UTTAR PRADESH POWER CORPORATION LTD.

Participant ID	
Participant Name	
Test Center Name	
Test Date	04/11/2019
Test Time	9:00 AM - 12:00 PM
Subject	Assistant Engineer Trainee Electrical

Section : **Technical_Electrical Engineering**

Q.1 A dc 3-wire distributor system requires how much of copper as compared with a dc 2-wire distributor system?

Ans

✗ A. Only 33.33%

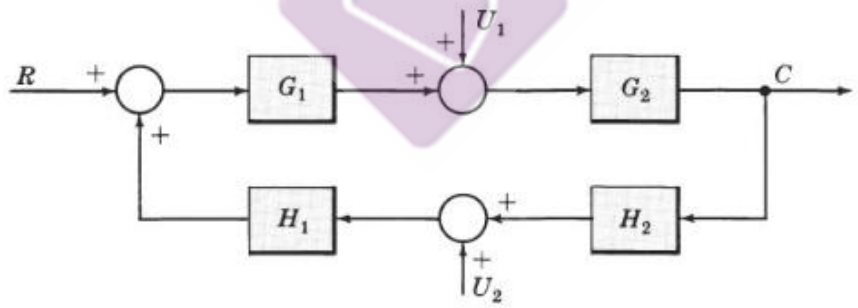
✗ B. Only 66.66%

✗ C. Only $\frac{5}{6}$

✓ D. Only $\frac{5}{16}$

Question ID : **897032885**
Status : **Not Answered**
Chosen Option : **--**

Q.2 Determine the output C due to R, U_1 and U_2.



Ans

✗ A. $C = \frac{G_1G_2R+G_2U_1+G_1G_2H_1U_2}{1+G_1G_2H_1H_2}$

✓ B. $C = \frac{G_1G_2R+G_2U_1+G_1G_2H_1U_2}{1-G_1G_2H_1H_2}$

✗ C. $C = \frac{G_1G_2R-G_2U_1+G_1G_2H_1U_2}{1-G_1G_2H_1H_2}$

✗ D. $C = \frac{G_1G_2R-G_2U_1-G_1G_2H_1U_2}{1+G_1G_2H_1H_2}$

Question ID : **897032902**
Status : **Not Answered**

Chosen Option : --

Q.3 Given $f(z) = \frac{1}{(z+2)^2(z-2)^2}$.
Determine the residue of f(z) at z = 2.

Ans

✗ A. $\frac{1}{32}$

✗ B. $-\left(\frac{1}{64}\right)$

✗ C. $\frac{1}{64}$

✓ D. $-\left(\frac{1}{32}\right)$

Question ID : **897032806**
Status : **Not Answered**
Chosen Option : **--**

Q.4 Mathematical representation of proportional control mode is
Where p_o is controller output with zero error and K_P is proportional gain constant.

Ans

✗ A. $p(t) = K_P e(t) \div p_o$

✓ B. $p(t) = K_P e(t) + p_o$

✗ C. $p(t) = K_P e(t) - p_o$

✗ D. $p(t) = K_P e(t) \times p_o$

Question ID : **897032900**
Status : **Answered**
Chosen Option : **2**

Q.5 For a bandwidth of 100 MHz, oscilloscope should have a rise time of:

Ans

✗ A. 5.5 ns

✗ B. 7.5 ns

✓ C. 3.5 ns

✗ D. 9.5 ns

Question ID : **897032915**
Status : **Answered**
Chosen Option : **3**

Q.6 Reluctance (S), number of turns (N) and inductance (L) of a magnetic circuit is related by the equation.

Ans

✗ A. $N = \sqrt{\frac{L}{S}}$

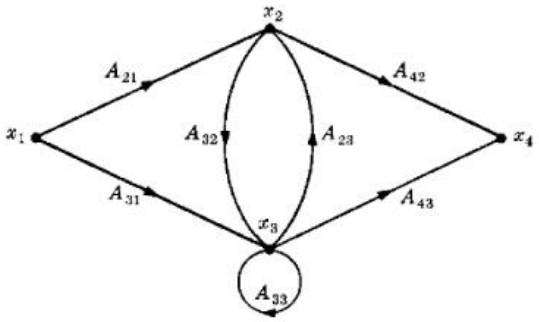
✓ B. $S = \frac{N^2}{L}$

✗ C. $L = \frac{S}{N^2}$

✗ D. $L = \frac{N}{S}$

Question ID : **897032833**
Status : **Answered**
Chosen Option : **2**

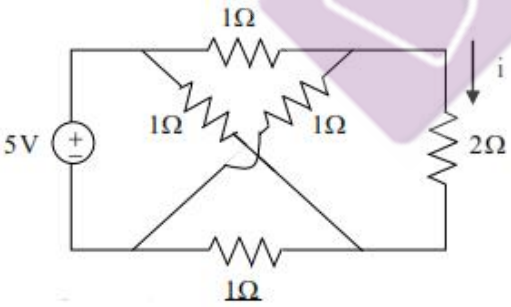
Q.7 Which of the following equations holds true for the following signal flow graph?



Ans
✓ A. $x_2 = A_{21}x_1 + A_{23}x_3$
✗ B. $x_2 = A_{21}x_1 + A_{22}x_2$
✗ C. $x_4 = A_{41}x_2 + A_{43}x_3$
✗ D. $x_{3=}A_{31}x_1 + A_{23}x_2 + A_{33}x_3$

Question ID : **897032898**
Status : **Answered**
Chosen Option : **1**

Q.8 Current through 2 Ω resistor in the network shown is:



Ans
✓ A. 0 A
✗ B. 5 A
✗ C. 1 A
✗ D. 2 A

Question ID : **897032813**
Status : **Not Answered**
Chosen Option : **--**

Q.9 A stationary closed Lissajous pattern on an oscilloscope has 3 horizontal tangencies and 2 vertical tangencies for a horizontal input with frequency 3 kHz. The frequency of the vertical input is:

Ans
✗ A. 3 kHz

B. 6 kHz

C. 4.5 kHz

D. 1.5 kHz

Question ID : **897032920**
Status : **Answered**
Chosen Option : **3**

Q.10 The swing equation is given by.

Where δ is electrical power angle; H is per unit inertia constant; P_m is per unit mechanical power; P_e is per unit electrical power and f_o is frequency.

Ans

A. $P_e - P_m = \frac{180 f_o}{H} \frac{d^2\delta}{dt^2}$

B. $P_m - P_e = \frac{H}{180 f_o} \frac{d^2\delta}{dt^2}$

C. $P_m - P_e = \frac{180 f_o}{H} \frac{d^2\delta}{dt^2}$

D. $P_e - P_m = \frac{H}{180 f_o} \frac{d^2\delta}{dt^2}$

Question ID : **897032884**
Status : **Answered**
Chosen Option : **2**

Q.11 Current-ripple factor (CRF), ripple current I_r and average load current I_o are related by the expression.

Ans

A. $\text{CRF} = (I_o)(I_r)$

B. $\text{CRF} = I_o + I_r$

C. $I_r = (\text{CRF})(I_o)$

D. $I_o = (\text{CRF})(I_r)$

Question ID : **897032944**
Status : **Answered**
Chosen Option : **3**

Q.12 For low power applications a GTO has:

Ans

A. Low on-state gain.

B. Low ratio of peak surge current to average current

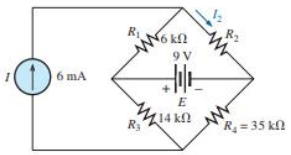
C. Higher blocking voltage capability

D. Low ratio of peak controllable current to average current

Question ID : **897032941**
Status : **Not Answered**
Chosen Option : **--**

Q.13

If R_2 is 6 kΩ, then determine the current I_2 in the network shown using superposition principle.



Ans
✗ A. 2.25 mA
✗ B. 3.75 μA
✗ C. 2.25 μA
✓ D. 3.75 mA

Question ID : **897032829**
Status : **Not Answered**
Chosen Option : **--**

Q.14 Five alternators are connected in parallel to a busbar. Each alternator is rated 5 MVA, 13.2 kV and has a 25% reactance on its own base. Determine the short circuit level in MVA at the busbar.

Ans
✗ A. 50 MVA
✗ B. 25 MVA
✓ C. 100 MVA
✗ D. 10 MVA

Question ID : **897032871**
Status : **Answered**
Chosen Option : **3**

Q.15 Consider a rectified sine wave x(t) defined by $x(t) = |A \sin \pi t|$. Determine its fundamental period and complex exponential Fourier series

Ans
✓ A. $T_0 = 1$ and $x(t) = -\frac{2A}{\pi}\sum_{k=-\infty}^{\infty}\frac{1}{4k^2-1}e^{jk2\pi t}$
✗ B. $T_0 = \frac{1}{2}$ and $x(t) = -\frac{2A}{\pi}\sum_{k=-\infty}^{\infty}\frac{1}{4k^2+1}e^{jk2\pi t}$
✗ C. $T_0 = 1$ and $x(t) = -\frac{2A}{\pi}\sum_{k=-\infty}^{\infty}\frac{1}{4k^2+1}e^{jk2\pi t}$
✗ D. $T_0 = \frac{1}{2}$ and $x(t) = -\frac{2A}{\pi}\sum_{k=-\infty}^{\infty}\frac{1}{4k^2-1}e^{jk2\pi t}$

Question ID : **897032861**
Status : **Answered**
Chosen Option : **2**

Q.16 A 230 V, 1-phase watt hour meter records a constant load of 10 A for 10 hours at unity p.f. If the meter disc makes 2300 revolutions during this period, what is the meter constant in revolutions/kWh?

Ans
✗ A. 300 rev/kWh
✗ B. 200 rev/kWh
✓ C. 100 rev/kWh
✗ D. 400 rev/kWh

Question ID : **897032914**
Status : **Answered**

Chosen Option : **3**

Q.17 Ampere's law for current element is the other name for.

Ans

✔ A. Biot-Savart law

✗ B. Coulomb's law

✗ C. Divergence theorem

✗ D. Curl

Question ID : **897032841**
Status : **Answered**
Chosen Option : **1**

Q.18 In the state model of a linear system the output equation is represented as:

Ans

✔ A. $Y(t) = C\,X(t) + D\,U(t)$

✗ B. $\dot{X}(t) = A\,X(t) + B\,\dot{U}(t)$

✗ C. $Y(t) = A\,X(t) + B\,U(t)$

✗ D. $\dot{X}(t) = C\,X(t) + D\,\dot{U}(t)$

Question ID : **897032912**
Status : **Answered**
Chosen Option : **1**

Q.19 What type of load should be used in a single-phase full bridge inverter so that it can operate in load communication mode?

Ans

✗ A. RLC overdamped

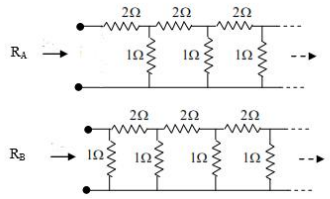
✗ B. RC

✔ C. RLC underdamped

✗ D. RL

Question ID : **897032950**
Status : **Answered**
Chosen Option : **3**

Q.20 The input resistances of the network shown here are R_A and R_B. Assuming the circuit to extend infinitely in the direction shown, select the suitable option.



