q.83

Question ID : **6967212554**
Status : **Answered**
Chosen Option : **4**

Find the current through I_1, I_2, I_3.



Ans
1. 6 A, 2A, 4A
2. 6 A, 2 A, -4 A
3. 4 A, 6 A, 4 A
4. 6 A, -2 A, 4 A

Q.84 From the design perspective, how can the torque of a squirrel-cage induction motor be increased?

Question ID : **6967212586**
Status : **Answered**
Chosen Option : **1**

Ans
1. By increasing the supply voltage
2. By increasing the rotor resistance
3. By increasing the rotor reactance
4. By increasing rotor EMF

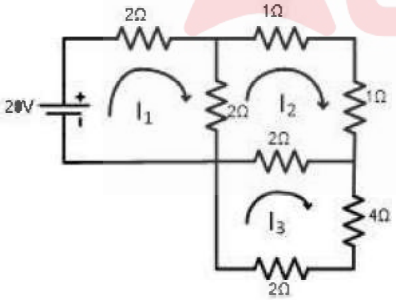
Q.85 An Ajax-Wyatt furnace is which type of furnace?

Question ID : **6967212627**
Status : **Answered**
Chosen Option : **1**

Ans
1. Vertical core type induction furnace
2. Dielectric heating furnace
3. Direct arc furnace
4. Indirect arc furnace

Q.86 Find the currents I_1, I_2, I_3 using mesh analysis.

Question ID : **6967212556**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**



Ans
1. 5/9 A, 20/9 A, 10/9 A
2. 55/9 A, 10/9 A, 20/9 A
3. 55/9 A, 20/9 A, 5/9 A
4. 20/9 A, 10/9 A, 55/9 A

Q.87 A field test is performed on which type of DC motor?

Question ID : **6967212601**
Status : **Answered**
Chosen Option : **4**

Ans
1. Shunt motor
2. Short shunt motor

✗ 3. Separately excited motor

✓ 4. Series motor

Q.88 Plug Setting Multiplier (P.S.M) of relay is the ratio of:

Question ID : **6967212622**
Status : **Answered**
Chosen Option : **4**

Ans

✗ 1. pick up current to normal current

✗ 2. rated secondary current of CT to rated primary current of CT

✗ 3. fault current in circuit breaker to normal current

✓ 4. fault current in relay coil to pick up current

Q.89 The type of steel tower used to transmit power at 800 kV is a:

Question ID : **6967212638**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

✓ 1. guyed H structure

✗ 2. narrow-base type tower

✗ 3. guyed V type tower

✗ 4. broad-base type tower

Q.90 Tariff is defined as the rate at which ___ is supplied to a consumer.

Question ID : **6967212612**
Status : **Answered**
Chosen Option : **3**

Ans

✗ 1. power

✗ 2. current

✓ 3. energy

✗ 4. voltage

Q.91 Skin effect is more pronounced in which type of supply?

Question ID : **6967212616**
Status : **Answered**
Chosen Option : **3**

Ans

✗ 1. Neither AC nor DC supply

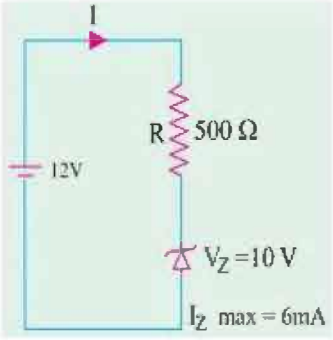
✗ 2. Both AC and DC supply

✓ 3. AC supply

✗ 4. DC supply

Q.92 Determine the diode current assuming it to be ideal.

Question ID : **6967212656**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**



Ans

✗ 1. 2 mA

✗ 2. 6 mA

✓ 3. 4 mA

✗ 4. 8 mA

Q.93 Three loads are connected in parallel cross a 1-phase, 1200 V, 50 Hz supply.

Load1: Capacitive load, 10 kW and 40 kVAR

Load2: Inductive load, 35 kW and 120 kVAR

Load3: Resistive load of 15 kW

What is the total complex power of the circuit?

Question ID : **6967212650**
Status : **Answered**
Chosen Option : **4**

Ans

✗ 1. $(10 + j80)$ kVA

✗ 2. $(60 + j160)$ kVA

✗ 3. $(10 - j160)$ kVA

✓ 4. $(60 + j80)$ kVA

Q.94 How can a load be shifted from one DC shunt generator to another running in parallel?

Question ID : **6967212590**
Status : **Answered**
Chosen Option : **1**

Ans

✓ 1. Adjust their field rheostat

✗ 2. Insert a resistance in the armature circuit

✗ 3. Adjust the speed of the prime mover

✗ 4. Use an equaliser connection

Q.95 Which of the following induction motors has the highest power factor?

Question ID : **6967212582**
Status : **Answered**
Chosen Option : **3**

Ans

✗ 1. split phase

✗ 2. shaded pole motor

✓ 3. capacitor run

✗ 4. capacitor start

Q.96 Which of the following generating power stations requires lot of time for starting?

