UPPCL AE

Previous Year Paper

EE 4 November 2019

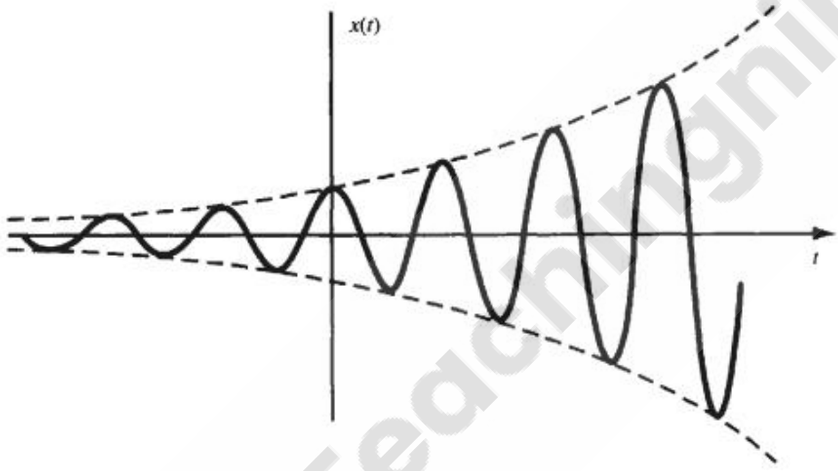
Shift 2

UTTAR PRADESH POWER CORPORATION LTD.

Participant ID	
Participant Name	
Test Center Name	iON Digital Zone iDZ Prabandh Nagar
Test Date	04/11/2019
Test Time	2:30 PM - 5:30 PM
Subject	Assistant Engineer Trainee Electrical

Section : **Technical_Electrical Engineering**

Q.1 A signal $x(t)$ with respect to time is sketched as under:



The signal $x(t)$ could be classified as:

Ans

✔ A. Exponentially increasing sinusoidal signal

✘ B. Real exponential decreasing signal

✘ C. Real exponential increasing signal

✘ D. Exponentially decreasing sinusoidal signal

Question ID : **897032448**
Status : **Answered**
Chosen Option : **1**

Q.2 A PMMC instrument which takes 10 mA at 50 mV potential difference maximum. How much resistance is to connect across the instrument such that the instrument can measure (0 to 10) A current?

Ans

✔ A. 0.0005 Ω

✘ B. 0.5 Ω

✘ C. 0.05 Ω

✗ D. $0.005\ \Omega$

Question ID : **897032526**
Status : **Answered**
Chosen Option : **4**

Q.3 The eddy current loss in a magnetic core subjected to a time-varying flux is:

Ans

✓ A. $\propto B_{max}^2 f^2$

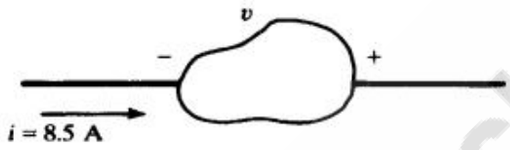
✗ B. $\propto B_{max}^2 \frac{1}{f}$

✗ C. $\propto B_{max}^2 f$

✗ D. $\propto B_{max}^2 \frac{1}{f^2}$

Question ID : **897032467**
Status : **Answered**
Chosen Option : **1**

Q.4 Find the power absorbed by the generalized circuit if $v = 10$ V.



Ans

✗ A. 8.5 W

✓ B. −85 W

✗ C. −8.5 W

✗ D. 85 W

Question ID : **897032415**
Status : **Answered**
Chosen Option : **2**

Q.5 A thermal station has 85% boiler efficiency, 90% turbine efficiency and 40% load factor. Determine the thermal efficiency of the station.

Ans

✗ A. 34%

✗ B. 36%

✓ C. 76.5%

✗ D. 90%

Question ID : **897032483**
Status : **Answered**
Chosen Option : **1**

Q.6 Which of the following error/s occurs in only in ac measurements?

Ans

✗ A.

Errors due to change in impedance of the coil and strary fields

✗ B. Errors due to hysteresis and stray fields

✓ C.
Errors due to change in impedance of the coil and change in the magnitude of the eddy currents

✗ D. Error due to hysteresis

Question ID : **897032515**
Status : **Answered**
Chosen Option : **3**

Q.7 A moving coil instrument has a coil resistance of 10 ohms and it can take maximum current of 100 mA. What modification is required in the instrument to measure the voltage in the range (0 to500) V?

Ans

✗ A. $49.9\ \Omega$ in series with the instrument.

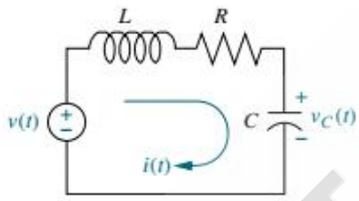
✓ B. $4.99\ k\Omega$ in series with the instrument.

✗ C. $4.99\ \Omega$ in series with the instrument.

✗ D. $4.99\ \Omega$ in parallel with the instrument.

Question ID : **897032532**
Status : **Answered**
Chosen Option : **2**

Q.8 Find the transfer function $\frac{V_c(s)}{V(s)}$ for the circuit:



Ans

✗ A. $\frac{R}{LCs^2+RCs+1}$

✓ B. $\frac{1}{LCs^2+RCs+1}$

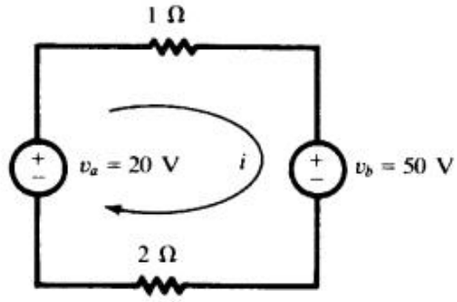
✗ C. $\frac{LC}{LCs^2+RCs+1}$

✗ D. $\frac{C}{LCs^2+RCs+1}$

Question ID : **897032509**
Status : **Answered**
Chosen Option : **2**

Q.9

Find the power delivered by the sources in the following circuit.