Ans

✗ A. $R_A = R_B = 0$

✔ B. $R_B = \frac{1}{(1+R_A)}$

✗ C. $R_A < R_B$

✗ D. $R_A = R_B$

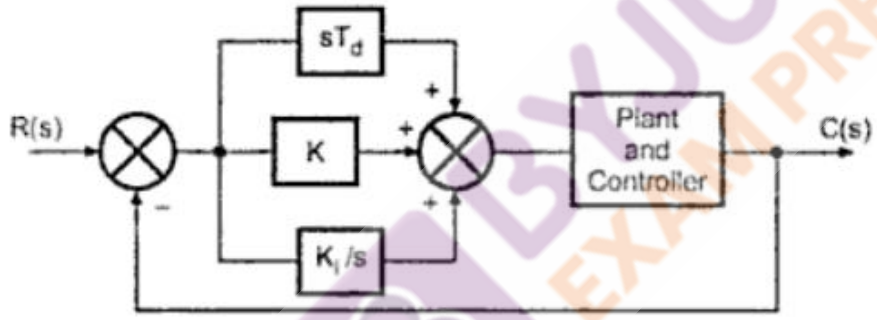
Question ID : **897032814**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.21 A 10-bus power system consists of four generator buses indexed as H1, H2, H3, H4 and six load buses indexed as O1, O2, O3, O4, O5, O6. The generator bus H1 is considered as slack bus, and the load buses O3 and O4 are voltage-controlled buses. The generator at bus H2 cannot supply the required reactive power demand, and hence it is operating at its maximum reactive power limit. The number of non-linear equations required for solving the load flow problem using Newton-Raphson method in polar form is:

Ans
✗ A. 4
✗ B. 24
✗ C. 20
✓ D. 14

Question ID : **897032889**
Status : **Not Answered**
Chosen Option : **--**

Q.22 The controller shown in the figure is:



Ans
✗ A. PI type controller
✗ B. P type controller
✓ C. PID type controller
✗ D. PD type controller

Question ID : **897032904**
Status : **Answered**
Chosen Option : **1**

Q.23 A system transfer function is $H(s) = \frac{a_1 s^2 + b_1 s + c_1}{a_2 s^2 + b_2 s + c_2}$.

If $a_1 = b_1 = 0$, and all the other coefficients are positive, then the transfer function represents as:

Ans
✗ A. High pass filter
✗ B. Notch filter
✓ C. Low pass filter
✗ D. Band pass filter

Question ID : **897032907**
Status : **Answered**
Chosen Option : **2**

Q.24 Find the stat transition matrix $\Phi(t)$ if $A = \begin{bmatrix} 0 & -2 \\ 1 & -3 \end{bmatrix}$

Ans

✗ A. $\begin{bmatrix} (2e^{-t} - e^{-2t}) & (e^{-t} - e^{-2t}) \\ (-2e^{-t} + 2e^{-2t}) & (-e^{-t} + 2e^{-2t}) \end{bmatrix}$

✗ B. $\begin{bmatrix} (2e^{-t} - e^{-2t}) & (-2e^{-t} + 2e^{-2t}) \\ (e^{-t} + e^{-2t}) & (-e^{-t} + 2e^{-2t}) \end{bmatrix}$

✓ C. $\begin{bmatrix} (2e^{-t} - e^{-2t}) & (-2e^{-t} + 2e^{-2t}) \\ (e^{-t} - e^{-2t}) & (-e^{-t} + 2e^{-2t}) \end{bmatrix}$

✗ D. $\begin{bmatrix} (2e^{-t} + e^{-2t}) & (-2e^{-t} + 2e^{-2t}) \\ (e^{-t} - e^{-2t}) & (-e^{-t} + 2e^{-2t}) \end{bmatrix}$

Question ID : **897032906**
Status : **Not Answered**
Chosen Option : **--**

Q.25 Find the smallest angular frequency for which discrete-time sinusoidal signal with the following fundamental period N = 5 would be periodic.

Ans

✗ A. $\Omega = \frac{\pi}{10}$ rad/cycle

✓ B. $\Omega = \frac{2\pi}{5}$ rad/cycle

✗ C. $\Omega = \frac{\pi}{5}$ rad/cycle

✗ D. $\Omega = \frac{2\pi}{15}$ rad/cycle

Question ID : **897032862**
Status : **Answered**
Chosen Option : **2**

Q.26 Which of the following methods is used to measure medium resistance?

Ans

✗ A. Potentiometer method

✗ B. Direct Deflection method

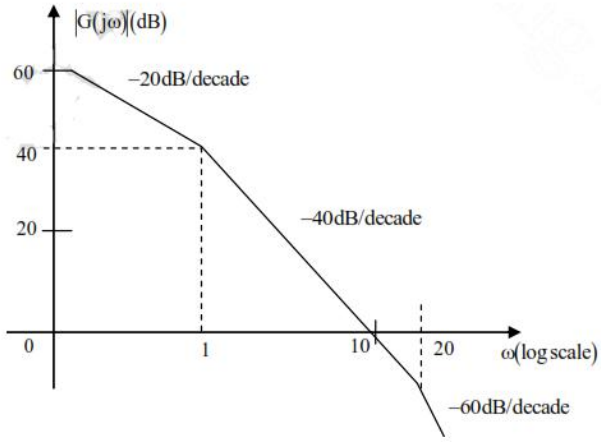
✓ C. Wheatstone Bridge method

✗ D. Kelvin Double Bridge method

Question ID : **897032924**
Status : **Answered**
Chosen Option : **3**

Q.27

The asymptotic Bode magnitude plot of a minimum phase transfer function G(s) is as shown.



Consider the following two statements.

Statement I: Transfer function G(s) has three poles and one zero.

Statement II: At very high frequency $(\omega \to \infty)$, the phase angle $\angle\, G(j\omega) = -\frac{3\pi}{2}$.

Which one of the following option is correct?

Ans
- ✗ A. Both the statements are false
- ✗ B. Both the statements are true
- ✓ C. Statement I is false and statement II is true
- ✗ D. Statement II is false and statement I is true

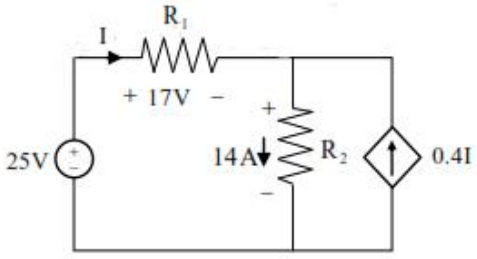
Question ID : **897032909**
Status : **Not Answered**
Chosen Option : **--**

Q.28 A matrix X has a dimension of 2 x 2. If the eigen values of this matrix is 5 and 6 what would be the eigen values of X^2 ?

Ans
- ✗ A. 2.5 and 3
- ✗ B. 5 and 6
- ✗ C. 10 and 12
- ✓ D. 25 and 36

Question ID : **897032801**
Status : **Answered**
Chosen Option : **4**

Q.29 Find I in the network shown.



Ans
✗ A. 1 A
✓ B. 10 A
✗ C. 17 A
✗ D. 25 A

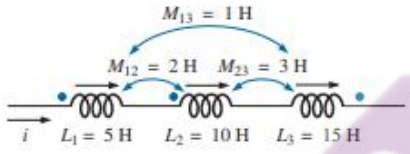
Question ID : **897032819**
Status : **Answered**
Chosen Option : **2**

Q.30 A charge is distributed on x-axis of cartesian system having a line charge density of $6x^2$ μC/m. Find the total charge over the length of 10 m.

Ans
✗ A. 2000 mC
✗ B. 20 mC
✗ C. 200 mC
✓ D. 2 mC

Question ID : **897032839**
Status : **Not Answered**
Chosen Option : **--**

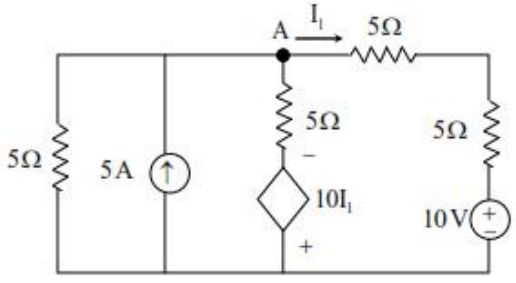
Q.31 Find the total inductance of the series coil shown.



Ans
✗ A. 42 H
✓ B. 26 H
✗ C. 36 H
✗ D. 18 H

Question ID : **897032835**
Status : **Answered**
Chosen Option : **2**

Q.32 Find V_A in the network shown



Ans
✓ A. $\frac{80}{7}$ V

✗ B. $\frac{7}{80}$ V

✗ C. $\frac{40}{3}$ V

✗ D. $\frac{3}{40}$ V

Question ID : **897032816**
Status : **Answered**
Chosen Option : **1**

Q.33 A soft iron toroid is concentric with a long straight conductor carrying a dc of I A. If μ_r of soft-iron is 100, find the ratio of magnetic flux densities at two adjacent points located just inside and just outside the toroid.

Ans

✓ A. 100

✗ B. 200

✗ C. 50

✗ D. 500

Question ID : **897032840**
Status : **Not Answered**
Chosen Option : **--**

Q.34 A 220V DC shunt motor takes 3A at no-load. It draws 25A when running at full-load at 1500 rpm. The armature and shunt resistances are 0.5 Ω and 220 Ω, respectively. The no-load speed in rpm.

Ans

✗ A. 1549.57 rpm

✗ B. 1497.23 rpm

✓ C. 1579.32 rpm

✗ D. 1500 rpm

Question ID : **897032874**
Status : **Answered**
Chosen Option : **3**

Q.35 When a 3-phase induction motor is supplied with balanced 3-phase supply, it produces a rotating magnetic field of magnitude:

Ans

✗ A.
Twice the peak value of the flux due to any individual phase

✗ B.
0.5 times the peak value of the flux due to any individual phase

✓ C.
1.5 times the peak value of the flux due to any individual phase

✗ D.
Equal to the peak value of the flux due to any individual phase

Question ID : **897032865**
Status : **Answered**
Chosen Option : **3**

Q.36 If a synchronous motor is running at a leading power factor, its excitation induced voltage (Ef) is:

Ans

✗ A. dependent upon supply voltage

✗ B. equal to terminal voltage

✗ C. less than terminal voltage

✓ D. higher than the terminal voltage

Question ID : **897032876**
Status : **Answered**
Chosen Option : **4**

Q.37 A single-phase, 22kVA, 2200V/220, 50Hz, distribution transformer is to be connected as an auto-transformer to get an output voltage of 2420 V. Its maximum kVA rating as an auto-transformer is:

Ans

✗ A. 42 kVA

✗ B. 422 kVA

✗ C. 224 kVA

✓ D. 242 kVA

Question ID : **897032877**
Status : **Answered**
Chosen Option : **4**

Q.38 The direction of rotation of a single-phase capacitor run induction motor is reversed by.

Ans

✗ A. interchanging the terminals of both the windings

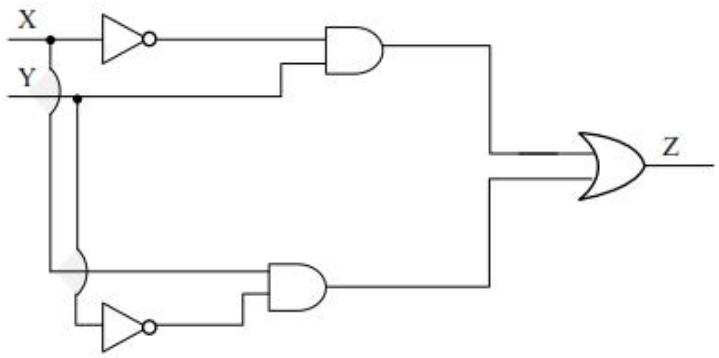
✓ B. interchanging the terminals of the auxiliary winding.

✗ C. interchanging the terminals of the AC supply

✗ D. interchanging the terminals of the capacitor

Question ID : **897032875**
Status : **Answered**
Chosen Option : **2**

Q.39 Given digital circuit behaves as an:



Ans

✗ A. OR gate

✓ B. XOR gate

✗ C. NOR gate

✗ D. NAND gate

Question ID : **897032934**
Status : **Answered**
Chosen Option : **2**

Q.40 "The line integral of magnetic field intensity $\bar{H}$ around a closed path is exactly equal to the direct current enclosed by that path" is the statement of:

Ans
✗ A. Divergence theorem
✓ B. Ampere's Circuital Law
✗ C. Biot-Savart law
✗ D. Coulomb's law

Question ID : **897032847**
Status : **Answered**
Chosen Option : **2**

Q.41 Determine $\left.\frac{dy}{dx}\right|_{x=1}$ when $y = X^2 + 2x + 15$

Ans
✗ A. 8
✓ B. 4
✗ C. 15
✗ D. 2

Question ID : **897032804**
Status : **Answered**
Chosen Option : **2**

Q.42 A power plant with high initial cost, low running and maintenance cost and with no standby losses is:

Ans
✗ A. Steam power plant
✗ B. Diesel power plant
✗ C. Nuclear power plant
✓ D. Hydro-electric power plant

Question ID : **897032881**
Status : **Answered**
Chosen Option : **4**

Q.43 Find the fundamental frequency of a periodic signal $v(t) = 30sin100t + 10cos300t + 6sin(500t + \frac{\pi}{4})$.