Question ID : **6967212662**
Status : **Answered**
Chosen Option : **1**

Ans

✓ 1. Steam power station

✗ 2. Diesel power plant

✗ 3. Hydro-electric power plant

✗ 4. Nuclear power plant

Q.97 In a BJT, α and β are related by the expression:

Question ID : **6967212653**
Status : **Answered**
Chosen Option : **3**

Ans

✗ 1. $\alpha = \dfrac{1}{1-\beta}$

✗ 2. $\alpha = \dfrac{1}{1+\beta}$

✗ 3. $\alpha = \dfrac{\beta}{1-\beta}$

✓ 4. $\alpha = \dfrac{\beta}{1+\beta}$

Q.98 Meter A has a range of 0- 100 V and a multiplier resistance of 28 kΩ and an internal resistance of 2 kΩ. It's sensitivity is:

Question ID : **69672125**
Status : **Answered**
Chosen Option : **2**

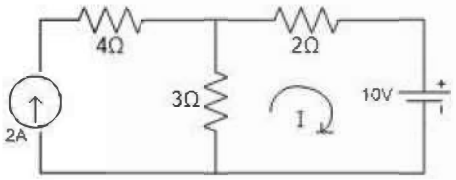
Ans
✗ 1. 0.6 kΩ/ kV
✓ 2. 0.3 kΩ/V
✗ 3. 0.5 kΩ/V
✗ 4. 3 kΩ/V

Q.99 The process of spot welding basically depends on:

Question ID : **6967212626**
Status : **Answered**
Chosen Option : **2**

Ans
✓ 1. heat generation and application of forging pressure
✗ 2. ohmic resistance
✗ 3. application of forging pressure
✗ 4. heat generation

Q.100 Find the current I.



Question ID : **6967212555**
Status : **Answered**
Chosen Option : **4**

Ans
✗ 1. 5 V
✗ 2. 2 V
✗ 3. 0.8 A
✓ 4. -0.8 A

Q.101 According to Foust and Menger, the corona loss (P_c) is proportional to Where V is the actual voltage of the conductor?

Question ID : **6967212634**
Status : **Answered**
Chosen Option : **1**

Ans
✗ 1. V^2
✓ 2. V^3
✗ 3. V
✗ 4. $\sqrt{V}$

Q.102 If the transmission voltage of a line increases, then the volume of the conductor material required:

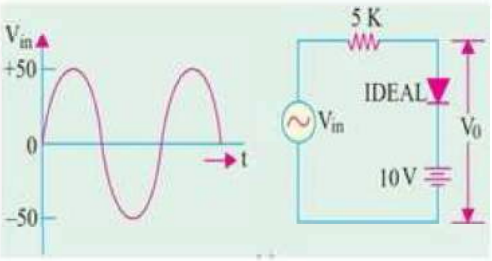
Question ID : **6967212620**
Status : **Answered**
Chosen Option : **1**

Ans
✓ 1. decreases
✗ 2. increase but with huge losses in line
✗ 3. increases but without huge losses in line
✗ 4. does not change

Q.103

Question ID : **6967212673**
Status : **Answered**
Chosen Option : **4**

The given circuit behaves as a:



Ans
✔ 1. positive clipper with its negative peak at -50 V

✘ 2. positive clipper with its positive peak at 50 V

✘ 3. positive clipper with its positive peak at 10 V

✘ 4. positive clipper with its negative peak at -10 V

Q.104 For a parallel RLC resonant circuit with resistance in series with inductor, what will be the effect on resonant frequency, if we increase the value of resistance?

Question ID : **6967212568**
Status : **Answered**
Chosen Option : **2**

Ans
✘ 1. Resonant frequency will increase

✔ 2. Resonant frequency will decrease

✘ 3. Effect cannot be estimated

✘ 4. Resonant frequency will remain

Q.105 Which type of instruments are also called as transfer instruments?

Question ID : **6967212671**
Status : **Answered**
Chosen Option : **3**

Ans
✘ 1. Electrostatic

✘ 2. PMMC

✔ 3. EMMC

✘ 4. Moving Iron

Q.106 Two steam driven alternators are operating in parallel. The load sharing between them may be adjusted by varying the:

Question ID : **6967212594**
Status : **Answered**
Chosen Option : **2**

Ans
✘ 1. power factor of the alternator

✘ 2. field strengths of the alternator

✔ 3. steam supply to their prime movers

✘ 4. speed of the alternator

Q.107 When V_{DS} is the drain voltage and $V_{DS(max)}$ is the maximum drain voltage, the JFET will breakdown if:

Question ID : **6967212655**
Status : **Answered**
Chosen Option : **3**

Ans
✘ 1. $V_{DS} < V_{DS(max)}$

✘ 2. $V_{DS} = V_{DS(max)}$

✔ 3. $V_{DS} > V_{DS(max)}$

✘ 4. $V_{DS} = 0.25\ V_{DS(max)}$

Q.108 The dimensions of power are:

Question ID : 6967212563
Status : Answered
Chosen Option : 2

Ans
1. $[M\ L\ T^{-3}]$ ✗
2. $[M\ L^2\ T^{-3}]$ ✓
3. $[M^2\ L^3\ T^{-3}]$ ✗
4. $[M\ L^2\ T^{-1}]$ ✗

Q.109 Which type of material is used for a variable reluctance stepper motor?