Ans

✔ A. $P_a = 200\ \text{W}, P_b = -500\ \text{W}$

✘ B. $P_a = -200\ \text{W}, P_b = -500\ \text{W}$

✘ C. $P_a = -100\ \text{W}, P_b = 300\ \text{W}$

✘ D. $P_a = 500\ \text{W}, P_b = 200\ \text{W}$

Question ID : **897032424**
Status : **Answered**
Chosen Option : **2**

Q.10 The number of parallel paths in the armature of a duplex lap wound 4-pole dc machine is:

Ans

✘ A. 12

✘ B. 2

✘ C. 4

✔ D. 8

Question ID : **897032470**
Status : **Answered**
Chosen Option : **3**

Q.11 Consider a unity negative feedback system with feedforward gain $G(s) = \frac{K}{s(s+1)(s+2)}$. The root-loci of the system cross the imaginary axis at:

Ans

✘ A. $s = \pm j\sqrt{3}$

✘ B. $s = \pm j2$

✘ C. $s = \pm j3$

✔ D. $s = \pm j\sqrt{2}$

Question ID : **897032510**
Status : **Answered**
Chosen Option : **4**

Q.12 A signal $x(t)$ follows the following property:
$x(t+T) = x(t)$ for all t, where T is a positive nonzero value. The signal $x(t)$ is classified as:

Ans

✔ A. Periodic signal

✘ B. Power signals

✗ C. Complex signals

✗ D. Non-periodic signal

Question ID : **897032447**
Status : **Answered**
Chosen Option : **1**

Q.13 Find the Laplace transform of $y(t) = te^{-5t}$.

Ans

✗ A. $\frac{s}{(s+5)^2}$

✗ B. $\frac{1}{2(s+5)^2}$

✓ C. $\frac{1}{(s+5)^2}$

✗ D. $\frac{1}{s(s+5)^2}$

Question ID : **897032500**
Status : **Answered**
Chosen Option : **3**

Q.14 Given that $D = 10x\, a_x\ (\text{c/m}^2)$, determine the flux crossing a $1\ \text{m}^2$ area that is normal to the $x-$axis at $x = 3$ m.

Ans

✓ A. 30 C

✗ B. 10 C

✗ C. $\frac{10}{3}$ C

✗ D. 90 C

Question ID : **897032438**
Status : **Answered**
Chosen Option : **4**

Q.15 A conductor has a constant current of 4 A. How much of charge passes a fixed point on the conductor in one minute?

Ans

✗ A. 240 C/sec

✓ B. 240 C/min

✗ C. 60 C/ sec

✗ D. 4 C/min

Question ID : **897032419**
Status : **Answered**
Chosen Option : **1**

Q.16 Evaluate $\int_{-\infty}^{\infty} e^{-t}\,\delta(2t-2)dt$.

Ans

✗ A. 0

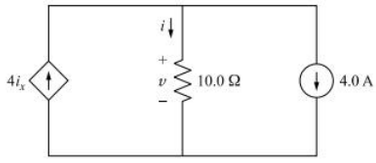
✓ B. $\frac{1}{2e}$

✗ C. 1

✗ D. $\frac{1}{e}$

Question ID : **897032459**
Status : **Answered**
Chosen Option : **2**

Q.17 Find the voltage v across the 10 Ω resistor in the following circuit if the control current $i_x = 2$ A.



Ans

✗ A. $v = -4$ V

✗ B. $v = 4$ V

✗ C. $v = -40$ V

✓ D. $v = 40$ V

Question ID : **897032422**
Status : **Answered**
Chosen Option : **4**

Q.18 A conductor carries a current of 20A and is at right-angles to a magnetic field having a flux density of 0.9T. If the length of the conductor in the field is 30 cm, calculate the force acting on the conductor.

Ans

✗ A. 2.7 N

✓ B. 5.4 N

✗ C. 54 N

✗ D. 27 N

Question ID : **897032469**
Status : **Answered**
Chosen Option : **2**

Q.19 Systems in which the output has no effect on the control action are called:

Ans

✗ A. Closed-loop control systems

✓ B. Open-loop control systems

✗ C. Linear control systems

✗ D. Feedback control systems

Question ID : **897032496**
Status : **Answered**
Chosen Option : **2**

Q.20 A buck converter is used to control a d.c motor. The input to a dc buck converter is 200 V. Find the duty ratio of the pulse to be applied to the converter to produce 150 V across the d.c. motor.

Ans

✗ A. 60%

✗ B. 50%

✗ C. 35%

✓ D. 75%

Question ID : **897032547**
Status : **Answered**
Chosen Option : **4**

Q.21 A system has the input-output relation: $\frac{dc(t)}{dt} + 2c(t) = r(t)$, where $c(t)$ is the output and $r(t)$ is the input to the system. Determine the unit step response of the system.

Ans

✗ A. $c(t) = 0.5(1 + e^{-2t}), t > 0$

✗ B. $c(t) = 0.5(1 - e^{-2t}), -\infty < t < \infty$

✓ C. $c(t) = 0.5(1 - e^{-2t}), t > 0$

✗ D. $c(t) = 0.5(1 - e^{2t}), t > 0$

Question ID : **897032508**
Status : **Answered**
Chosen Option : **3**

Q.22 Electric field intensity, E, due to Q is:

Ans

✗ A. $F \times Q$

✗ B. $F + Q$

✓ C. $\frac{F}{Q}$

✗ D. $\frac{Q}{F}$

Question ID : **897032428**
Status : **Answered**
Chosen Option : **3**

Q.23 A diode under forward biased condition _____.

Ans

✗ A. Blocks current

✗ B. Drops a large voltage

✗ C. Has a high resistance

✓ D. Conducts current

Question ID : **897032534**
Status : **Answered**
Chosen Option : **4**

Q.24 A 4.0 Ω resistor has a current $i = 2.5 \sin \omega t$ (A). Find the power dissipated in the resistor.

Ans

✗ A. $25 \sin^2 \omega^2 t$ (W)

✗ B. $2.5 \sin^2 \omega t$ (W)

✓ C. $25 \sin^2 \omega t$ (W)

✗ D. $2.5 \sin \omega t$ (W)

Question ID : **897032421**
Status : **Answered**
Chosen Option : **3**

Q.25 Dynamics of a system is described by $\frac{md^2y}{dt} + \frac{bdy}{dt} + ky = u$ where m, b, k are constants, y, u are time varying quantities. How many state variables are required for this system to be represented in state-space form?

Ans
✗ A. 1
✗ B. 3
✗ C. 4
✓ D. 2

Question ID : **897032504**
Status : **Answered**
Chosen Option : **4**

Q.26 If three capacitances of 60 μF each is connected in series, then its equivalent capacitance is:

Ans
✗ A. 180 μF
✗ B. 60 μF
✓ C. 20 μF
✗ D. 30 μF

Question ID : **897032417**
Status : **Answered**
Chosen Option : **3**

Q.27 A generating station has a maximum demand of 25 MW, a load factor of 60%, a plant capacity factor of 50% and a plant use factor of 72%. Find the reserve capacity of the plant.