Ans
✓ A. 100
✗ B. 300
✗ C. 500
✗ D. 800

Question ID : **897032860**
Status : **Answered**

Chosen Option : **1**

Q.44 In spherical system with sphere of radius r the electric field intensity $\bar{E}$ is expressed as:

Ans

✗ A. $\frac{Q_1}{2\pi\epsilon_0 r^2}\overline{a_r}$

✗ B. $\frac{2Q_1}{4\pi\epsilon_0 r^2}\overline{a_r}$

✓ C. $\frac{Q_1}{4\pi\epsilon_0 r^2}\overline{a_r}$

✗ D. $\frac{2Q_1}{2\pi\epsilon_0 r^2}\overline{a_r}$

Question ID : **897032838**
Status : **Answered**
Chosen Option : **3**

Q.45 The solution to the given multiple integral is:

$$\int_0^{\frac{\pi}{2}}\int_0^{\frac{\pi}{2}}\sin(x+y)\,dxdy$$

Ans

✗ A. 4

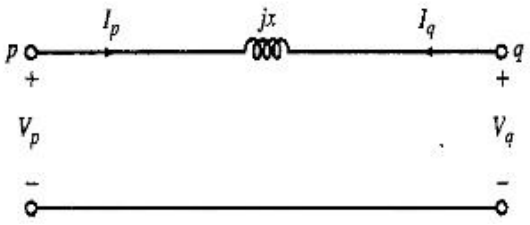
✓ B. 2

✗ C. -2

✗ D. $\frac{\pi}{2}$

Question ID : **897032805**
Status : **Not Answered**
Chosen Option : **--**

Q.46 Obtain the Y_{bus} representation of the model of transformer shown.



Ans

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

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

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

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

Question ID : **897032887**
Status : **Not Answered**
Chosen Option : **--**

Q.47 The inverse Laplace transform of:

$H(s) = \frac{s+3}{s^2+2s+1}$ for $t \geq 0$ is:

Ans

✗ A. $3te^{-t} + e^{-t}$

✗ B. $2te^{-t}$

✗ C. e^{-t}

✓ D. $2te^{-t} + e^{-t}$

Question ID : **897032848**
Status : **Answered**
Chosen Option : **4**

Q.48 If the input and output of a system is related by the following differential equation, then find its transfer function.

$\frac{d^2y}{dt^2} + 3\frac{dy}{dt} + 2y = u + \frac{du}{dt}$

Ans

✓ A. $T(s) = \frac{s+1}{s^2+3s+2}$

✗ B. $T(s) = \frac{s+1}{s^2+2s+3}$

✗ C. $T(s) = \frac{s-1}{s^2+2s+3}$

✗ D. $T(s) = \frac{s-1}{s^2+3s+2}$

Question ID : **897032905**
Status : **Answered**
Chosen Option : **1**

Q.49 Power of a 1-phase 3.3 kV load drawing a current of 50 A is required to be measured by means of a wattmeter having potential terminals marked as 110 V and current terminals as 5 A. What is the transformation ratio of the CT?

Ans

✗ A. 20 A

✗ B. 0.2 A

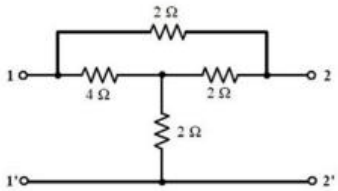
✓ C. 10 A

✗ D. 0.1 A

Question ID : **897032916**

Status : **Answered**
Chosen Option : **4**

Q.50 For the 2-port network shown, determine the value of transfer impedance Z_{21}.



Ans

✗ A. $1\ \Omega$

✓ B. $3\ \Omega$

✗ C. $4\ \Omega$

✗ D. $2\ \Omega$

Question ID : **897032822**
Status : **Answered**
Chosen Option : **2**

Q.51 What is the LT and ROC of the signal $x(t) = sin(3t)u(t)$

Ans

✗ A. $X(s) = \frac{3}{s^2+9}$, $\text{Re}(s) < \omega$

✗ B. $X(s) = \frac{3}{s^2+9}$, $\text{Re}(s) < 0$

✓ C. $X(s) = \frac{3}{s^2+9}$, $\text{Re}(s) > 0$

✗ D. $X(s) = \frac{3}{s^2+9}$, $\text{Re}(s) > \omega$

Question ID : **897032850**
Status : **Answered**
Chosen Option : **3**

Q.52 For the power semiconductor devices IGBT, MOSFET, Diode and Thyristor, which one of the following statements is true?

Ans

✓ A.
MOSFET is majority carrier device, whereas IGBT, Diode, Thyristor are minority carrier devices

✗ B.
IGBT and MOSFET are majority carrier devices, whereas Diode and Thyristor are minority carrier devices

✗ C. All of the four are majority carrier devices.

✗ D. All the four are minority carrier devices

Question ID : **897032935**
Status : **Answered**
Chosen Option : **1**

Q.53 Electric field intensity $\bar{E}$ and electric flux density $\bar{D}$ are related by:

Ans

✗ A. $\bar{E} = \varepsilon + \bar{D}$

✔ B. $\bar{D} = \varepsilon \bar{E}$

✘ C. $\bar{E} = \varepsilon \bar{D}$

✘ D. $\bar{E} = \frac{\varepsilon}{\bar{D}}$

Question ID : **897032842**
Status : **Answered**
Chosen Option : **4**

Q.54 The root locus of the feedback control system having the characteristic equation $s^2 + 6K_s + 2_s + 5 = 0$ where $K > 0$, enter into real axis at.

Ans

✘ A. $s = 5$

✘ B. $s = 1$

✔ C. $s = -\sqrt{5}$

✘ D. $s = -1$

Question ID : **897032910**
Status : **Not Answered**
Chosen Option : **--**

Q.55 Voltmeter calibration is done through:

Ans

✘ A. An ampere hour meter

✘ B. A signal generator

✘ C. A hertz meter

✔ D. A potentiometer

Question ID : **897032922**
Status : **Answered**
Chosen Option : **4**

Q.56 A 30kV, 50Hz, 50MVA generator has the positive, negative, and zero sequence reactances of 0.25pu, 0.15pu, and 0.05pu, respectively. The neutral of the generator is grounded with a reactance so that the fault current for a bolted LG fault and that of a bolted three-phase fault at the generator terminal are equal. The value of grounding reactance is:

Ans

✘ A. 1 Ω

✔ B. 1.8 Ω

✘ C. 0.1 Ω

✘ D. 2.18 Ω

Question ID : **897032883**
Status : **Answered**
Chosen Option : **2**

Q.57 To reduce commutation difficulties the universal motors are designed with:

Ans

✘ A. Weak magnetic field

✘ B. Very strong magnetic field

✔ C. Moderate magnetic field

✗ D.

Commutation problem does not depend on the strength of magnetic field

Question ID : **897032866**
Status : **Answered**
Chosen Option : **4**

Q.58 The surge impedance in a transmission line having negligible resistance is:

Ans

✗ A. $\sqrt{LC}$

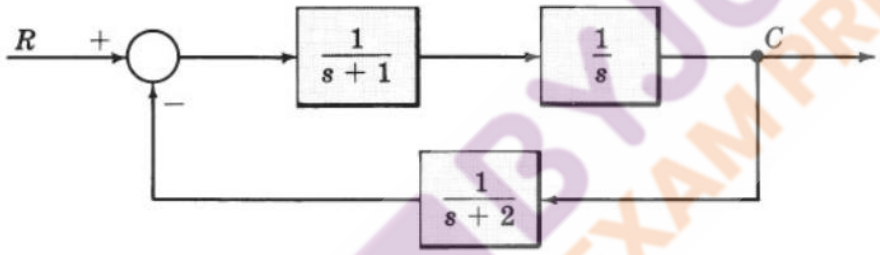
✓ B. $\sqrt{\frac{(L)}{(C)}}$

✗ C. $\sqrt{LC-1}$

✗ D. $\sqrt{(L)+(C)}$

Question ID : **897032893**
Status : **Answered**
Chosen Option : **2**

Q.59 Reduce the block diagram to unity feedback form and find the system characteristic equation.



Ans

✗ A. $s^3+2s^2+3s-1=0$

✗ B. $s^3+2s^2+3s+1=0$

✗ C. $s^3+2s^2-2s+1=0$

✓ D. $s^3+3s^3+2s+1=0$

Question ID : **897032901**
Status : **Not Answered**
Chosen Option : **--**

Q.60 A series motor of resistance 1 Ω between terminals runs at 800 rpm at 200 V with a current of 15 A. Determine the speed at which it will run when connected in series with a 5 Ω resistance and taking the same current at the same supply voltage.

Ans

✗ A. 1254 rpm

✓ B. 476 rpm

✗ C. 1079.6 rpm

✗ D. 409.3 rpm

Question ID : **897032868**
Status : **Answered**
Chosen Option : **2**

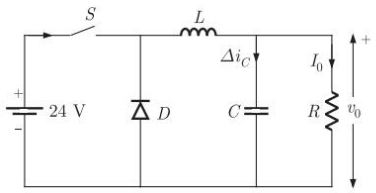
Q.61 A three-phase synchronous motor draws 200 A from the line at unity power factor at rated load. Considering the same line voltage and load, the line current at a power factor of 0.5 leading is

Ans

✗ A. 300 A
✓ B. 400 A
✗ C. 200 A
✗ D. 100 A

Question ID : **897032873**
Status : **Answered**
Chosen Option : **2**

Q.62 The ideal switch S, in the network shown, is operated at 100 kHz with a duty ratio of 50%. Find the peak current in S if $\Delta i_c = 1.6$ A peak-to-peak and $I_0 = 5$ A dc.

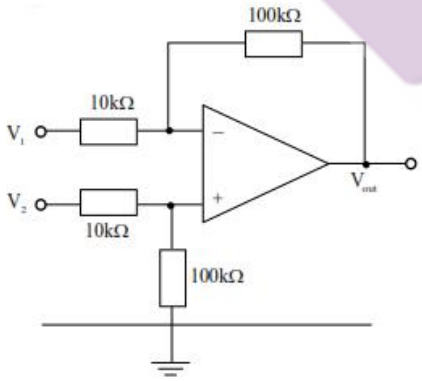


Ans

✓ A. 5.8 A
✗ B. 5 A
✗ C. 0.8 A
✗ D. 8.5 A

Question ID : **897032826**
Status : **Answered**
Chosen Option : **1**

Q.63 The ideal op amp shown has $V_1 = 10$ mV and $V_2 = 50$ mV. Find V_{out}.



Ans

✗ A. 200 mV
✓ B. 400 mV
✗ C. 300 mV
✗ D. 100 mV

Question ID : **897032936**
Status : **Answered**
Chosen Option : **2**

Q.64 The problems associated with use of series capacitor for power factor improvement is listed in the options. Which option is not true?

Ans

✔ A.
The effect of series capacitor is more than that of shunt capacitor in power factor improvement

✗ B.
Switching-in of an unloaded transformer may develop ferroresonance

✗ C.
Series capacitor develops high recovery voltage across the circuit breaker contacts

✗ D.
Series compensated line has a tendency to cause series resonance, called subsynchronous resonance of frequencies lower than power frequencies

Question ID : **897032890**
Status : **Not Answered**
Chosen Option : **--**

Q.65 In a 1-phase transformer the emf per turn of secondary side is:

Ans

✔ A. Same as emf per turn of primary side

✗ B. $\frac{1}{4}$ the emf per turn of primary side

✗ C. $\frac{3}{4}$ the emf per turn of primary side

✗ D. Half the emf per turn of primary side

Question ID : **897032870**
Status : **Answered**
Chosen Option : **1**

Q.66 In a delta connection, if the magnitude of phase voltage is V_P and the magnitude of phase current is I_P, then the expression for the complex power is:

Assume load to be capacitive.