Question ID : 6967212595
Status : Not Attempted and Marked For Review
Chosen Option : --

Ans
1. Diamagnetic ✗
2. Ferromagnetic ✓
3. Non magnetic ✗
4. Paramagnetic ✗

Q.110 The frequency range required for dielectric heating is:

Question ID : 6967212672
Status : Answered
Chosen Option : 4

Ans
1. 50 Hz to 500 Hz ✗
2. 10 kHz to 200 kHz ✗
3. 500 Hz to 10 kHz ✗
4. 1 MHz to 50 MHz ✓

Q.111 In river crossings, modern high voltage lines have a span length of:

Question ID : 6967212640
Status : Answered
Chosen Option : 1

Ans
1. more than 200 m but less than 400 m ✗
2. more than 400 m but less than 800 m ✗
3. more than 100 m but less than 200 m ✗
4. more than 800 m ✓

Q.112 A 220 V DC motor has an armature resistance of 0.8 Ω. Find the induced emf when the motor has a full load armature current of 40 A.

Question ID : 6967212575
Status : Answered
Chosen Option : 3

Ans
1. 220 V ✗
2. 180 V ✗
3. 188 V ✓
4. 32 V ✗

Q.113 For a series resonant circuit, what happens to the Q-factor when the capacitance of the circuit is increased three times and the frequency is slashed by four times?

Question ID : 6967212557
Status : Answered
Chosen Option : 4

Ans
1. It remains unchanged ✗
2. It decreases by half ✗
3. It doubles ✗
4. It increases to 1.33 times ✓

Q.114 Which of the following is the most efficient method for increasing the speed of 4 kW DC shunt motor?

Question ID : 6967212600
Status : Answered
Chosen Option : 2

Ans
1. Armature control ✗
2. Flux control ✓

✗ 3. Tapped field control

✗ 4. Ward-Leonard

Q.115 In case of a simple lap wound generator, the number of parallel path is equal to the:

Question ID : **6967212574**
Status : **Answered**
Chosen Option : **2**

Ans

✗ 1. flux per pole

✓ 2. number of poles

✗ 3. emf induced

✗ 4. speed of the machine

Q.116 Consider the following equations of two alternating sinusoidal voltages having the same angular frequency ω

$$e_1 = 2\sin(\omega t)$$

$$e_2 = 6\sqrt{2}\sin(\omega t + \frac{\pi}{4})$$

The equation for the resultant voltage is given by:

Question ID : **6967212658**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

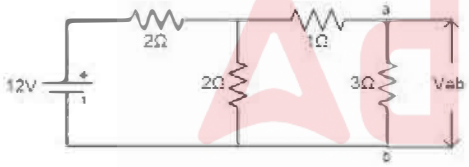
✗ 1. $e_r = 8.71\sin\{\omega t + \tan^{-1}\frac{1}{3\sqrt{2}}\}\ V$

✓ 2. $e_r = 10\sin\{\omega t + \tan^{-1}\frac{3}{4}\}\ V$

✗ 3. $e_r = 8.71\sin\{\omega t + \tan^{-1}(3\sqrt{2})\}V$

✗ 4. $e_r = 10\sin\{\omega t + \tan^{-1}\frac{4}{3}\}\ V$

Q.117 Find the voltage across V_{ab}.



Question ID : **6967212657**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

✓ 1. 3.6 V

✗ 2. 4.8 V

✗ 3. 1.5 V

✗ 4. -1.5 V

Q.118 Which of the following motor is often used in mixers:

Question ID : **6967212579**
Status : **Answered**
Chosen Option : **3**

Ans

✗ 1. reluctance motor

✗ 2. repulsion motor

✓ 3. universal motor

✗ 4. hysteresis motor

Q.119 The ratio of illumination under actual condition to illumination when everything is perfectly clean is known as:

Question ID : **6967212624**
Status : **Not Attempted and Marked For Review**

Ans

✓ 1. depreciation factor

✗ 2. utilisation factor
✗ 3. reduction factor
✗ 4. space-to-height ratio

Chosen Option : --

Q.120 What is the value of ω_n in the given transfer function?

$$G(s) = \frac{36}{s^2 + 4.2s + 36}$$

Question ID : **6967212646**
Status : **Answered**
Chosen Option : **4**

Ans
✗ 1. 72
✗ 2. 4.2
✗ 3. 36
✓ 4. 6

Section : **Aptitude Test**

Q.1 We presented the champion with _____ smart-phone. (Choose the appropriate article, and Ø if no article is needed)

Question ID : **6967212674**
Status : **Not Attempted and Marked For Review**
Chosen Option : --

Ans
✓ 1. a
✗ 2. the
✗ 3. ●
✗ 4. an

Q.2 The writer comes through as *well-informed and well-read*. _____ is a one-word substitute for the phrase.