Ans
✗ A. 8 MW
✓ B. 5 MW
✗ C. 20 MW
✗ D. 10 MW

Question ID : **897032493**
Status : **Answered**
Chosen Option : **2**

Q.28 An energy meter has a constant of 300 revolutions per unit, it makes 10 revolutions in 30 seconds when it is used for energy measurement. Find the connected load in kW.

Ans
✗ A. 3
✗ B. 2
✗ C. 1
✓ D. 4

Question ID : **897032529**
Status : **Answered**
Chosen Option : **4**

Q.29 Given the electric field $E = 2xa_x - 4ya_y$ (V/m), find the work done in moving a point charge 2 C from (2, 0, 0) m to (0,0,0) m and then from (0,0,0) m to (0,2,0) m.

Ans

✗ A. -8 J

✗ B. 16 J

✓ C. 24 J

✗ D. 8 J

Question ID : **897032445**
Status : **Answered**
Chosen Option : **4**

Q.30 A single pulse width-modulated invertor is used to drive a load. Find the angle of shift to produce rms output voltage of 100 V, if the input dc voltage is 120 V.

Ans

✗ A. 50°

✓ B. 125°

✗ C. 150°

✗ D. 90°

Question ID : **897032549**
Status : **Answered**
Chosen Option : **4**

Q.31 A diesel power station has fuel consumption of 0·28 kg per kWh, the calorific value of fuel being 10,000 kcal/kg. Determine the overall efficiency.

Ans

✗ A. 23.5%

✗ B. 50.2%

✗ C. 40.2%

✓ D. 30.7%

Question ID : **897032484**
Status : **Answered**
Chosen Option : **1**

Q.32 The operation of all induction instruments depends on the production of torque due to:

Ans

✗ A.

The reaction between a flux ϕ_1 and the eddy currents induced in a metal disc or drum by another flux ϕ_2 . ϕ_2 is depends on the current or voltage to be measured, ϕ_1 is constant

✗ B. The main flux produced by the quantity to be measured

✓ C.

The reaction between a flux ϕ_1 and the eddy currents induced in a metal disc or drum by another flux ϕ_2 . ϕ_1 and ϕ_2 are dependent on the current or voltage to be measured.

✗ D.

The reaction between a flux ϕ_1 and the eddy currents induced in a metal disc or drum by another flux ϕ_2 . ϕ_1 is depends on the current or voltage to be measured, ϕ_2 is constant

Question ID : **897032517**
Status : **Answered**
Chosen Option : **3**

Q.33

Identify the following series:

$$f(x) = f(0) + xf'(0) + \frac{x^2}{2!}f''(0) + \frac{x^3}{3!}f'''(0) + \cdots \infty$$

Ans
- ✗ A. Fourier's series
- ✓ B. Maclaurin's series
- ✗ C. Taylor's series
- ✗ D. Neumann's series

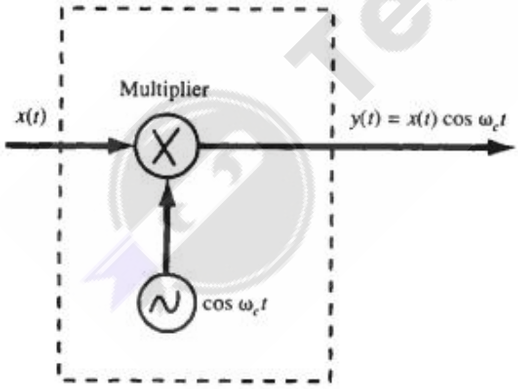
Question ID : **897032403**
Status : **Answered**
Chosen Option : **3**

Q.34 An energy meter with a constant of 600 revolutions per unit used for energy measurement. It makes 500 revolutions in 30 seconds. Find the energy consumed by the load for an hour.

Ans
- ✗ A. 1000 units
- ✓ B. 100 units
- ✗ C. 10 unit
- ✗ D. 0.1 units

Question ID : **897032522**
Status : **Answered**
Chosen Option : **2**

Q.35 Consider a system.



The system is characterized as:

Ans
- ✓ A. Causal, memoryless and BIBO stable
- ✗ B. Memoryless, and BIBO unstable
- ✗ C. Linear and time-invariant system
- ✗ D. Memoryless, time-invariant system

Question ID : **897032457**

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

Q.36 Charge in the form of a plane sheet with density $\rho_s = 40\ \mu C/m^2$ is located at $z = -0.5$ m. A uniform line charge of $\rho_l = -6\ \mu C/m$ lies along the y axis. What net flux crosses the surface of a cube 2 m on an edge, centered at the origin?

Ans

✗ A. 172 μC

✓ B. 148 μC

✗ C. 160 μC

✗ D. 10 μC

Question ID : **897032444**
Status : **Not Answered**
Chosen Option : **--**

Q.37 The gradient is a _____ defined for each point in a _____ field.

Ans

✓ A. Vector and scalar

✗ B. Scalar and vector

✗ C. Vector and vector

✗ D. Scalar and scalar

Question ID : **897032433**
Status : **Answered**
Chosen Option : **2**

Q.38 In Hot-wire instruments, the deflection is:

Ans

✗ A. Directly proportional to I

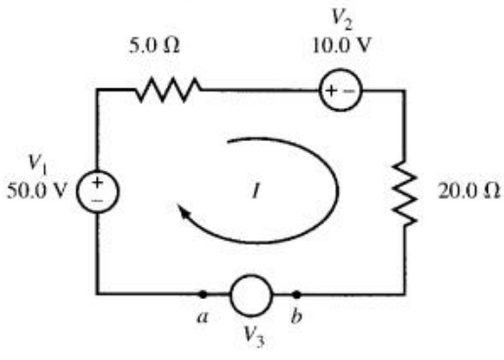
✗ B. Inversely proportional to I^2

✓ C. Directly proportional to I^2

✗ D. Inversely proportional to I

Question ID : **897032516**
Status : **Answered**
Chosen Option : **3**

Q.39 Find V_3 and its polarity if the current $I = 0.4$ A in the given circuit.



Ans ✔ A.

$V_3 = 30$ V, terminal b is positive with respect to terminal a

✘ B.

$V_3 = 30$ V, terminal b is negative with respect to terminal a

✘ C.

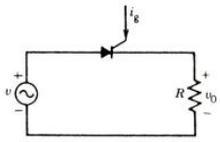
$V_3 = 20$ V, terminal b is negative with respect to terminal a

✘ D.

$V_3 = 20$ V, terminal b is positive with respect to terminal a

Question ID : **897032425**
Status : **Answered**
Chosen Option : **1**

Q.40 Find the average load voltage of the rectifier circuit, if the device is switched to ON at α angular angle.