Ans

✗ A. $S = \sqrt{3}\, V_P I_P \angle \phi \text{ VA}$

✗ B. $S = \sqrt{3}\, V_P I_P \angle -\phi \text{ VA}$

✗ C. $S = V_P I_P \angle \phi \text{ VA}$

✔ D. $S = 3\, V_P I_P \angle -\phi \text{ VA}$

Question ID : **897032932**
Status : **Answered**
Chosen Option : **1**

Q.67 Operating frequency in IGBTs is around:

Ans

✔ A. 50 kHz

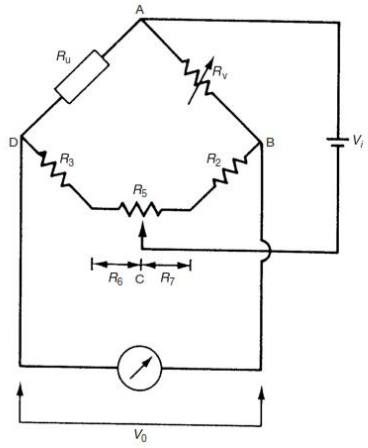
✗ B. 2 MHz

✗ C. 1 MHz

✗ D. 1.5 MHz

Question ID : **897032945**
Status : **Not Answered**
Chosen Option : **--**

Q.68 A potentiometer R_5 is put in the apex of the bridge shown in the figure to balance the circuit. If $R_u = 500\ \Omega$; $R_v = 500\ \Omega$; $R_2 = 515\ \Omega$; $R_3 = 480\ \Omega$; and $R_5 = 100\ \Omega$; find the values of R_6 and R_7 to balance the bridge and compensate for the unequal values of R_2 and R_3.



Ans

✗ A. $R_6 = 50\ \Omega$ and $R_7 = 50\ \Omega$

✗ B. $R_6 = 65.5\ \Omega$ and $R_7 = 34.5\ \Omega$

✓ C. $R_6 = 67.5\ \Omega$ and $R_7 = 32.5\ \Omega$

✗ D. $R_6 = 60\ \Omega$ and $R_7 = 40\ \Omega$

Question ID : **897032929**
Status : **Not Answered**
Chosen Option : **--**

Q.69 In the case where the voltage bases are same the new per unit impedance is obtained from the formula:

Ans

✗ A. $Z_{pu}^{new} = \dfrac{Z_{pu}^{old} S_B^{old}}{S_B^{new}}$

✗ B. $Z_{pu}^{new} = \dfrac{Z_{pu}^{old} S_B^{new} V_B^{old}}{S_B^{old} V_B^{new}}$

✓ C. $Z_{pu}^{new} = \dfrac{Z_{pu}^{old} S_B^{new}}{S_B^{old}}$

✗ D. $Z_{pu}^{old} = \dfrac{Z_{pu}^{new} S_B^{new}}{S_B^{old}}$

Question ID : **897032894**
Status : **Answered**
Chosen Option : **3**

Q.70 The parameter of an equivalent circuit of a three-phase induction motor affected by reducing the rms value of the supply voltage at the rate frequency is:

Ans

✓ A. Rotor leakage reactance

✗ B. Stator resistance

✗ C. Rotor resistance

✗ D. Magnetizing reactance

Question ID : **897032872**
Status : **Answered**
Chosen Option : **1**

Q.71 A linear system:

Ans

✗ A. satisfies the properties of homogeneity but not of superposition

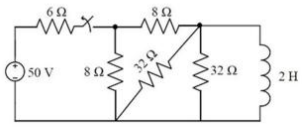
✓ B. satisfies the properties of superposition and homogeneity

✗ C. does not satisfy the properties of superposition and homogeneity

✗ D. satisfies the properties of superposition but not of homogeneity

Question ID : **897032895**
Status : **Answered**
Chosen Option : **2**

Q.72 In the network shown the switch was closed for a long time. at t = 0 the switch was opened. Determine the current in the inductor for t ≥ 0.



Ans

✗ A. $5e^{4t}$

✗ B. $2.5e^{4t}$

✓ C. $2.5e^{-4t}$

✗ D. $5e^{-4t}$

Question ID : **897032821**
Status : **Answered**
Chosen Option : **3**

Q.73 A power system has 100 buses including 10 generator buses. For the load flow analysis using Newton-Raphson method in polar coordinates, the size of the Jacobian is:

Ans

✗ A. 90×90

✗ B. 90×180

✓ C. 189×189

✗ D. 189×90

Question ID : **897032888**
Status : **Answered**
Chosen Option : **3**

Q.74

The unknown resistance in Kelvin's double bridge is given by

Where:

Error $\Delta = \left[\frac{P}{Q} - \frac{p}{q}\right]$

Ans

✔ A. $X = \left[\frac{P}{Q}S + \frac{q\Delta r}{p+q+r}\right]$

✘ B. $X = \left[\frac{P}{Q}S + \frac{q}{p+q-r}\right]$

✘ C. $X = \left[\frac{P}{Q}S - \frac{q\Delta r}{p+q+r}\right]$

✘ D. $X = \left[\frac{P}{Q}S - \frac{q}{p+q+r}\right]$

Question ID : **897032921**
Status : **Not Answered**
Chosen Option : **--**

Q.75 A 1000×1000 bus admittance matrix for an electric power system has 8000 non-zero elements. The minimum number of branches (transmission lines and transformers) in this system are:

Ans

✘ A. 1000

✘ B. 2000

✘ C. 10^6

✔ D. 3500

Question ID : **897032891**
Status : **Answered**
Chosen Option : **4**

Q.76 The force (F) experienced by the two-point charges Q_1 and Q_2, located in free space or vacuum is expressed as:

Where R is the distance between the two charges.

Ans

✘ A. $F = \frac{Q_1 + Q_2}{2\pi\epsilon_0 R^2}$

✘ B. $F = \frac{Q_1 Q_2}{2\pi\epsilon_0 R^2}$

✘ C. $F = \frac{Q_1 + Q_2}{4\pi\epsilon_0 R^2}$

✔ D. $F = \frac{Q_1 Q_2}{4\pi\epsilon_0 R^2}$

Question ID : **897032836**
Status : **Answered**
Chosen Option : **3**

Q.77 Charge density of a line charge is expressed in terms of.

Ans

✘ A. C/m^2

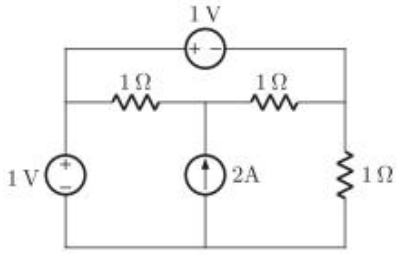
✗ B. C

✓ C. C/m

✗ D. C/m^3

Question ID : **897032844**
Status : **Answered**
Chosen Option : **3**

Q.78 Find the power developed by the current source.



Ans

✓ A. 3 W

✗ B. 2 W

✗ C. 4 W

✗ D. 1 W

Question ID : **897032824**
Status : **Answered**
Chosen Option : **1**

Q.79 The z-transform of a sequence x(n) having support interval $0 \leq n \leq N$ is:

Ans

✗ A. $X(z) = \sum_{n=0}^{N} x(n)z^{n}$

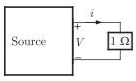
✗ B. $X(z) = \sum_{n=-\infty}^{\infty} x(n)z^{n}$

✗ C. $X(z) = \sum_{n=-\infty}^{\infty} x(n)z^{-n}$

✓ D. $X(z) = \sum_{n=0}^{N} x(n)z^{-n}$

Question ID : **897032810**
Status : **Answered**
Chosen Option : **4**

Q.80 A 1 Ω resistor is connected across a source having load line $v + i = 100$. Determine the current through the resistor.



Ans

✗ A. 80 A

✓ B. 50 A

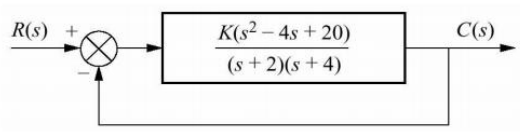
✗ C. 20 A

✗ D. 100 A

Question ID : **897032827**

Status : **Answered**
Chosen Option : **2**

Q.81 From the given system determine the number of loci, starting points, ending points and number of asymptotes.



Ans

✗ A. $2,(2,4),(2+j4,2-j4),0$ respectively

✗ B. $1,(-2,-4),(2+j4,2-j4),0$ respectively

✓ C. $2,(-2,-4),(2+j4,2-j4),0$ respectively

✗ D. $1,(2,4),(2+j4,2-j4),0$ respectively

Question ID : **897032903**
Status : **Not Answered**
Chosen Option : **--**

Q.82 Suppose $x(t) = cos(\pi t) + 3\,sin(2\pi t) + sin(4\pi t)$ .Determine the condition on the sampling interval T_s so that each x(t) is uniquely represented by the discrete time sequence $x[n] = x(nT_s)$.

Ans

✓ A. $T_S < \frac{1}{4}$

✗ B. $T_S < \frac{1}{8}$

✗ C. $T_S > \frac{1}{4}$

✗ D. $T_S > \frac{1}{8}$

Question ID : **897032855**
Status : **Not Answered**
Chosen Option : **--**

Q.83 The current flowing through the primary winding of a current transformer (CT) is primarily determined by the:

Ans

✗ A. Load connected to the secondary coil of CT

✓ B. Load connected to the main circuit to which the CT is connected

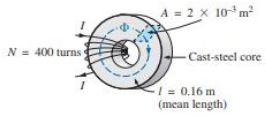
✗ C. Load connected to the main circuit as well as to the secondary of the CT

✗ D. It is independent of the main circuit load and the load connected to the secondary of CT

Question ID : **897032928**
Status : **Not Answered**
Chosen Option : **--**

Q.84

For the series magnetic circuit shown, find the flux density to develop magnetic flux of 4×10^{-4} Wb.



Ans
✗ A. 8×10^{-7} T
✗ B. 0.5 T
✗ C. 0.02 T
✓ D. 0.2 T

Question ID : **897032834**
Status : **Answered**
Chosen Option : **4**

Q.85 When a two-winding transformer is converted into an autotransformer, the kVA rating of the resultant autotransformer:

Ans
✗ A. Remains same
✗ B. Decreases to half of the original rating
✓ C. Increases
✗ D. Decreases to $\frac{3}{4}$ of the original rating

Question ID : **897032869**
Status : **Answered**
Chosen Option : **3**

Q.86 Find suitable option for the given k-map.

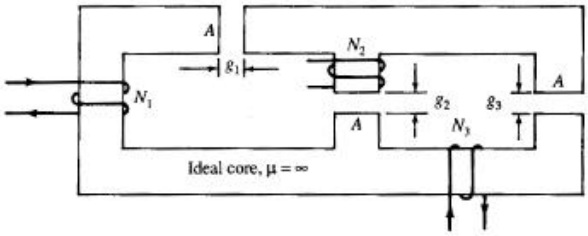
RS \ PQ	00	01	11	10
00	0	1	1	0
01	1	1	1	1
11	1	1	1	1
10	0	0	0	0

Ans
✓ A. $Q\bar{R} + S$
✗ B. $QR + S$
✗ C. $Q\bar{R} + \bar{S}$
✗ D. $QR + \bar{S}$

Question ID : **897032937**
Status : **Answered**
Chosen Option : **1**

Q.87

In the circuit shown, what is the reluctance ($\mathcal{R}$) as seen from coil N_1 ?



Ans

✗ A. $\mathcal{R} = (\mathcal{R}_{g1} || \mathcal{R}_{g2}) + \mathcal{R}_{g3}$

✗ B. $\mathcal{R} = (\mathcal{R}_{g1} + \mathcal{R}_{g2}) \| \mathcal{R}_{g3}$

✗ C. $\mathcal{R} = \mathcal{R}_{g1} + \mathcal{R}_{g2} + \mathcal{R}_{g3}$

✓ D. $\mathcal{R} = \mathcal{R}_{g1} + (\mathcal{R}_{g2} || \mathcal{R}_{g3})$

Question ID : **897032846**
Status : **Not Answered**
Chosen Option : **--**

Q.88 The FT of $x(t) = e^{2t}u(-t)$ is:

Ans

✗ A. $X(j\omega) = \frac{-1}{(j\omega+2)}$

✗ B. $X(j\omega) = \frac{1}{(j\omega-2)}$

✗ C. $X(j\omega) = \frac{1}{(j\omega+2)}$

✓ D. $X(j\omega) = \frac{-1}{(j\omega-2)}$

Question ID : **897032858**
Status : **Answered**
Chosen Option : **4**

Q.89 The two basic forms of moving-iron type voltmeters and ammeters are:

Ans

✗ A. Permanent magnet type and electrodynamic type

✓ B. Attraction type and repulsion type

✗ C. Split-phase type and shaded-pole type

✗ D. Induction type and electrostatic type

Question ID : **897032919**
Status : **Answered**
Chosen Option : **2**

Q.90 If there are more than one charge distribution in Gaussian surface, the net charge is:

Ans

✗ A. Algebraic sum of all the even charges

✗ B. Difference of all the charges

✓ C. Algebraic sum of all the individual charges

✗ D. Algebraic sum of all the odd charges

Question ID : **897032837**
Status : **Answered**
Chosen Option : **3**

Q.91 A square coil of 20 cm side and with 200 turns is rotated at a uniform velocity of 10 m/s about an axis at right angles to a uniform magnetic field having a flux density of 0.5 T. Determine the instantaneous value of the induced emf when the plane of the coil is in the plane of the field.