Question ID : **6967212680**
Status : **Not Attempted and Marked For Review**
Chosen Option : --

Ans
✗ 1. amateurish
✗ 2. inexperienced
✓ 3. erudite
✗ 4. untrained

Q.3 India signed an agreement _____ Russia recently for the purchase of S-400 air defence missile systems. (Use the appropriate preposition)

Question ID : **6967212676**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. to
✓ 2. with
✗ 3. for
✗ 4. against

Q.4 We need to communicate on a regular basis _____ create a peaceful environment for business.

Question ID : **6967212677**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. with a view to
✗ 2. since
✓ 3. in order to
✗ 4. for the purpose of

Q.5 She finds him to be _____ irksome fellow, and thus loses patience when she sees him around. (Choose the appropriate article, and Ø if no article is needed)

Question ID : **6967212675**
Status : **Not Attempted and Marked For Review**
Chosen Option : --

Ans
✓ 1. an
✗ 2. a

3. ●

4. the

Q.6 The *gruesome* murders that have been taking place in the country have shaken our faith in the law of the land. The word *gruesome* means _____.

Question ID : **6967212679**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

1. creating confidence
2. building trust
3. inspiring peace and calm
4. inspiring horror or repulsion

Q.7 Moral turpitude, if proved, is a serious ground for termination of services. The phrase *moral turpitude* is an expression used in law to designate an act or behaviour that _____.

Question ID : **6967212678**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

1. conforms to the accepted standard of the community
2. is affirms the accepted standard of the community
3. is in compliance with the accepted standard of the community
4. gravely violates the accepted standard of the community

Comprehension:

Entrepreneurship means different things to different people. However, in spite of the differences, there are some common aspects. In 1961, Schumpeter defined an entrepreneur as a "dynamic agent of change; or the catalyst who transforms increasingly, natural and human resources into corresponding production possibilities."

Entrepreneurship has become the focal point in the last two decades. There is a growing awareness that economies of developing countries are not able to provide jobs for the whole workforce. Under the circumstances, self-employment or entrepreneurship offers perhaps the best opportunity for gainful use of one's own capabilities and time. The government has taken an increasing interest in promoting the growth of entrepreneurship. Individuals are encouraged to form new business and are provided government support. Entrepreneurship is not a matter of heritage. Any individual born in any caste, community or class can start his/her own small-scale enterprise. This is particularly true for science and technology graduates, and diploma holders who have a natural aptitude for grasping technicalities involved in the production process.

SubQuestion No : 8

Q.8 If an entrepreneur is a dynamic agent of change, then the change is in the form of _____.

Question ID : **6967212685**
Status : **Answered**
Chosen Option : **3**

Ans

1. business

2. governance
3. employment
4. self-employment

Comprehension:

Entrepreneurship means different things to different people. However, in spite of the differences, there are some common aspects. In 1961, Schumpeter defined an entrepreneur as a "dynamic agent of change; or the catalyst who transforms increasingly, natural and human resources into corresponding production possibilities."

Entrepreneurship has become the focal point in the last two decades. There is a growing awareness that economies of developing countries are not able to provide jobs for the whole workforce. Under the circumstances, self-employment or entrepreneurship offers perhaps the best opportunity for gainful use of one's own capabilities and time. The government has taken an increasing interest in promoting the growth of entrepreneurship. Individuals are encouraged to form new business and are provided government support. Entrepreneurship is not a matter of heritage. Any individual born in any caste, community or class can start his/her own small-scale enterprise. This is particularly true for science and technology graduates, and diploma holders who have a natural aptitude for grasping technicalities involved in the production process.

SubQuestion No : 9

Q.9 This passage is related to the specific field of _____.

Question ID : **6967212682**
Status : **Answered**
Chosen Option : **4**

Ans
1. science
2. education
3. management
4. commerce

Comprehension:

Entrepreneurship means different things to different people. However, in spite differences, there are some common aspects. In 1961, Schumpeter defined an entrepreneur as a "dynamic agent of change; or the catalyst who transforms increasingly, natural and human resources into corresponding production possibilities."

Entrepreneurship has become the focal point in the last two decades. There is a growing awareness that economies of developing countries are not able to provide jobs for the whole workforce. Under the circumstances, self-employment or entrepreneurship offers perhaps the best opportunity for gainful use of one's own capabilities and time. The government has taken an increasing interest in promoting the growth of entrepreneurship. Individuals are encouraged to form new business and are provided government support. Entrepreneurship is not a matter of heritage. Any individual born in any caste, community or class can start his/her own small-scale enterprise. This is particularly true for science and technology graduates, and diploma holders who have a natural aptitude for grasping technicalities involved in the production process.