Ans ✘ A. $\frac{V_{rms}}{\pi\sqrt{2}}\cos\alpha$

✔ B. $\frac{V_{rms}}{\pi\sqrt{2}}(1+\cos\alpha)$

✘ C. $\frac{V_{rms}}{\pi}(1+\cos\alpha)$

✘ D. $\frac{V_{rms}}{2\pi}(1+\cos\alpha)$

Question ID : **897032546**
Status : **Answered**
Chosen Option : **2**

Q.41 If charge is distributed over a (curved) line, each differential charge dQ along the line produces a differential electric field:

Ans ✔ A. $dE = \frac{dQ}{4\pi\epsilon r^2}\hat{a}_r$

✘ B. $dE = \frac{dQ\,r^2}{4\pi\epsilon}\hat{a}_r$

✘ C. $dE = \frac{dQ}{r^2}\hat{a}_r$

✘ D. $dE = \frac{dQ}{4\pi\epsilon r}\hat{a}_r$

Question ID : **897032434**
Status : **Answered**
Chosen Option : **1**

Q.42

Find the cofactor of b_3 in the following matrix Δ :

$$\Delta = \begin{bmatrix} a_1 & b_1 & c_1 \\ a_2 & b_2 & c_2 \\ a_3 & b_3 & c_3 \end{bmatrix}$$

Ans

✗ A. $\begin{vmatrix} a_1 & c_1 \\ a_2 & c_2 \end{vmatrix}$

✗ B. $-b_3$

✓ C. $-\begin{vmatrix} a_1 & c_1 \\ a_2 & c_2 \end{vmatrix}$

✗ D. -1

Question ID : **897032402**
Status : **Answered**
Chosen Option : **3**

Q.43 A 230 V, single-phase domestic energy meter is connected to a constant resistive lamp load 4 A. It makes 2300 revolution in 5 hours. What is meter constant in rev/unit?

Ans

✓ A. 500

✗ B. 350

✗ C. 450

✗ D. 300

Question ID : **897032530**
Status : **Answered**
Chosen Option : **1**

Q.44 Find the Laplace transform of $e^{-3t}\cos 5t$.

Ans

✗ A. $\frac{(s-3)}{(s^2-6s+34)}$

✗ B. $\frac{(s-5)}{(s^2-10s+34)}$

✓ C. $\frac{(s+3)}{(s^2+6s+34)}$

✗ D. $\frac{(s+5)}{(s^2+10s+34)}$

Question ID : **897032411**
Status : **Answered**
Chosen Option : **3**

Q.45 Which of the following helps in selecting the size and number of generating units or the preparation of the operating schedule of power station?

Ans

✗ A. Power factor

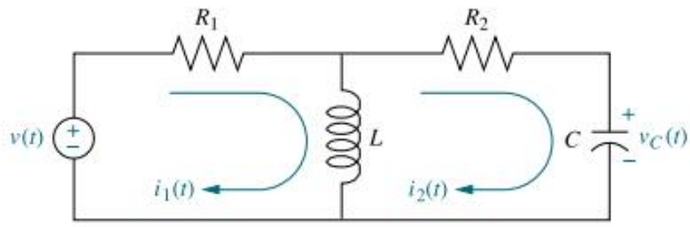
✗ B. Average load

✔ C. Load curve

✗ D. Impedance of transmission line

Question ID : **897032485**
Status : **Answered**
Chosen Option : **3**

Q.46 Find the dynamics of the circuit.



Ans

✗ A.
$$R_1 I_1(s) + LsI_1(s) + LsI_2(s) = V(s)$$
$$LsI_2(s) + R_2 I_2(s) + \frac{1}{Cs} I_2(s) + LsI_1(s) = 0$$

✗ B.
$$R_1 I_1(s) + LsI_1(s) - LsI_2(s) = V(s)$$
$$LsI_2(s) + R_2 I_2(s) + Cs\, I_2(s) - LsI_1(s) = 0$$

✗ C.
$$R_1 I_1(s) + LsI_1(s) + LsI_2(s) = V(s)$$
$$LsI_2(s) + R_2 I_2(s) + \frac{1}{Cs} I_2(s) - LsI_1(s) = 0$$

✔ D.
$$R_1 I_1(s) + LsI_1(s) - LsI_2(s) = V(s)$$
$$LsI_2(s) + R_2 I_2(s) + \frac{1}{Cs} I_2(s) - LsI_1(s) = 0$$

Question ID : **897032502**
Status : **Answered**
Chosen Option : **1**

Q.47 Which of the following conditions is wrong with respect to special gaussian surfaces?

Ans

✔ A.
At each point of the surface D is always normal to the surface

✗ B.
D is sectionally constant over that part of the surface where D is normal.

✗ C. The surface is closed

✗ D.
At each point of the surface D is either normal or tangential to the surface

Question ID : **897032432**
Status : **Answered**
Chosen Option : **4**

Q.48 _____ limits the $\frac{dv}{dt}$ across the switching device during _____.

Ans
✔ A. Snubber, turnoff of the device
✘ B. Inductor, turnoff of the device
✘ C. Inductor, normal running conditions
✘ D. Snubber, normal running conditions

Question ID : **897032542**
Status : **Answered**
Chosen Option : **1**

Q.49 To protect the thyristor form high $\frac{dv}{dt}$, _____ is used in _____ with the thyristor.

Ans
✔ A. R-C, parallel
✘ B. R-L, series
✘ C. LC, series
✘ D. R-C, series

Question ID : **897032545**
Status : **Answered**
Chosen Option : **1**

Q.50 A generating station has an installed capacity of 50 MW and delivers 220 MWh per annum. If the annual fixed charges are ₹160 per kW installed capacity and running charges are 4 paise per kWh, determine the cost per unit generated.

Ans
✘ A. 4 paise
✘ B. 2 paise
✘ C. 10 paise
✔ D. 8 paise

Question ID : **897032494**
Status : **Not Answered**
Chosen Option : **--**

Q.51 With respect to the following equation $x^3 - 2x - 5 = 0$, choose the correct answer.

Ans
✔ A.
It should have three roots and one of the roots should exist in between 2 and 3
✘ B.
It should have three roots and one of the roots should exist in between 0 and 1
✘ C.
It should have two roots and one of the roots should exist in between 0 and 1
✘ D.
It should have three roots and one of the roots should exist in between -2 and -3

Question ID : **897032409**
Status : **Answered**
Chosen Option : **1**

Q.52 Transfer function of a system is $G(s) = \frac{s+1}{s^2+5s+10}$. What is the order of the system?