Ans

✗ A. 400 V

✓ B. 0 V

✗ C. 362 V

✗ D. 200 V

Question ID : **897032830**
Status : **Answered**
Chosen Option : **1**

Q.92 A 120 V DC shunt motor takes 2 A at no load. It takes 7 A on full load while running at 1200 rpm. Given Ra = 0.8 Ω and R_{sh} = 240 Ω, find no load speed in rpm.

Ans

✗ A. 4212.28 rpm

✗ B. 1282.82 rpm

✗ C. 1824.82 rpm

✓ D. 1241.82 rpm

Question ID : **897032880**
Status : **Answered**
Chosen Option : **4**

Q.93 Which of the following Lisajous patterns is obtained when frequency ratio between the two signals at x and y input of CRO is 1 and phase difference between them is 45°?

Ans

✗ A. 

✗ B. 

✗ C. 

✓ D. 

Question ID : **897032925**
Status : **Answered**

Chosen Option : **3**

Q.94 Distortion factor (DF) and total harmonic distortion (THD) are related by.

Ans

✗ A. $DF = \sqrt{\frac{1}{1 - THD^2}}$

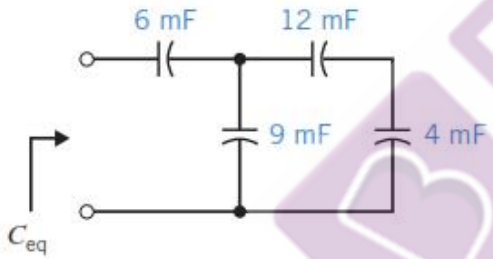
✗ B. $THD = \sqrt{\frac{1}{1 + DF^2}}$

✗ C. $THD = \sqrt{\frac{1}{1 - DF^2}}$

✓ D. $THD = \sqrt{\frac{1}{DF^2} - 1}$

Question ID : **897032947**
Status : **Answered**
Chosen Option : **4**

Q.95 The value of C_{eq} in the circuit shown is:



Ans

✗ A. 11.76 μF

✗ B. 11.76 mF

✓ C. 4 mF

✗ D. 4 μF

Question ID : **897032845**
Status : **Answered**
Chosen Option : **3**

Q.96 A 50MVA, 10kV, 50Hz, star-connected, unloaded three-phase alternator has a synchronous reactance of 1 p.u. and a sub-transient reactance of 0.2 p.u. If a 3-phase short circuit occurs close to the generator terminals, the ratio of initial and final values of the sinusoidal component of the short circuit current is:

Ans

✗ A. 3 A

✗ B. 4 A

✗ C. 2 A

✓ D. 5 A

Question ID : **897032879**

Status : **Not Answered**
Chosen Option : **--**

Q.97 A (0 A to 50 A) moving coil ammeter has a voltage drop of 0.1 V across its terminals at full scale deflection. The external shunt resistance (in milliohms) needed to extend its range to 0 A to 500 A is

Ans
✗ A. 22.2 mΩ
✗ B. 2.2 mΩ
✓ C. 0.22 mΩ
✗ D. 222.2 mΩ

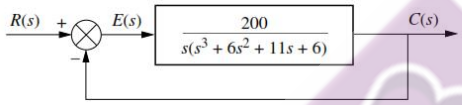
Question ID : **897032931**
Status : **Answered**
Chosen Option : **3**

Q.98 A cathode ray oscilloscope typically has an input impedance of.

Ans
✗ A. 1 GΩ
✗ B. 1 kΩ
✓ C. 1 MΩ
✗ D. 1 Ω

Question ID : **897032927**
Status : **Answered**
Chosen Option : **3**

Q.99 Find the number of poles in the left half plane (LHP), the right half plane (RHP) and on the jω-axis for the feedback control system as shown. Is the system stable?



Ans
✗ A. 1 LHP poles; 3 RHP poles; 0 jω poles; system is stable
✓ B. 2 LHP poles; 2 RHP poles; 0 jω poles; system is unstable
✗ C. 2 LHP poles; 2 RHP poles; 0 jω poles; system is stable
✗ D. 1 LHP poles; 3 RHP poles; 0 jω poles; system is unstable

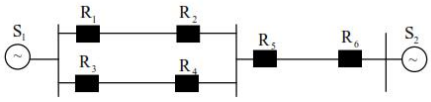
Question ID : **897032897**
Status : **Answered**
Chosen Option : **2**

Q.100 The general transfer function of a digital lead compensator is:

Ans
✗ A. $P_{lead}(z) = \frac{K_{lead}(z-p_c)}{(z-z_c)} \quad z_c < p_c$
✗ B. $P_{lead}(z) = \frac{K_{lead}(z-p_c)}{(z-z_c)} \quad z_c > p_c$
✓ C. $P_{lead}(z) = \frac{K_{lead}(z-z_c)}{(z-p_c)} \quad z_c > p_c$
✗ D. $P_{lead}(z) = \frac{K_{lead}(z-z_c)}{(z-p_c)} \quad z_c < p_c$

Question ID : **897032908**
Status : **Answered**
Chosen Option : **4**

Q.101 A power system with two generators is shown in the figure below. The system (generators, buses and transmission lines) is protected by six overcurrent relay R_1 to R_6. Assuming a mix of directional and nondirectional relays at appropriate locations, the remote backup relays for R_4 are:



Ans

✔ A. R_1 to R_6

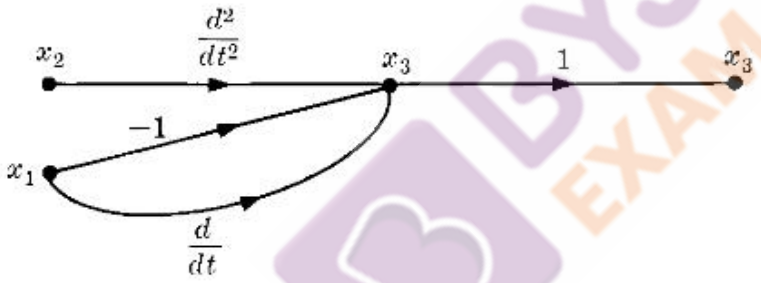
✘ B. R_2 to R_5

✘ C. R_2 to R_6

✘ D. R_1 to R_5

Question ID : **897032886**
Status : **Not Answered**
Chosen Option : **--**

Q.102 The expression for x_3 from the following signal flow graph is:



Ans

✘ A. $x_3 = \frac{d^2x_2}{dt^2} + \frac{dx_1}{dt} - x_1 - 1$

✔ B. $x_3 = \frac{d^2x_2}{dt^2} + \frac{dx_1}{dt} - x_1$

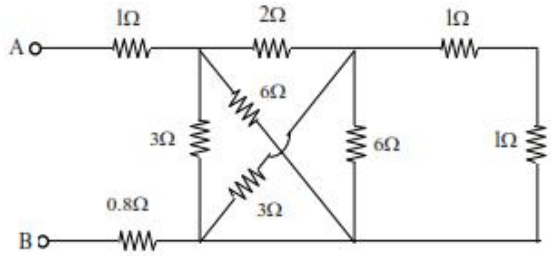
✘ C. $x_3 = \frac{d^2x_2}{dt^2} - \frac{dx_1}{dt} - x_1$

✘ D. $x_3 = \frac{d^2x_2}{dt^2} + \frac{dx_1}{dt} - x_1 + 1$

Question ID : **897032899**
Status : **Answered**
Chosen Option : **2**

Q.103

Find R_{AB}.



Ans
- ✗ A. $6\ \Omega$
- ✗ B. $1\ \Omega$
- ✗ C. $5\ \Omega$
- ✓ D. $3\ \Omega$

Question ID : **897032818**
Status : **Answered**
Chosen Option : **4**

Q.104 A first order differential is given by $\frac{dy}{dx} = e^{-3x}$. Find the possible solution out of the following assuming K as constant.

Ans
- ✗ A. $e^{3x} + K$
- ✓ B. $-\frac{1}{3}e^{-3x} + K$
- ✗ C. $-\frac{1}{3}e^{3x} + K$
- ✗ D. $-3e^{3x} + K$

Question ID : **897032803**
Status : **Answered**
Chosen Option : **2**

Q.105 Consider a discrete time signal given $x(n) = (-0.25)^n u(n) + (5)nu(-n-1)$

The region of convergence of its Z-transform would be.

Ans
- ✓ A. the annular region between the two circles, both centered at origin and having radii 0.25 and 0.5
- ✗ B. the entire Z plane
- ✗ C. the region inside the circle of radius 0.5 and centered at origin
- ✗ D. the region outside the circle of radius 0.25 and centered at origin

Question ID : **897032854**
Status : **Answered**
Chosen Option : **1**

Q.106 The two types of indoor type current transformers are:

Ans
✗ A. Bushing type and Clamp-on type
✗ B. Wound type and Clamp-on type
✓ C. Wound type and Bar type
✗ D. Bar type and Bushing type

Question ID : **897032926**
Status : **Not Answered**
Chosen Option : **--**

Q.107 The power handling capacity of V-V circuit is how much times the capacity of a full Δ-Δ of the same transformers?

Ans
✓ A. $1\sqrt{3}$ times
✗ B. $\sqrt{2}$ times
✗ C. 0.5 times
✗ D. $\sqrt{3}$ times

Question ID : **897032867**
Status : **Answered**
Chosen Option : **1**

Q.108 Using divergence theorem determine the net flux of the vector field $F(x,y,z) = 2x^2ya_x + za_y + ya_z$ emerging from the unit cube $0 \le x, y, z \le 1$.

Ans
✗ A. 0
✗ B. $\frac{2}{3}$
✗ C. $\frac{3}{2}$
✓ D. 1

Question ID : **897032843**
Status : **Not Answered**
Chosen Option : **--**

Q.109 Find the Fourier transform of the signal given below:

$$x(t) = \begin{cases} e^{j10t} \; for \; |t| \le 1 \\ 0 \; for \; |t| > 1 \end{cases}$$

Ans
✗ A. $\frac{2e^{j10\omega}\sin(\omega - 10)}{(\omega - 10)}$
✓ B. $\frac{2\sin(\omega - 10)}{(\omega - 10)}$
✗ C. $\frac{2\sin(\omega - 10)}{\omega}$

✗ D. $\frac{2\sin\omega}{(\omega-10)}$

Question ID : **897032856**
Status : **Answered**
Chosen Option : **2**

Q.110 Given a mean of 9 and a standard deviation of $\sqrt{6}$, determine the values of n and p in a binomial distribution

Ans

✗ A. 81 and $\frac{1}{9}$ respectively

✗ B. 72 and $\frac{1}{2}$ respectively

✓ C. 27 and $\frac{1}{3}$ respectively

✗ D. 18 and $\frac{1}{6}$ respectively

Question ID : **897032808**
Status : **Not Answered**
Chosen Option : **--**

Q.111 Given the equation of line of regression of x on y, determine its regression coefficient.