SubQuestion No : 10

Q.10 Graduate and diploma holders in science and technology have natural aptitude for grasping technicalities involved in production process. The meaning of *aptitude* in the context of the passage is ___.

Question ID : **6967212683**
Status : **Answered**
Chosen Option : **4**

Ans

✗ 1. aberration
✗ 2. imbibed flair
✓ 3. innate talent
✗ 4. feigned skill

Comprehension:

Entrepreneurship means different things to different people. However, in spite differences, there are some common aspects. In 1961, Schumpeter defined an entrepreneur as a "dynamic agent of change; or the catalyst who transforms increasingly, natural and human resources into corresponding production possibilities."

Entrepreneurship has become the focal point in the last two decades. There is a growing awareness that economies of developing countries are not able to provide jobs for the whole workforce. Under the circumstances, self-employment or entrepreneurship offers perhaps the best opportunity for gainful use of one's own capabilities and time. The government has taken an increasing interest in promoting the growth of entrepreneurship. Individuals are encouraged to form new business and are provided government support. Entrepreneurship is not a matter of heritage. Any individual born in any caste, community or class can start his/her own small-scale enterprise. This is particularly true for science and technology graduates, and diploma holders who have a natural aptitude for grasping technicalities involved in the production process.

SubQuestion No : 11

Q.11 Anyone can start his/her own small-scale enterprise. One such initiative of the Union Government is _____.

Question ID : **6967212684**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. Make in India
✗ 2. Swachh Bharat Abhiyan
✓ 3. Start-up India
✗ 4. Jan-Dhan Yojana

Q.12 Re-arrange the jumbled sentence elements in P, Q, R, and S so that they appear logically:

P. and managing resources efficiently can ensure that
Q. praising employee accomplishments
R. actions like market research
S. a company can have a sufficiently long life

Question ID : **6967212689**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
✓ 1. RQPS
✗ 2. SRPQ
✗ 3. PRQS
✗ 4. PQRS

Q.13 They had a *tacit* understanding on the issue, and would not reveal their mind to anyone. _____ is the closest synonym to *tacit*.

Question ID : **6967212688**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. Indirect
✗ 2. Extracted

3. Articulated
4. Unspoken

Q.14 He was asked to submit a fully *comprehensive* report on the incident within a week. _____ is the closest synonym of the word *comprehensive*.

Question ID : **6967212687**
Status : **Answered**
Chosen Option : **1**

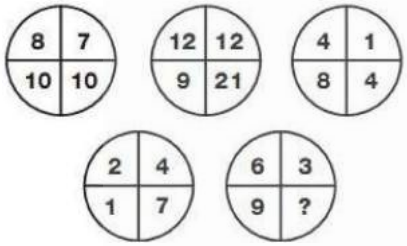
Ans
1. Complete
2. Preferential
3. Exclusive
4. Expensive

Q.15 Human beings were *nomads* centuries ago. Nomads moved from place to place in search of food. The closest synonym of the italicised word in the sentence is _____.

Question ID : **6967212686**
Status : **Answered**
Chosen Option : **1**

Ans
1. wanderers
2. pilgrims
3. ramblers
4. vagabonds

Q.16 Observe the given pattern and replace the ? with a suitable answer.



Question ID : **6967212701**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
1. 4
2. 1
3. 3
4. 2

Q.17 Two statements are followed by two conclusions. Assume the facts in the statement to be true and decide which of the conclusions follow?

Statements

Some elders are girls.

Some girls are old.

Conclusions

I. Some elders are not old.

II. Some girls are not old.

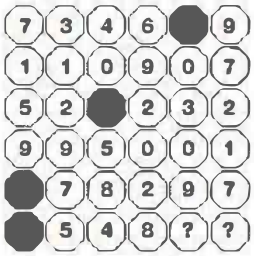
Question ID : **6967212695**
Status : **Answered**
Chosen Option : **1**

Ans
1. Conclusion I or II follows
2. Conclusion I nor II follows
3. Conclusion I follows
4. Conclusion II follows

Q.18

Question ID : **6967212702**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Observe the given pattern and replace the ? with a suitable answer.



Ans

✔ 1. 8,1

✘ 2. 9,1

✘ 3. 7,1

✘ 4. 6,1

Q.19 A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of letters as in the two matrices given below. The columns and rows of Matrix I are numbered from 0 to 4 and that Matrix II are numbered from 5 to 9. A letter from these matrices can be represented, first by its row and next by its column, e.g., 'A' can be represented as 01, 14, etc. and E can be represented by 55, 66 etc.

Find the code for the word 'SPIDERMAN'.