Ans
✗ A. 1
✓ B. 2
✗ C. 4
✗ D. 3

Question ID : **897032499**
Status : **Answered**
Chosen Option : **2**

Q.53 Determine the fundamental period of a signal $x(t) = \cos\frac{\pi}{3}t + \sin\frac{\pi}{4}t$.

Ans
✗ A. 8
✗ B. 48
✗ C. 6
✓ D. 24

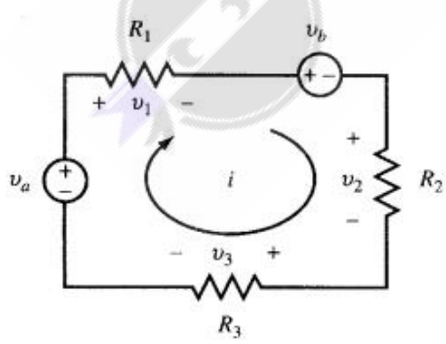
Question ID : **897032460**
Status : **Answered**
Chosen Option : **4**

Q.54 Electric flux ψ, is a _____ field, and its density D, is a _____ field.

Ans
✗ A. Scalar and scalar
✗ B. Vector and vector
✗ C. Vector and scalar
✓ D. Scalar and vector

Question ID : **897032429**
Status : **Answered**
Chosen Option : **4**

Q.55 Find the KVL equation for the following circuit.



Ans
✗ A. $v_a - v_b = i(R_1 + R_2 - R_3)$
✗ B. $v_a + v_b = i(R_1 + R_2 + R_3)$
✓ C. $v_a - v_b = i(R_1 + R_2 + R_3)$
✗ D. $v_a + v_b = i(R_1 + R_2 - R_3)$

Question ID : **897032416**
Status : **Answered**
Chosen Option : **3**

Q.56 Which of the following signals is not a periodic signal?

Ans

✗ A. $x[n] = \cos^2 \frac{\pi}{8} n$

✗ B. $x[n] = \cos \frac{\pi}{3} n + \sin \frac{\pi}{4} n$

✓ C. $x(t) = \cos t + \sin \sqrt{2}\, t$

✗ D. $x(t) = \cos(t + \frac{\pi}{4})$

Question ID : **897032461**
Status : **Answered**
Chosen Option : **3**

Q.57 The force between two charges Q_1 and Q_2 which are separated by a distance of r is given as:

Ans

✗ A. $F = \frac{Q_1 Q_2}{4\pi\epsilon\, r^3}\, \hat{a}_{21}$

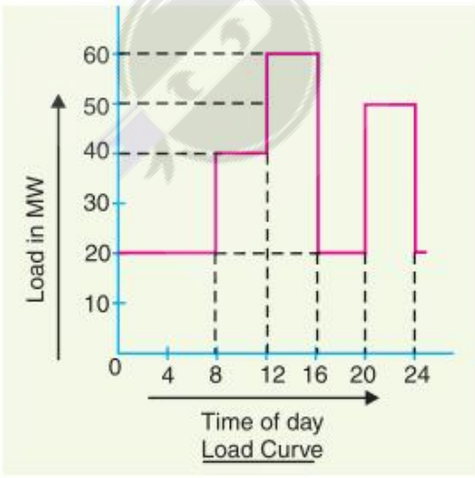
✓ B. $F = \frac{Q_1 Q_2}{4\pi\epsilon\, r^2}\, \hat{a}_{21}$

✗ C. $F = \frac{Q_1 Q_2}{r^2}\, \hat{a}_{21}$

✗ D. $F = \frac{Q_1 Q_2}{4\pi\, r^2}\, \hat{a}_{21}$

Question ID : **897032435**
Status : **Answered**
Chosen Option : **2**

Q.58 A power station has the following daily load cycle.



Determine its average load.

Ans

✗ A. 40 MW

✗ B. 30 MW

✓ C. 35 MW

✗ D. 25 MW

Question ID : **897032489**
Status : **Answered**
Chosen Option : **3**

Q.59 The annual load factor of a power station is 40% and its maximum demand is 100 MW. Determine the energy generated in a year.

Ans

✗ A. 250×8760 MWh

✓ B. 40×8760 MWh

✗ C. 40×365 MWh

✗ D. 250×365 MWh

Question ID : **897032487**
Status : **Answered**
Chosen Option : **2**

Q.60 The derived unit of electric charge, the coulomb is equivalent to:

Ans

✓ A. An ampere-second

✗ B. An ampere/meter

✗ C. An ampere-meter

✗ D. An ampere/second

Question ID : **897032412**
Status : **Answered**
Chosen Option : **1**

Q.61 Find the force on charge $Q_1 = 20\ \mu$C, due to charge $Q_2 = -300\ \mu$C, where Q_1 is at (0,1,2) m and Q_2 at (2,0,0) m.

Ans

✗ A. $12\left(\frac{2a_x - a_y - a_z}{3}\right)$ N

✗ B. $6\pi\left(\frac{2a_x - a_y - a_z}{3}\right)$ N

✗ C. $\frac{6}{\pi}\left(\frac{2a_x - a_y - a_z}{3}\right)$ N

✓ D. $6\left(\frac{2a_x - a_y - a_z}{3}\right)$ N

Question ID : **897032442**
Status : **Answered**
Chosen Option : **1**

Q.62 Evaluate $\int_{-1}^{1}(3t^2 + 1)\delta(t)dt$.

Ans

✗ A. 4

✗ B. 0

✔ C. 1

✘ D. 8

Question ID : **897032454**
Status : **Answered**
Chosen Option : **3**

Q.63 A thyristor is connected to supply with load. Anode is positive with respect to cathode. What are the conditions of the junctions if the gate current is zero?

Ans

✘ A. All the junctions are forward biased

✘ B. All the junctions are reverse biased

✘ C.
p-n junctions near to the anode and cathode are reverse biased and the middle junction is forward biased.

✔ D.
p-n junctions near to the anode and cathode are forward biased and the middle junction is reverse biased.

Question ID : **897032548**
Status : **Answered**
Chosen Option : **4**

Q.64 A dc generator delivers 30 A at 120 V and it is driven by mechanical energy at the rate of 4000 J/s. Determine the percentage efficiency of the generator.

Ans

✘ A. 92%

✘ B. 88%

✔ C. 90%

✘ D. 86%

Question ID : **897032482**
Status : **Answered**
Chosen Option : **3**

Q.65 Which of the following is not a permanent magnet alloy?