$x-\bar{x}=\frac{r\sigma_x}{\sigma_y}(y-\bar{x})$

Ans

✗ A. 1

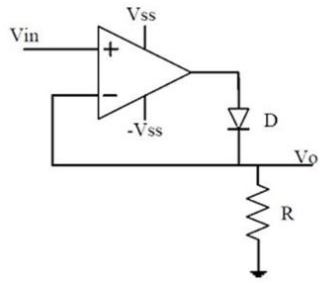
✗ B. $\frac{r\sigma_y}{\sigma_x}$

✗ C. $(y-\bar{x})$

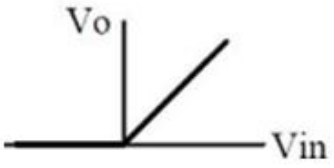
✓ D. $\frac{r\sigma_x}{\sigma_y}$

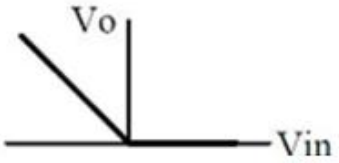
Question ID : **897032809**
Status : **Not Answered**
Chosen Option : **--**

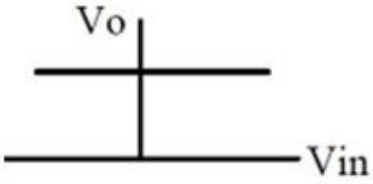
Q.112 The approximate transfer characteristic for the circuit shown below with an ideal operational amplifier and diode will be.

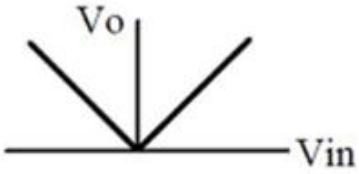


Ans

✔ A.


✘ B.


✘ C.


✘ D.


Question ID : **897032940**
Status : **Answered**
Chosen Option : **1**

Q.113 How many vector equations forms the state model of the linear system?

Ans
✘ A. 4
✔ B. 2
✘ C. 3
✘ D. 1

Question ID : **897032913**
Status : **Not Answered**
Chosen Option : **--**

Q.114 Conductivity--Modulated Field Effect Transistor is also called

Ans
✘ A. Bipolar Junction Transistor
✘ B. Metal Oxide Semiconductor Field Effect Transistor
✘ C. MOS-Controlled Thyristor
✔ D. Insulated Gate Bipolar Transistor

Question ID : **897032942**
Status : **Answered**
Chosen Option : **2**

Q.115 The relation between β and α with respect to BJT is:

Ans
✘ A. $\alpha = \frac{\beta}{1-\beta}$

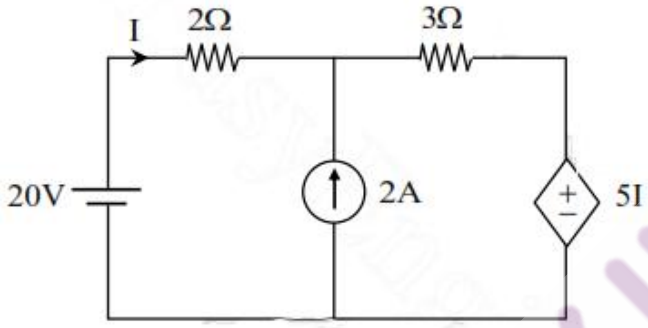
✗ B. $\alpha = \frac{1}{1+\beta}$

✗ C. $\alpha = \frac{1}{1-\beta}$

✓ D. $\alpha = \frac{\beta}{1+\beta}$

Question ID : **897032939**
Status : **Answered**
Chosen Option : **4**

Q.116 In the network shown determine I.



Ans

✗ A. 4.1 A

✗ B. 2.5 A

✗ C. 5.2 A

✓ D. 1.4 A

Question ID : **897032811**
Status : **Marked For Review**
Chosen Option : **3**

Q.117 In a thyristor:

Ans

✗ A. Latching current is associated with turn-off process

✗ B. Holding current is associated with turn-on process

✗ C.
Both latching and holding currents are associated with turn-off process

✓ D. Latching current is associated with turn-on process

Question ID : **897032943**
Status : **Answered**
Chosen Option : **4**

Q.118 The output ripple voltage in a buck dc-dc converter is calculated using which expression?

Ans

✗ A. $\frac{\Delta V_0}{V_0} = \frac{1+D}{8LCf}$

B. $\frac{\Delta V_0}{V_0} = \frac{1-D}{8LCf^2}$

C. $\frac{\Delta V_0}{V_0} = \frac{1-D}{8LCf}$

D. $\frac{\Delta V_0}{V_0} = \frac{1+D}{8LCf^2}$

Question ID : **897032948**
Status : **Answered**
Chosen Option : **2**

Q.119 The Z-transform of $x[n] = \alpha^n u[n]$ is:

Ans

A. $\frac{-z}{z-\alpha}, \ |z| > |\alpha|$

B. $\frac{\alpha}{z-\alpha}, \ |z| > |\alpha|$

C. $\frac{z}{z-\alpha}, \ |z| > |\alpha|$

D. $\frac{-\alpha}{z-\alpha}, \ |z| > |\alpha|$

Question ID : **897032849**
Status : **Answered**
Chosen Option : **3**

Q.120 The Laplace transform of x(t) is given by $X(s) = \frac{3s+5}{s^2+10s+21}$.

Determine $x(0^+)$

Ans

A. 21

B. 5

C. 10

D. 3

Question ID : **897032863**
Status : **Not Answered**
Chosen Option : **--**

Q.121 After the following instructions of 8085 microprocessor is executed the registers BC and HL will contain what values?

```
LXI SP, 2099H
LXI B, 424FH
LXI H, 64A5H
PUSH B
PUSH H
POP B
POP H
RET
```

Ans

A. HL = 4F42H; BC = A564H

B. BC = 4F42H; HL = A564H

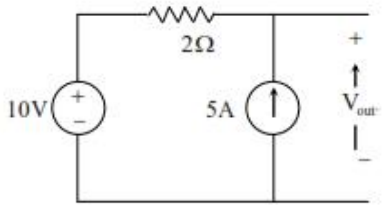
C. HL = 424FH; BC = 64A5H

✗ D. BC = 424FH; HL = 64A5H

Question ID : **897032938**
Status : **Not Answered**
Chosen Option : **--**

Q.122 In the circuit shown, the voltage and current sources are ideal.

Determine V_{out}.



Ans
✗ A. 15
✗ B. 30
✓ C. 20
✗ D. 40

Question ID : **897032817**
Status : **Answered**
Chosen Option : **3**

Q.123 The Z-transform of e^{-at} is:

Ans
✗ A. $\frac{z}{z-e^{-a}}$
✗ B. $\frac{z}{z+e^{-aT}}$
✓ C. $\frac{z}{z-e^{-aT}}$
✗ D. $\frac{z}{z-e^{aT}}$

Question ID : **897032851**
Status : **Answered**
Chosen Option : **1**

Q.124 Method of successive displacement is:

Ans
✗ A. Bus admittance matrix method
✗ B. Newton-Raphson method
✗ C. Power factor correction method
✓ D. Gauss-Seidel method

Question ID : **897032892**
Status : **Not Answered**

Chosen Option : --

Q.125 If the amplitude of the output voltage of a full bridge inverter is $2U_s$ and its output power is 4P then, the corresponding quantities in case of a half bridge inverter is:

Ans

✔ A. U_S and P respectively

✘ B. U_S and 2P respectively

✘ C. $2U_S$ and P respectively

✘ D. $2U_S$ and 2P respectively

Question ID : **897032949**
Status : **Answered**
Chosen Option : **2**

Q.126 If two wattmeters used to measure three phase power read equal reading, then the power factor is:

Ans

✘ A. 0.866

✘ B. 0.5

✘ C. 0

✔ D. 1

Question ID : **897032918**
Status : **Answered**
Chosen Option : **4**

Q.127 A signal has FT $x(t) \overset{FT}{\leftrightarrow} X(j\omega) = e^{-j\omega}|\omega|e^{-2|\omega|}$ Without determining x(t), use the scaling property to find the FT representation of $y(t) = x(-2t)$.

Ans

✘ A. $Y(j\omega) = \left(\frac{1}{2}\right) e^{\frac{j\omega}{2}} \left|\frac{\omega}{2}\right| e^{|\omega|}$

✘ B. $Y(j\omega) = \left(\frac{1}{2}\right) e^{\frac{j\omega}{2}} \left|\frac{\omega}{2}\right| e^{2|\omega|}$

✘ C. $Y(j\omega) = \left(\frac{1}{2}\right) e^{\frac{j\omega}{2}} \left|\frac{\omega}{2}\right| e^{-2|\omega|}$

✔ D. $Y(j\omega) = \left(\frac{1}{2}\right) e^{\frac{j\omega}{2}} \left|\frac{\omega}{2}\right| e^{-|\omega|}$

Question ID : **897032857**
Status : **Not Answered**
Chosen Option : **--**

Q.128 "Any two terminal linear bilateral dc network can be replaced by an equivalent circuit consisting of a current source and a parallel resistor" is the statement of .

Ans

✔ A. Norton's theorem

✘ B. Thevenin's theorem

✘ C. Millman's theorem

✘ D. Superposition theorem

Question ID : **897032828**
Status : **Answered**
Chosen Option : **1**

Q.129 Oscilloscopes are normally designed such that the product of bandwidth and rise time is:

Ans

✗ A. 0.65

✗ B. 0.95

✗ C. 1.15

✓ D. 0.35

Question ID : **897032923**
Status : **Answered**
Chosen Option : **4**

Q.130 What is the probability of obtaining eight as a sum if two dice are thrown once?

Ans

✗ A. $\frac{4}{30}$

✗ B. $\frac{1}{36}$

✗ C. $\frac{1}{9}$

✓ D. $\frac{5}{36}$

Question ID : **897032807**
Status : **Not Answered**
Chosen Option : **--**

Q.131 In general, a PI controller:

Ans

✗ A. improves both the steady state part and the transient part

✗ B. Improves steady state part as well as transient part

✗ C. Affects both the steady state part and the transient part

✓ D. Improves steady state part affecting the transient part

Question ID : **897032896**
Status : **Answered**
Chosen Option : **4**

Q.132 The circuit shows a delta connection and its equivalent star connection of three resistors. If all the elements of delta connection are scaled by a factor of m, m > 0, the elements of corresponding star equivalent will be scaled by what factor?

Ans

✓ A. m

✗ B. $\frac{1}{m}$

✗ C. m^2

✗ D. $\frac{1}{m^2}$

Question ID : **897032825**
Status : **Answered**
Chosen Option : **1**

Q.133 In a 132 kV system, the series inductance up to the point of circuit breaker location is 50 mH. The shunt capacitance at the circuit breaker terminal is 0.05 μF. The critical value of resistance required to be connected across the circuit breaker contacts which will give no transient oscillation is:

Ans
✗ A. 50000 Ω
✗ B. 50 Ω
✗ C. 5000 Ω
✓ D. 500 Ω

Question ID : **897032882**
Status : **Answered**
Chosen Option : **4**

Q.134 Given two continuous time signals $x(t) = e^{-t}$ and $y(t) = e^{-2t}$ which exist for $t > 0$. The convolution $z(t) = x(t) \times y(t)$ is:

Ans
✓ A. $e^{-t} - e^{-2t}$
✗ B. $e^{t} - e^{2t}$
✗ C. $e^{t} + e^{2t}$
✗ D. $e^{-t} + e^{-2t}$

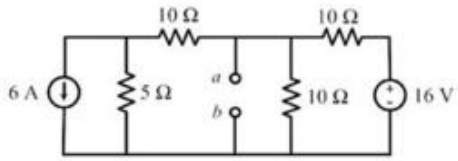
Question ID : **897032859**
Status : **Answered**
Chosen Option : **4**

Q.135 Slip of an induction motor does not depend on.

Ans
✗ A. Shaft torque
✗ B. Speed of stator field
✓ C. Core-loss component
✗ D. Speed of motor

Question ID : **897032878**
Status : **Answered**
Chosen Option : **3**

Q.136 Find the venin's voltage V_{ab} in the network shown.