Question ID : **6967212693**
Status : **Answered**
Chosen Option : **4**

Matrix -I

	0	1	2	3	4
0	Y	A	D	R	I
1	D	S	I	Y	A
2	I	Y	S	D	S
3	A	D	R	I	Y
4	S	I	Y	A	D

Matrix - II

	5	6	7	8	9
5	E	M	L	N	P
6	L	E	P	M	N
7	P	N	E	L	M
8	N	P	M	E	L
9	M	L	N	P	E

Ans

✘ 1. 24, 86, 41, 44, 88, 32,87, 34, 97

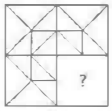
✘ 2. 11, 75, 33, 31, 77, 03, 68,30, 67

✘ 3. 24, 67, 12, 10, 66, 32,69 41, 69

✔ 4. 11, 59, 04, 02, 55, 03,56 01, 58

Q.20 Replace the ? with an appropriate option from the given options to complete the figure.

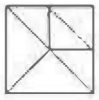
Question ID : **6967212703**
Status : **Answered**
Chosen Option : **4**

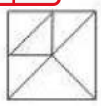


Ans

✘ 1. 

✘ 2. 

✘ 3. 

✔ 4. 

Q.21 There are five crude oil refining companies in India namely, A, B, C, D and E.

Statements:

I. The production of Company B is more than that of Company A but not more than that of Company E.

II. The production of Company C is more than the production Company B but NOT as much as that of Company D.

III. The production of E is NOT as much as the production of Company D.

Which of these statements is/are sufficient to answer the question that production of which of the following companies is the highest?

Question ID : **6967212697**
Status : **Answered**
Chosen Option : **4**

Ans

✘ 1. Statement (I) and Statement (II) together are sufficient.

✘ 2. Either statement (I) and statement (II) together or statement (III) are statement

✘ 3. Any two statements together are sufficient.

✔ 4. All the statement (I), statement (II) and statement (III) together are sufficient.

Q.22 In the English alphabet, If every alternate letter from D (excluding vowels) onwards is written in lower case while others are written in upper case, then how will be the fourth month of the second half of the year be written?

Question ID : **6967212692**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

✔ 1. OCt●BEr

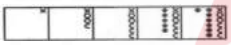
✘ 2. OctOBer

✘ 3. nOvEMBEr

✘ 4. NoVeMbEr

Q.23 A paper sheet is made into following five different patterns. You are given five series of questions and you have to find out the next series from the answer figures that follows the sequence of the questions figures.

Problem Figures:



(A) (B) (C) (D) (E)

Answer Figures:

(1) (2) (3) (4) (5)

Question ID : **6967212700**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans

✘ 1. 5

✘ 2. 1

✘ 3. 4

✔ 4. 3

Q.24 Replace the? with an appropriate option from the given options to complete the figure.

Question ID : **6967212704**
Status : **Answered**
Chosen Option : **3**

Ans

✘ 1. 

✘ 2. 

3. 

4. 

Q.25 **Directions: Study the following charts carefully and answer the given questions.**

Question ID : **6967212691**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Pie Chart Showing Percentagewise Distribution of Cars of a top company in Four Different States 1, 2, 3 and 4.

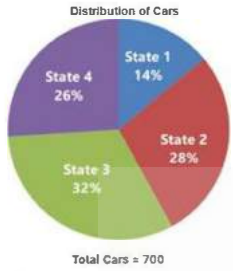


Table showing Ratio between Diesel and Petrol Engine Cars which are Distributed among Four Different States

States	Diesel Engine Cars	Petrol Engine Cars
State 1	3	4
State 2	5	9
State 3	5	3
State 4	1	1

Ans

1. 86.25
2. 89.25
3. 89.75
4. 86.75

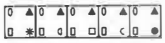
Q.26 A paper sheet is made into following five different patterns. You are given five series of questions and you have to find out the next series from the answer figures that follows the sequence of the questions figures.

Question ID : **6967212698**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Problem Figures:

(A) (B) (C) (D) (E)

Answer Figures:



(1) (2) (3) (4) (5)

Ans

1. 2
2. 3
3. 4
4. 1

Q.27 Two statements are followed by two conclusions. Assume the facts in the statement to be true and decide which of the conclusions follow?

Question ID : **6967212694**
Status : **Answered**
Chosen Option : **2**

Statements:

All Naxalites are guilty.
All Naxalites are criminals.

Conclusions:

I. Either all criminals are guilty or all guilty are criminals.
II. Some guilty persons are criminals.
III. Generally criminals are guilty.
IV. Crime and guilt go together.

Ans

1. Only I and III follow
2. Only II follows

3. Only II and IV follow

4. Only I follows

Q.28 A paper sheet is made into following five different patterns. You are given five series of questions and you have to find out the next series from the answer figures that follows the sequence of the questions figures.

Problem Figures:

(A) (B) (C) (D) (E)

Answer Figures:

(1) (2) (3) (4) (5)

Question ID : **6967212699**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Ans

1. 2
2. 5
3. 3
4. 1

Q.29 Directions: The questions below followed by two statements numbered I and II. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer:

Question:

What is the marked price of the power bank?