Ans

✔ A. Silicon-iron

✘ B. Hard iron

✘ C. Cobalt

✘ D. Nickel

Question ID : **897032468**
Status : **Answered**
Chosen Option : **1**

Q.66 Laplace transform of $e^{-at}u(t)$, is _____, where $u(t)$ is unit step.

Ans

✔ A. $\frac{1}{s+a}$

✘ B. $\frac{1}{s}$

✘ C. $\frac{1}{s(s+a)}$

✗ D. $\frac{s}{s+a}$

Question ID : **897032497**
Status : **Answered**
Chosen Option : **1**

Q.67 Step response of a system is $c(t) = 2(1 - e^{-4t}), t > 0$. Determine impulse response of the same system.

Ans

✗ A. $2e^{-4t}, t > 0$

✓ B. $8e^{-4t}, t > 0$

✗ C. $\frac{1}{2}e^{-4t}, t > 0$

✗ D. $4e^{-4t}, t > 0$

Question ID : **897032506**
Status : **Answered**
Chosen Option : **2**

Q.68 Determine the partial-fraction expansion for:

$$\text{TF } G(s) = \frac{32}{s(s+4)(s+8)}$$

Ans

✗ A. $\frac{1}{s} + \frac{-1}{s+4} + \frac{2}{s+8}$

✗ B. $\frac{1}{s} + \frac{2}{s+4} + \frac{1}{s+8}$

✗ C. $\frac{1}{s} + \frac{-1}{s+4} + \frac{1}{s+8}$

✓ D. $\frac{1}{s} + \frac{-2}{s+4} + \frac{1}{s+8}$

Question ID : **897032501**
Status : **Answered**
Chosen Option : **4**

Q.69 In induction type voltmeters and ammeters, the instantaneous torque T is:

Ans

✗ A. $\propto (\phi_1 i_1 + \phi_2 i_2)$

✓ B. $\propto (\phi_1 i_2 - \phi_2 i_1)$

✗ C. $\propto (\phi_1 i_2 + \phi_2 i_1)$

✗ D. $\propto (\phi_1 i_1 - \phi_2 i_2)$

Question ID : **897032524**
Status : **Answered**
Chosen Option : **1**

Q.70 To protect the thyristor form high $\frac{di}{dt}$, _____ is used in _____ with the thyristor.

Ans

✗ A. Resistor, parallel

✗ B. Inductance, parallel

✓ C. Inductance, series

✗ D. Capacitor, parallel

Question ID : **897032544**
Status : **Answered**
Chosen Option : **3**

Q.71 The deflecting torque of wattmeter is:

Ans

✗ A.
$\propto V_p^2 I_c$, where V_P is the voltage of the fixed coil and I_c is the current through the moving coil.

✓ B.
$\propto V_p I_c$, where V_P is the voltage of the moving coil and I_c is the current through the fixed coil.

✗ C.
$\propto V_p^2 / I_c$, where V_P is the voltage of the moving coil and I_c is the current through the fixed coil.

✗ D.
$\propto V_p I_c$, where V_P is the voltage of the fixed coil and I_c is the current through the moving coil.

Question ID : **897032519**
Status : **Answered**
Chosen Option : **2**

Q.72 Transfer function of a second order system is $G(s) = 100/(s^2 + 20s + 100)$, and this system is classified as:

Ans

✗ A. Undamped system

✗ B. Over damped system

✓ C. Critically damped system

✗ D. Underdamped system

Question ID : **897032507**
Status : **Answered**
Chosen Option : **3**

Q.73 _____ are those signals whose values are completely specified for any given time.

Ans

✓ A. Deterministic signals

✗ B. Statistical signals

✗ C. Random signals

✗ D. Complex signals

Question ID : **897032446**
Status : **Answered**
Chosen Option : **1**

Q.74 Which of the following law states that "the total flux out of a closed surface is equal to the net charge within the surface"?

Ans

✗ A. Laplace's law

✗ B. Gaussian's Law

✗ C. Coulomb's law

✓ D. Gauss's law

Question ID : **897032430**
Status : **Answered**
Chosen Option : **4**

Q.75 Which of the following power stations has the least maintenance cost?

Ans

✗ A. Diesel power plant

✗ B. Nuclear power plant

✓ C. Hydro-electric power plant

✗ D. Thermal power plant

Question ID : **897032481**
Status : **Answered**
Chosen Option : **3**

Q.76 One volt of electric potential is equivalent of:

Ans

✗ A. 1 A/C

✗ B. 1 C/J

✗ C. 1 C/s

✓ D. 1 J/C

Question ID : **897032413**
Status : **Not Answered**
Chosen Option : **--**

Q.77 In a clipper circuit, dc source is set to zero voltage, then the circuit acts like a:

Ans

✗ A. Chopper

✗ B. Clamper

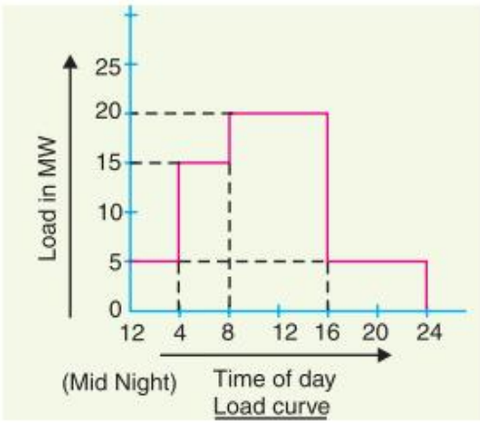
✗ C. Demodulator

✓ D. Rectifier

Question ID : **897032535**
Status : **Answered**
Chosen Option : **4**

Q.78

Determine the load factor for the following load curve.



Ans
- ✗ A. 0.63
- ✓ B. 0.58
- ✗ C. 0.76
- ✗ D. 0.65

Question ID : **897032492**
Status : **Answered**
Chosen Option : **4**

Q.79 Penstocks are used in _____ power station.

Ans
- ✗ A. Thermal
- ✗ B. Nuclear
- ✗ C. Wind
- ✓ D. Hydro-electric

Question ID : **897032480**
Status : **Answered**
Chosen Option : **4**

Q.80 The torque in induction type ammeter is:

Ans
- ✓ A. $\propto \omega I_m^2$
- ✗ B. $\propto \omega^2 I_m^2$
- ✗ C. $\propto \frac{\omega^2}{I_m}$
- ✗ D. $\propto \omega / I_m^2$

Question ID : **897032523**
Status : **Answered**
Chosen Option : **1**

Q.81 A generating station produces 61.5 Mega Units per annum. It is connected to a load of 50 MW and its maximum demand of 20 MW. Determine the demand factor of the station.