Ans
✗ A. 1.5 V
✗ B. 12 V
✗ C. −12 V

✔ D. -1.5 V

Question ID : **897032823**
Status : **Answered**
Chosen Option : **4**

Q.137 A continuous time input signal x(t) is an eigenfunction of an LTI system, if the output is:

Ans

✘ A.
kH(ω), where k is eigenvalue and H(ω) is a frequency response of the system

✔ B. kx(t), where k is an eigenvalue

✘ C. $x(t)e^{i\omega t}$,where $e^{i\omega t}$ is a complex exponential signal

✘ D.
$ke^{i\omega t}x(t)$, where k is an eigenvalue and $e^{i\omega t}$ is a complex exponential signal

Question ID : **897032852**
Status : **Answered**
Chosen Option : **2**

Q.138 In the given partial differential equation if $B \neq 0$, the equation is known as:

$$\frac{\partial^2 u}{\partial t^2} - B^2\left(\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2}\right) = 0$$

Ans

✘ A. Poisson's equation

✘ B. Laplace equation

✔ C. Wave equation

✘ D. Thermal equation

Question ID : **897032802**
Status : **Not Answered**
Chosen Option : **--**

Q.139 SI unit of magneto motive force (mmf) is:

Note: Read AT as ampere-turn.

Ans

✔ A. AT

✘ B. AWb/T

✘ C. Wb/AT

✘ D. AT/Wb

Question ID : **897032832**
Status : **Not Answered**
Chosen Option : **--**

Q.140 The general transfer function of a digital lag compensator is:

Ans

✗ A. $P_{lag}(z) = \frac{(1-p_c)(z-z_c)}{(1-z_c)(z-p_c)} \quad z_c > p_c$

✗ B. $P_{lag}(z) = \frac{(1-z_c)(z-p_c)}{(1-p_c)(z-z_c)} \quad z_c < p_c$

✗ C. $P_{lag}(z) = \frac{(1-z_c)(z-p_c)}{(1-p_c)(z-z_c)} \quad z_c > p_c$

✓ D. $P_{lag}(z) = \frac{(1-p_c)(z-z_c)}{(1-z_c)(z-p_c)} \quad z_c < p_c$

Question ID : **897032911**
Status : **Answered**
Chosen Option : **1**

Q.141 Let the impulse response of an LTI system be $h(t) = e^{-t}u(t)$. Find the output y(t) if the input is x(t) = u(t)

Ans

✗ A. $y(t) = e^{-t}u(t)$

✗ B. $y(t) = e^{t}u(t)$

✗ C. $y(t) = (1 - e^{t})u(t)$

✓ D. $y(t) = (1 - e^{-t})u(t)$

Question ID : **897032864**
Status : **Answered**
Chosen Option : **4**

Q.142 The law "Whenever the flux linking with an electric circuit changes an emf is induced in it" is:

Ans

✗ A. Faradays third law of electromagnetic induction

✓ B. Lenz's law

✗ C. Faradays first law of electromagnetic induction

✗ D. Ampere's law

Question ID : **897032831**
Status : **Not Answered**
Chosen Option : **--**

Q.143 Which of the following ac bridge is used to measure unknown frequency?

Ans

✗ A. Maxwell's bridge

✗ B. Kelvin's double bridge

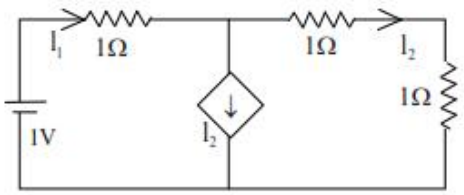
✗ C. De Sauty's bridge

✓ D. Wein's bridge

Question ID : **897032917**
Status : **Answered**
Chosen Option : **4**

Q.144

Determine the current supplied by the battery:



Ans
✔ A. 0.5 A
✘ B. 3 A
✘ C. 2.5 A
✘ D. 1 A

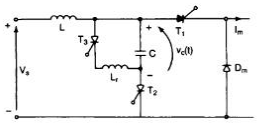
Question ID : **897032815**
Status : **Answered**
Chosen Option : **1**

Q.145 The unilateral LT of the signal $x(t) = t^2e^{-2t}u(t)$ is:

Ans
✘ A. $X(s) = \frac{2}{(s-2)^2}$
✘ B. $X(s) = \frac{2}{(s+2)^2}$
✘ C. $X(s) = \frac{2}{(s-2)^3}$
✔ D. $X(s) = \frac{2}{(s+2)^3}$

Question ID : **897032853**
Status : **Answered**
Chosen Option : **4**

Q.146 In line-side commutated circuit shown which component is to be replaced by an energy recovery transformer and a diode in order to limit overcharging of the capacitor?



Ans
✘ A. L_1
✘ B. L
✔ C. T_1
✘ D. D_m

Question ID : **897032946**
Status : **Not Answered**
Chosen Option : **--**

Q.147 A moving coil instrument having a resistance of 10 Ω, gives a full-scale deflection when the current s 10 mA. What should be the value of the series resistance, so that it can be used as a voltmeter for measuring potential difference up to 100 V?

Ans

✗ A. 99 Ω
✓ B. 9990 Ω
✗ C. 999 Ω
✗ D. 9 Ω

Question ID : **897032930**
Status : **Answered**
Chosen Option : **2**

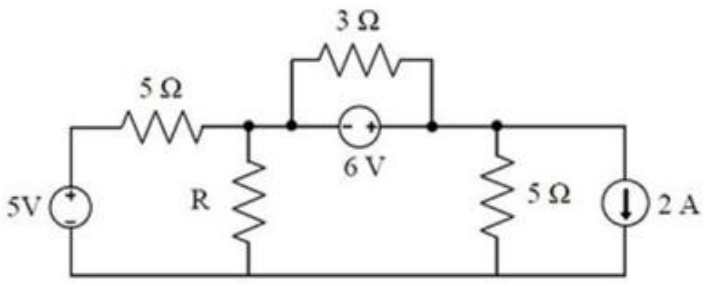
Q.148 Match items in Row1 with Row 2.

Row1	Row2
1. Permanent Magnet Moving Coil	a. DC only
2. Moving Iron connected through Current Transformer	b. AC only
3. Rectifier	c. AC and DC

Ans
✓ A. 1→a; 2→b; 3→c
✗ B. 1→b; 2→c; 3→a
✗ C. 1→c; 2→b; 3→a
✗ D. 1→c; 2→a; 3→b

Question ID : **897032933**
Status : **Answered**
Chosen Option : **1**

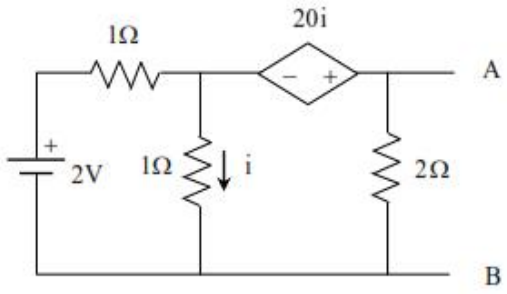
Q.149 Find the maximum power transferred to R in the circuit shown.



Ans
✓ A. 3.025 W
✗ B. 3.25 W
✗ C. 2.151 W
✗ D. 5.203 W

Question ID : **897032820**
Status : **Not Answered**
Chosen Option : **--**

Q.150 Determine V_{th} as seen from AB in the network shown.



Ans
✗ A. 33.6 V
✗ B. 63.3 V
✓ C. 3.36 V
✗ D. 6.33 V

Question ID : **897032812**
Status : **Not Answered**
Chosen Option : **--**

Section : **General Knowledge_Awareness**

Q.1 How many seats did BJP win in recent Maharashtra assembly election of 2019?

Ans
✗ A. 144
✗ B. 56
✗ C. 109
✓ D. 105

Question ID : **897032966**
Status : **Answered**
Chosen Option : **3**

Q.2 Which of the following cities was the wettest place in terms of rainfall in India in 2018?

Ans
✓ A. Mahabaleshwar
✗ B. Cherapunji
✗ C. Shillong
✗ D. Patna

Question ID : **897032969**
Status : **Answered**
Chosen Option : **2**

Q.3 _____ in a computer controls, coordinates and supervises the operations of the computer.

Ans
✗ A. Random Access Memory (RAM)

✗ B. Arithmetic and Logical Unit (ALU)

✓ C. Central Processing Unit (CPU)

✗ D. Read Only Memory (ROM)

Question ID : **897032951**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.4 Suez Canal is an artificial waterway running from north to south across the Isthmus of Suez in north-eastern _____.

Ans

✗ A. Turkey

✓ B. Egypt

✗ C. Lebanon

✗ D. Syria

Question ID : **897032955**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.5 In 1936, Jawaharlal Nehru declared at the _____ of Indian National Congress that the solution to India's problems lay in the adoption of socialist ideas.

Ans

✓ A. Lucknow Session

✗ B. Dhaka Session

✗ C. Karachi Session

✗ D. Bhopal Session

Question ID : **897032954**
Status : **Answered**
Chosen Option : **3**

Q.6 For which one of the following vegetables India has the largest area and production as per APEDA?

Ans

✓ A. Okra

✗ B. Bottle gourd

✗ C. Spinach

✗ D. Pumpkin

Question ID : **897032960**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.7 The joint sittings of both the houses of Parliament is presided over by the _____.

Ans

✓ A. Speaker

✗ B. Prime Minister

✗ C. Vice President

✗ D. President

Question ID : **897032958**
Status : **Answered**
Chosen Option : **4**

Q.8 Who among the following was the first cricket player to win Arjun Award?

Ans
✗ A. C.K . Nayudu
✓ B. Salim Durani
✗ C. Ajit Wadekar
✗ D. Ramakant Achrekar

Question ID : **897032962**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.9 _____ stores the results of arithmetic and logical operations.

Ans
✗ A. Instruction Register (IR)
✓ B. Accumulator (ACC)
✗ C. Data Register (DR)
✗ D. Program Counter (PC)

Question ID : **897032952**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.10 Which Article of the constitution defines the qualifications to become a Member of the Lok Sabha?

Ans
✓ A. 84
✗ B. 78
✗ C. 63
✗ D. 55

Question ID : **897032957**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.11 Minimum Support Prices are announced for _____ commodities on the basis of recommendations of the Commission for Agricultural Costs and Prices (CACP) by the Government of India at the beginning of the sowing season.

Ans
✓ A. 23
✗ B. 21
✗ C. 22
✗ D. 24

Question ID : **897032959**

Status : **Not Answered**
Chosen Option : **--**

Q.12 The 'Right Livelihood Award' for 2019 went to which one of the following activists?

Ans
✔ A. Greta Thunberg
✘ B. David Hogg
✘ C. Bana Alabed
✘ D. Malala Yousafzai

Question ID : **897032964**
Status : **Not Answered**
Chosen Option : **--**

Q.13 Who among the following became India's first female flight commander of a flying unit in August 2019?

Ans
✘ A. Ayesha Farooq
✔ B. Shailja Dhami
✘ C. Bhawana Kanth
✘ D. Mohana Singh Jitarwal

Question ID : **897032963**
Status : **Not Answered**
Chosen Option : **--**

Q.14 Who is the governor of RBI as of Oct 2019?

Ans
✘ A. Urjit Patel
✘ B. Raghuram Rajan
✘ C. Nirmala Sitaraman
✔ D. Shaktikanta Das

Question ID : **897032968**
Status : **Not Answered**
Chosen Option : **--**

Q.15 Who among the following was the first Indian female sportsperson to be Awarded Padma Shri?

Ans
✘ A. P.T Usha
✔ B. Arati Gupta Saha
✘ C. Jhulan Goswami
✘ D. Karnam Malleshwari

Question ID : **897032961**
Status : **Not Answered**
Chosen Option : **--**

Q.16 In _____ Winston Churchill sent one of his ministers Sir Stafford Cripps, to India to try and forge a compromise with Gandhiji and the Congress.

Ans
✘ A. 1945

✗ B. 1944
✓ C. 1942
✗ D. 1940

Question ID : **897032953**
Status : **Not Answered**
Chosen Option : **--**

Q.17 _____ has been recently selected as 39th BCCI president.

Ans
✓ A. Sourav Ganguly
✗ B. Kapil Dev
✗ C. Sunil Gavaskar
✗ D. Sachin Tendulkar

Question ID : **897032967**
Status : **Not Answered**
Chosen Option : **--**

Q.18 South America is the _____ largest continent in the world.

Ans
✓ A. Fourth
✗ B. Third
✗ C. Fifth
✗ D. Second

Question ID : **897032956**
Status : **Not Answered**
Chosen Option : **--**

Q.19 In August 2019 'Hurricane Dorian' struck which one of the following places?

Ans
✗ A. Sao Paulo
✗ B. Nicosia
✗ C. California
✓ D. Bahamas

Question ID : **897032965**
Status : **Not Answered**
Chosen Option : **--**

Q.20 As per Census 2011, which city is the most populated in India?