Statements:

I. A shopkeeper purchases two powerbanks for ₹ 2,200 and earns ₹ 55 per power bank after giving a 23% discount.

II. A shopkeeper marks the price 36% more than the cost price and earns ₹ 200 after giving some discount.

Question ID : **6967212696**

Status : **Not Attempted and Marked For Review**

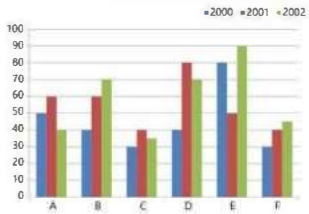
Chosen Option : **--**

Ans

1. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
2. The data in statements I alone or in statement II alone is sufficient to answer the question.
3. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
4. The data in both the statements I and II is not sufficient to answer the question.

Q.30 **Directions: Study the following graph carefully and answer the questions given below it.**

The following chart shows the production of aluminium (in lakh tonnes) by six different companies of a country "X" for three consecutive years 2000, 2001, 2002.



The total production of Company A is what percentage of the total production of Company E?

Question ID : **6967212690**

Status : **Answered**

Chosen Option : **1**

Ans

1. 68.9
2. 67.3
3. 70.4
4. 66.5

Q.31

The average of 12 numbers is 52. The average of the first 4 numbers is 42 and the average of the next 5 numbers is 56. If the 10th number is 7 less than the 11th number and the 12th number is 3 less than the 11th number, then what is the average of the 10th and 12th number?

Question ID : **69672127**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
1. 54 ✗
2. 57 ✓
3. 53 ✗
4. 52 ✗

Q.32 Two trains of lengths 160 m and 195 m are running on parallel tracks in opposite direction at speeds of 70 km/h and 56 km/h respectively. If they crossed each other in 3 min, what was the distance between two trains in metres?

Question ID : **6967212711**
Status : **Answered**
Chosen Option : **1**

Ans
1. 6,300 m ✓
2. 5,945 m ✗
3. 6,755 m ✗
4. 6,655 m ✗

Q.33 A and B can complete a job in 15 days and 20 days respectively. If they work together, in how many days they will complete 70% of that job?

Question ID : **6967212708**
Status : **Answered**
Chosen Option : **2**

Ans
1. 7 ✗
2. 6 ✓
3. 4 ✗
4. 5 ✗

Q.34 Two vessels A and B contains spirit and water respectively in the ratio 5 : 12 and 7 : 10. Their contents are mixed in the ratio 3 : 5. What is the ratio of spirit and water in the new mixture?

Question ID : **6967212707**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
1. 23 : 45 ✗
2. 21 : 17 ✗
3. 17 : 36 ✗
4. 25 : 43 ✓

Q.35 If 2a : 3b = 5:6 and 5b : 4c = 3 : 2 and a+b+c = 296, then what is the value of b?

Question ID : **6967212706**
Status : **Answered**
Chosen Option : **3**

Ans
1. 116 ✗
2. 80 ✗
3. 96 ✓
4. 120 ✗

Q.36 To gain 30% after allowing a discount of 15%, the shopkeeper must mark the price of an article which cost him ₹ 1,190 as:

Question ID : **6967212721**
Status : **Answered**
Chosen Option : **3**

Ans
1. ₹ 1,680 ✗
2. ₹ 1,850 ✗
3. ₹ 1,790 ✗
4. ₹ 1,820 ✓

Q.37 The price of sugar is increased by 35%. If a person wants to increase his budget by only 10%, by what percentage, corrected to one decimal place, should he decrease his consumption?

Question ID : **6967212716**
Status : **Answered**
Chosen Option : **4**

Ans
1. 16% ✗

✗ 2. 17.5%
✗ 3. 15%
✓ 4. 18.5%

Q.38 An article is sold for ₹ 644. If the profit is 15%, at what price, should it be sold to gain 35%?

Question ID : **6967212717**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. ₹ 725
✗ 2. ₹ 785
✓ 3. ₹ 756
✗ 4. ₹ 640

Q.39 A article is sold at successive discounts of 18% and 15% on the market price. If market price of the article is ₹ 5,000, What is the selling price of the article?

Question ID : **6967212719**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. ₹ 3,350
✗ 2. ₹ 3,770
✓ 3. ₹ 3,485
✗ 4. ₹ 3,465

Q.40 A person sold two articles for ₹ 2,640 each. On one he gains 10% and on other he gains 20%. What is his overall gain percent correct to one decimal place?

Question ID : **6967212718**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
✓ 1. 14.8%
✗ 2. 12.9%
✗ 3. 15.6%
✗ 4. 16.2%

Q.41 From a point O, one car goes towards the east at a speed of 60 km/h and a second car goes towards the north at a speed of 80 km/h. What is the distance between them after 3 hours in kilometres?

Question ID : **6967212712**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
✗ 1. 280 km
✓ 2. 300 km
✗ 3. 250 km
✗ 4. 400 km

Q.42 If 25% of 20% of a number is 24, then the number is:

Question ID : **6967212714**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. 460
✓ 2. 480
✗ 3. 520
✗ 4. 500

Q.43 The efficiency of A, B and C to complete a job is the ratio 3 : 4 : 5. Working together, they can complete a job in 12 days. In how many days will A alone complete 75% of that job?