Ans
- ✓ A. 0.4

✗ B. 0.5

✗ C. 0.6

✗ D. 0.2

Question ID : **897032488**
Status : **Answered**
Chosen Option : **1**

Q.82 Find the real values of x, y so that $-3 + j\,x^2 y$ and $(x^2 + y) + j\,4$ may represent complex conjugate numbers.

Ans

✗ A. $x = 1, y = 4$

✗ B. $x = 2, y = 1$

✗ C. $x = 2j, y = 1$

✓ D. $x = \pm 1, y = -4$

Question ID : **897032406**
Status : **Answered**
Chosen Option : **4**

Q.83 Which of the following is not true with respect to induction type instruments?

Ans

✓ A. They have very small-open scales θ

✗ B. Damping is very efficient

✗ C. They are not much affected by external stray fields

✗ D.
Their power consumption is fairly large and cost relatively high

Question ID : **897032518**
Status : **Answered**
Chosen Option : **3**

Q.84 In spherical coordinates a vector field is given by $A = \frac{5}{r^2}\sin\theta\ a_r + r\cot\theta\ a_\theta + r\sin\theta\ cos\phi\ a_\phi$. Find div A.

Ans

✗ A. $1 - \sin\phi$

✗ B. $1 + \sin\phi$

✓ C. $-1 - \sin\phi$

✗ D. $1 - \sin\theta$

Question ID : **897032440**
Status : **Not Answered**
Chosen Option : **--**

Q.85 An ampere-hour meter is calibrated at 200 V. That meter is used on 230 V circuit for energy measurement and indicates a consumption of 700 units in a certain period. What is the actual energy supplied?

Ans

✓ A. 805 units

✗ B. 750 units

✗ C. 800 units

✗ D. 780 units

Question ID : **897032521**
Status : **Answered**
Chosen Option : **1**

Q.86 A five-digit number is formed by the digits (0, 1, 2, 3, 4) without repetition. Find the probability that the number formed is divisible by 4.

Ans

✗ A. $\frac{16}{5}$

✗ B. $\frac{1}{16}$

✓ C. $\frac{5}{16}$

✗ D. $\frac{1}{6}$

Question ID : **897032408**
Status : **Not Answered**
Chosen Option : **--**

Q.87 A resistor has a potential difference of 50.0 V across its terminals and 120.0 C of charge per minute passes a fixed point. Under these conditions at what rate is electric energy converted to heat?

Ans

✗ A. 6000 J/sec

✗ B. 120 J/sec

✓ C. 100 J/sec

✗ D. 2.4 J/sec

Question ID : **897032420**
Status : **Answered**
Chosen Option : **3**

Q.88 In induction type watthour meters, the errors due to frictional forces at the rotor bearings and in the register mechanism is minimized by.

Ans

✗ A.
Having the product of the shunt magnet flux Φ_2 and series magnet flux Φ_1 small

✗ B.
Having the ratio of the shunt magnet flux Φ_2 and series magnet flux Φ_1 small

✗ C.
Having the product of the shunt magnet flux Φ_2 and series magnet flux Φ_1 large

✓ D.
Having the ratio of the shunt magnet flux Φ_2 and series magnet flux Φ_1 large

Question ID : **897032520**
Status : **Not Answered**
Chosen Option : **--**

Q.89 Evaluate $\cos t\ \delta(t-\pi)$.

Ans

✗ A. 0

✓ B. $-\delta(t-\pi)$

✗ C. $-\delta(t+\pi)$

✗ D. $\delta(t-\pi)$

Question ID : **897032453**
Status : **Answered**
Chosen Option : **4**

Q.90 An MC ammeter has a shunt of 0.2 Ω and a coil circuit resistance of $R = 100\ \Omega$. The instrument can take maximum of 5 V. Determine the maximum current the instrument can handle.

Ans

✗ A. 25.005 A

✗ B. 2.505 A

✓ C. 25.05 A

✗ D. 25.5 A

Question ID : **897032527**
Status : **Answered**
Chosen Option : **3**

Q.91 Find the number of permutations of all the letters of the word.

"committee".

Ans

✓ A. $\frac{9!}{8}$

✗ B. $\frac{8}{9!}$

✗ C. $\frac{8!}{2}$

✗ D. $\frac{9!}{2}$

Question ID : **897032407**
Status : **Answered**
Chosen Option : **1**

Q.92 Laplace transform of e^{at} is equal to:

Ans

✓ A. $\frac{1}{(s-a)}$

✗ B. $\frac{1}{(s+a)}$

✗ C. $\frac{1}{as}$

✗ D. $(s+a)$

Question ID : **897032410**
Status : **Answered**
Chosen Option : **1**

Q.93

Three point charges, $Q_1 = 30$ nC, $Q_2 = 150$ nC and $Q_3 = -70$ nC, are enclosed by surface S. What net flux crosses S?

Ans

✗ A. 180 nC

✗ B. 100 nC

✗ C. 0 C

✓ D. 110 nC

Question ID : **897032437**
Status : **Answered**
Chosen Option : **4**

Q.94 Find the fundamental period of a continuous-time sinusoidal signal $x(t) = A\cos(\omega_0 t + \theta)$.

Ans

✓ A. $T_0 = \frac{2\pi}{\omega_0}$

✗ B. $T_0 = 2\pi\omega_0$

✗ C. $T_0 = \frac{2\pi\theta}{\omega_0}$

✗ D. $T_0 = \frac{\omega_0}{2\pi}$

Question ID : **897032450**
Status : **Answered**
Chosen Option : **1**

Q.95 Find the fundamental period of a discrete signal $x[n] = e^{j(\pi/4)n}$.

Ans

✗ A. 2

✗ B. 4

✓ C. 8

✗ D. 6

Question ID : **897032452**
Status : **Answered**
Chosen Option : **3**

Q.96 Determine whether the following signals are energy signals, power signals, or neither.

(a) $x(t) = e^{-at}u(t), a > 0$

(b) $x[n] = 2e^{j3n}$

Ans

✗ A. (a) is power signal (b) is energy signal

✗ B. (a) and (b) are power signals

✓ C. (a) is energy signal (b) is power signal

✗ D. (a) and (b) are energy signals

Question ID : **897032462**
Status : **Answered**
Chosen Option : **4**

Q.97 The maximum flux density in the core of a 250/3000 Volts, 50 Hz, 1-ph transformer is 1.2 Wb/m^2 . Determine the LV and HV turns of the transformer if the e.m.f per turn is 8 V.