Ans
✓ A. Mumbai
✗ B. Chennai
✗ C. Kolkata
✗ D. New Delhi

Question ID : **897032970**

Status : **Not Answered**
Chosen Option : **--**

Section : **Reasoning_Apptitude**

Q.1 Read the information below and select the correct option.
Who is tallest among five brothers based on the information given below: Raj, Rahul, Amit, Punit and Ajay?

I. Punit is shorter than Rahul. Raj is shorter than only Ajay.
II. Rahul is shorter than Raj. Ajay is taller than Raj and Amit.

Ans
✗ A. Only Statement I alone is sufficient to answer the question.
✗ B. Both Statements I and II together are not sufficient to answer the question.
✗ C. Only Statement II alone is sufficient to answer the question.
✓ D. Both Statements I and II are required to answer the question.

Question ID : **897032971**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.2 Which of the following options can correctly replace the question mark in the diagram below?

I		R		?	
D	E	H	J	F	K

Ans
✓ A. Q
✗ B. S
✗ C. P
✗ D. R

Question ID : **897032975**
Status : **Not Answered**
Chosen Option : **--**

Q.3 Zack is the father in law of Fred. Fred is the brother of George. Harry is the son of Ginny. Ginny is the daughter of James. Ginny is the sister of Granger. Granger is the wife of Zac. How is Ginny related to the wife of Fred?

Ans
✗ A. Sister in law
✗ B. Niece
✓ C. Maternal aunt
✗ D. Paternal aunt

Question ID : **897032983**
Status : **Not Answered**
Chosen Option : **--**

Q.4

Take the two statements to be true, and decide which of the given conclusions logically follows from the statements.

Statements:
I. All horses are ducks.
II. All sparrows are ducks.

Conclusions:
I. Some horses are sparrows.
II. Some sparrows are horses.

Ans
✗ A. Both the conclusions I and II follow.
✗ B. Only conclusion II follows.
✗ C. Only conclusion I follows.
✓ D. Neither conclusion I nor II follows.

Question ID : **897032981**
Status : **Answered**
Chosen Option : **1**

Q.5 Select the option that will correctly replace the question mark (?) in the following series.

77, 95, 113, 131, ?

Ans
✗ A. 146
✓ B. 149
✗ C. 154
✗ D. 148

Question ID : **897032973**
Status : **Answered**
Chosen Option : **2**

Q.6 Rajiv walked towards north and covered 50 m, then he turned left and walked 20 m. He then turned left and walked 10 m. from there, he turned left and walked 50 m. Now, which direction is Rajiv facing?

Ans
✓ A. East
✗ B. West
✗ C. North
✗ D. South

Question ID : **897032984**
Status : **Answered**
Chosen Option : **1**

Q.7 Which of the following four alternatives is the correct mirror image of the given figure?

Ans
✓ A. GANGSTER
✗ B. GANGSTER

✗ C. GANGSTER

✗ D. GANGSTER

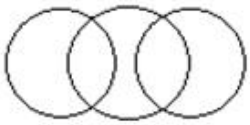
Question ID : **897032985**
Status : **Answered**
Chosen Option : **4**

Q.8 Select the option that correctly represents the relationship among the following:

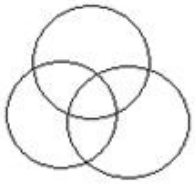
Poet, Basket-ball player, Teenager

Ans

✗ A. 

✗ B. 

✗ C. 

✓ D. 

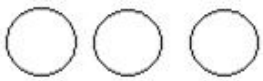
Question ID : **897032990**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

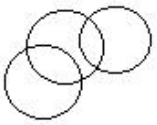
Q.9 Select the option that correctly represents the relationship among the following:

Lucknow, Odisha, China

Ans

✗ A. 

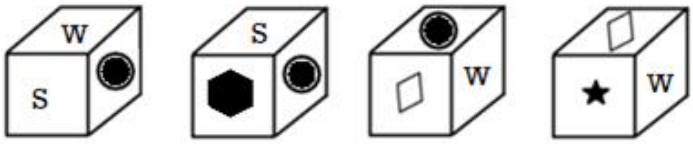
✓ B. 

✗ C. 

✗ D. 

Question ID : **897032987**
Status : **Answered**
Chosen Option : **2**

Q.10 Which shape is opposite to 'W' in the following cube?



Ans

✔ A. 

✘ B. 

✘ C. 

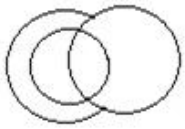
✘ D. 

Question ID : **897032986**
Status : **Answered**
Chosen Option : **2**

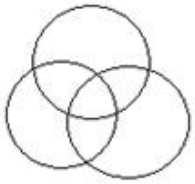
Q.11 Select the option that correctly represents the relationship among the following:

Writer, Painter, Teacher

Ans

✘ A. 

✘ B. 

✔ C. 

✘ D. 

Question ID : **897032989**
Status : **Answered**
Chosen Option : **3**

Q.12

Which of the given conclusions logically follows from the two given statements (disregarding commonly known facts)?

Statements:
I. Some spices are clouds.
II. Very few cars are spices.

Conclusions:
I. Some clouds are cars.
II. All clouds are cars.

Ans
✗ A. Only conclusion I follows.
✗ B. Only conclusion II follows.
✓ C. Neither conclusion I nor II follows.
✗ D. Both the conclusions I and II follow.

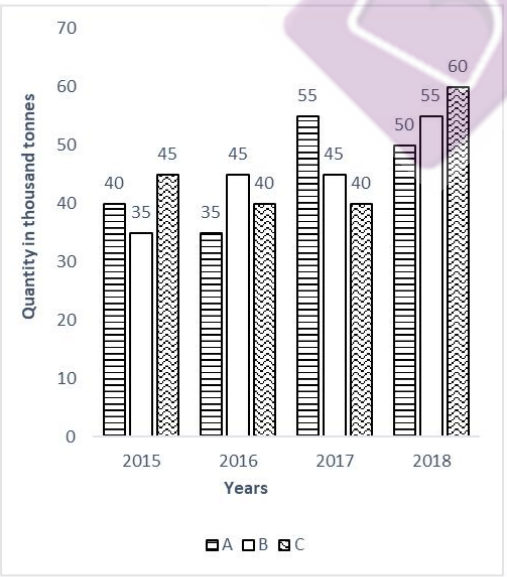
Question ID : **897032980**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.13 If, in a certain coding language, 'BOSTON' is written as '85', how will 'NEVADA' be written in the same code?

Ans
✗ A. 74
✓ B. 47
✗ C. 90
✗ D. 82

Question ID : **897032978**
Status : **Answered**
Chosen Option : **2**

Q.14 The bar graph given below shows the data of the production of Feta cheese (in thousand tons) by three branches A, B and C of a certain company.



What is the ratio of the average production of branch A in the period 2015 to 2017 to the average production of branch C In the same period?

Ans
✓ A. 26 : 25
✗ B. 28 : 29
✗ C. 1 : 2

✗ D. 5 : 3

Question ID : **897032972**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.15 Select the option that will correctly replace the question mark (?) in the following series.

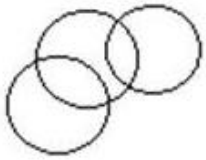
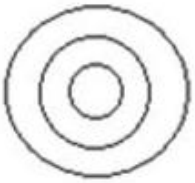
C2U, E3T, G7S, I16R, K32Q, ?

Ans
✓ A. M57P
✗ B. G62P
✗ C. M53P
✗ D. E57P

Question ID : **897032976**
Status : **Answered**
Chosen Option : **1**

Q.16 उस विकल्प का चयन करें जो निम्नलिखित के बीच संबंध का सही प्रतिनिधित्व करता है:

भोजन, फल, सूप

Ans
✗ A. 
✓ B. 
✗ C. 
✗ D. 

Question ID : **897032988**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.17

Select the option that will correctly replace the question mark (?) in the following series.

PF, KA, FV, AQ, VL, ?

Ans
✗ A. PE
✗ B. QF
✗ C. PF
✓ D. QG

Question ID : **897032974**
Status : **Answered**
Chosen Option : **4**

Q.18 Which of the following terms is related to the term 'QN' in the same way as the term 'UZ' is related to the term 'XW'?

Ans
✗ A. MR
✓ B. NQ
✗ C. SQ
✗ D. OP

Question ID : **897032979**
Status : **Answered**
Chosen Option : **2**

Q.19 निम्नलिखित विकल्पों में से कौन-से शब्द एक-दूसरे से नीचे दिए गए युग्म शब्द के समान संबंध रखते हैं?

हाथ : इशारा

Ans
✓ A. चेहरे : भाव
✗ B. पेट : श्वसन
✗ C. कान : झुमके
✗ D. पैर : अंग

Question ID : **897032977**
Status : **Answered**
Chosen Option : **1**

Q.20 If, in a certain coding language, 'STUPEFY' is written as '70', how will 'REPAIRO' be written using the same code?

Ans
✗ A. 75
✗ B. 60
✗ C. 84
✓ D. 58

Question ID : **897032982**
Status : **Not Answered**
Chosen Option : **--**

Section : **General Hindi**

Q.1 नीचे दिए विकल्पों में से वह वाक्यांश चुनें जिसका अर्थ 'अनुज' है।

Ans
✗ A. जिसका जन्म अणु से हुआ हो
✗ B. जिसका जन्म अंडे से हुआ हो
✓ C. जिसका जन्म पीछे हुआ हो
✗ D. जिसका जन्म पहले हुआ हो

Question ID : **8970321000**
Status : **Answered**
Chosen Option : **4**

Q.2 'सिक्त' का विलोम शब्द बताएँ।

Ans
✓ A. शुष्क
✗ B. भुक्त
✗ C. रिक्त
✗ D. युक्त

Question ID : **897032993**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.3 'मुदित महीपति मंदिर आए।'- काव्य पंक्ति में कौन सा अलंकार है?

Ans
✓ A. अनुप्रास
✗ B. उत्प्रेक्षा
✗ C. रूपक
✗ D. उपमा

Question ID : **897032997**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.4 'छक्के छूटना' मुहावरे का सही अर्थ नीचे दिए विकल्पों में से चुनें।

Ans
✗ A. बल्ले से गेंद को ज़ोर से मारना
✗ B. बुरी तरह पराजित करना
✓ C. बुरी तरह पराजित होना
✗ D. छः रन लेना

Question ID : **897032994**
Status : **Answered**
Chosen Option : **3**

Q.5 निम्नलिखित में से क्या 'गृह' का पर्यायवाची नहीं है?

Ans
✔ A. विलय
✘ B. गेह
✘ C. निलय
✘ D. निकेतन

Question ID : **897032991**
Status : **Answered**
Chosen Option : **1**

Q.6 दो वस्तुओं में समान धर्म के प्रतिपादन को _____ कहते हैं।

Ans
✘ A. प्रतीक
✔ B. उपमा
✘ C. उत्प्रेक्षा
✘ D. रूपक

Question ID : **897032998**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.7 निम्नलिखित में से किस मुहावरे का अर्थ है - 'परिवर्तन होना'।

Ans
✘ A. रंग चोखा होना
✘ B. रंग जमना
✘ C. रंग लाना
✔ D. रंग बदलना

Question ID : **897032995**
Status : **Answered**
Chosen Option : **4**

Q.8 चिरजीवौ जोरी जुरै, क्यों न सनेह गँभीर। को घटि ये वृषभानुजा, वे हलधर के बीर। - इस दोहे में रेखांकित शब्दों में कौन सा अलंकार है?

Ans
✘ A. रूपक
✘ B. यमक
✘ C. वक्रोक्ति
✔ D. श्लेष

Question ID : **897032996**

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

Q.9 'इच्छा' का पर्यायवाची बताएँ।

Ans
✔ A. ईप्सा
✘ B. प्रमोद
✘ C. आह्लाद
✘ D. मोद

Question ID : **897032992**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.10 'जो सब कुछ जानता है' - वाक्यांश के लिए एक शब्द बताइए।

Ans
✘ A. अल्पज्ञ
✘ B. अज्ञ
✘ C. बहुज्ञ
✔ D. सर्वज्ञ

Question ID : **897032999**
Status : **Answered**
Chosen Option : **4**