Question ID : **6967212710**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. 45
✗ 2. 42
✗ 3. 36
✓ 4. 39

Q.44 The speed of a car is 72 km/h. If radius of its wheels is 35 cm, how many revolution it will make in 22 seconds?

Question ID : **69672127**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
1. 150 ✗
2. 180 ✗
3. 200 ✓
4. 160 ✗

Q.45 A bag contains 4 red, 5 white and 6 black balls. Three balls are drawn WITHOUT replacement. What is the probability that the three drawn balls are black?

Question ID : **6967212723**
Status : **Answered**
Chosen Option : **4**

Ans
1. $\frac{4}{91}$ ✓
2. $\frac{2}{5}$ ✗
3. $\frac{1}{5}$ ✗
4. $\frac{6}{91}$ ✗

Q.46 By selling 40 articles, a person loses the cost price of 3 articles. What is his loss percentage?

Question ID : **6967212720**
Status : **Answered**
Chosen Option : **2**

Ans
1. 8.5% ✗
2. 7.5% ✓
3. 7.8% ✗
4. 8% ✗

Q.47 If $A : B = 3 : 4, C : B = 6 : 5$, then $A^2 : C^2$ is equal to:

Question ID : **6967212705**
Status : **Answered**
Chosen Option : **4**

Ans
1. 16 : 25 ✗
2. 9 : 1 ✗
3. 9 : 16 ✗
4. 25 : 64 ✓

Q.48 Two dice are thrown simultaneously. What is the probability of getting the sum as 8?

Question ID : **6967212722**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
1. $\frac{1}{12}$ ✗
2. $\frac{7}{36}$ ✗
3. $\frac{5}{36}$ ✓
4. $\frac{2}{9}$ ✗

Q.49 A, B and C can complete a job in 15 days, 20 days and 25 days respectively. They all started the job, but A left after 3 days and B after 5 days of the start of the job. In how many days was the job completed?

Question ID : **6967212709**
Status : **Answered**
Chosen Option : **4**

Ans
1. $\frac{51}{4}$ ✗
2. $\frac{27}{2}$ ✗
3. $\frac{53}{4}$ ✗

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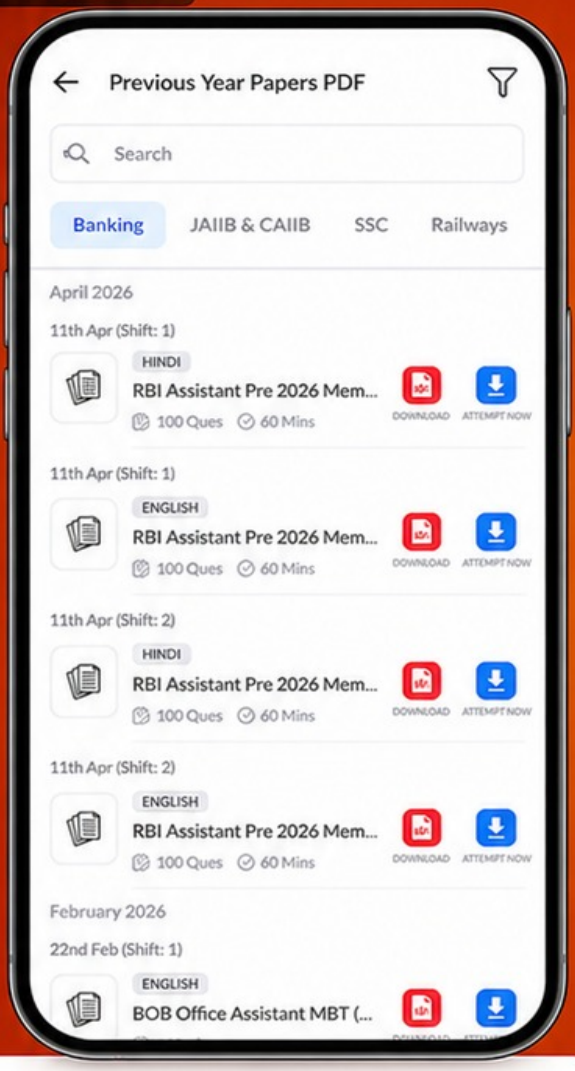

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✔ 4. $\frac{55}{4}$

Q.50 A problem is given to 4 students A, B, C and D in a class. If the probability that they can solve the problem is $\frac{1}{3}, \frac{1}{4}, \frac{1}{5}$ and $\frac{1}{6}$ respectively, what is the probability that problem will be solved?

Question ID : **6967212724**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Ans

✘ 1. $\frac{2}{5}$

✘ 2. $\frac{3}{5}$

✔ 3. $\frac{2}{3}$

✘ 4. $\frac{1}{3}$