Ans

✗ A. $N_{LV} = 64, N_{HV} = 750$

✗ B. $N_{LV} = 375, N_{HV} = 32$

✗ C. $N_{LV} = 750\ , N_{HV} = 64$

✓ D. $N_{LV} = 32, N_{HV} = 375$

Question ID : **897032474**
Status : **Answered**
Chosen Option : **4**

Q.98 A 4-pole, 3-phase induction motor operates from a supply whose frequency is 50 Hz. Calculate the speed of the rotor and frequency of the rotor currents when the slip is 0.04.

Ans

✗ A. $N = 1450$ rpm and frequency is 4 Hz

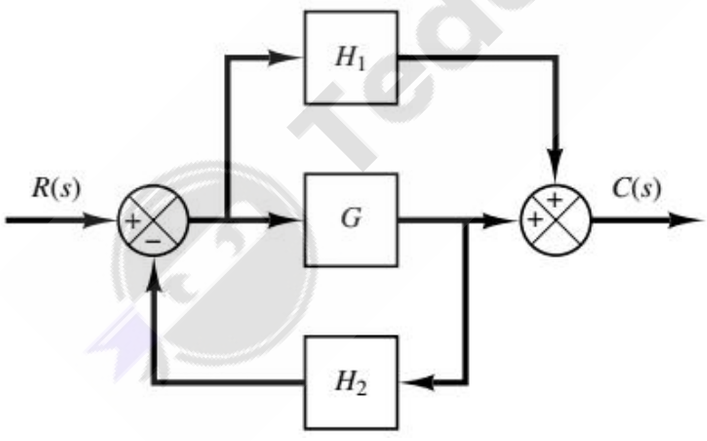
✗ B. $N = 1440$ rpm and frequency is 48 Hz

✗ C. $N = 1460$ rpm and frequency is 4 Hz

✓ D. $N = 1440$ rpm and frequency is 2 Hz

Question ID : **897032477**
Status : **Answered**
Chosen Option : **4**

Q.99 Find the transfer function $\frac{C(s)}{R(s)}$ of the system:



Ans

✓ A. $\frac{G+H_1}{1+GH_2}$

✗ B. $\frac{G}{1+GH_2-GH_1}$

✗ C. $\frac{G+H_1}{1+GH_2-GH_1}$

✗ D. $\frac{G+H_1}{1-GH_2}$

Question ID : **897032505**
Status : **Answered**

Chosen Option : **3**

Q.100 A dc shunt motor runs at 1000 rpm at no load from 250 V dc supply and takes 9 A. The motor resistances are $R_{sh} = 250\ \Omega$ and $R_a = 0.5\ \Omega$. Calculate the speed when loaded and taking 41 A.

Ans

✗ A. 123000/115 rpm

✗ B. 12300/115 rpm

✓ C. 115000/123 rpm

✗ D. 11500/123 rpm

Question ID : **897032476**
Status : **Answered**
Chosen Option : **3**

Q.101 If $(x_1 + j\,y_1) = (x_2 + j\,y_2)$, then which of the following is true.

Here $j = \sqrt{-1}$, x & y are real numbers.

Ans

✗ A. $x_1 = y_2$

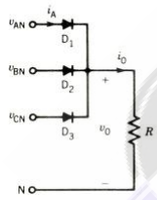
✗ B. $x_2 = y_2$

✓ C. $x_1 - j\,y_1 = x_2 - j\,y_2$

✗ D. $x_1 - j\,y_1 = y_2 + j\,x_2$

Question ID : **897032405**
Status : **Answered**
Chosen Option : **3**

Q.102 A 3-phase, 4-wire ac is applied to the following rectifier. Determine the average value of the output voltage. Take V_p is the rms value of the phase voltage.



Ans

✗ A. $\frac{3\sqrt{6}}{\pi} V_p$

✗ B. $\frac{\sqrt{6}}{2\pi} V_p$

✗ C. $\frac{3\sqrt{2}}{2\pi} V_p$

✓ D. $\frac{3\sqrt{6}}{2\pi} V_p$

Question ID : **897032550**
Status : **Answered**
Chosen Option : **1**

Q.103

The ratio of average load to maximum demand in power system is defined as:

Ans

✗ A. Demand factor

✓ B. Load factor

✗ C. Utilization factor

✗ D. Average load

Question ID : **897032486**
Status : **Answered**
Chosen Option : **2**

Q.104 Which of the following type of measuring instruments is used in the measurement of ac quantity only?

Ans

✗ A. Repulsion moving-iron type

✗ B. Permanent-magnet moving coil type

✓ C. Split-phase induction type

✗ D. Hot-wire type

Question ID : **897032513**
Status : **Answered**
Chosen Option : **3**

Q.105 A 4-pole generator has a wave-wound armature with 720 conductors, and it delivers 100 A on full load. Calculate the armature demagnetizing and cross-magnetizing A-T/pole, if the brush lead is 8°.

Ans

✓ A.

Demagnetizing A-T/pole = 800; cross-magnetizing A-T/pole = 3700

✗ B.

Demagnetizing A-T/pole = 3700; cross-magnetizing A-T/pole = 800

✗ C.

Demagnetizing A-T/pole = 80; cross-magnetizing A-T/pole = 370

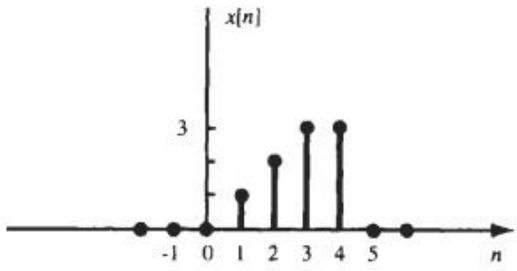
✗ D.

Demagnetizing A-T/pole = 370; cross-magnetizing A-T/pole = 800

Question ID : **897032475**
Status : **Answered**
Chosen Option : **1**

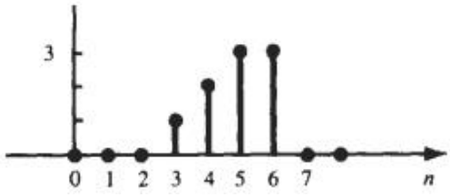
Q.106

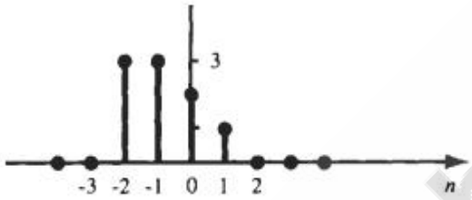
A discrete-time signal $x[n]$ is represented as under:

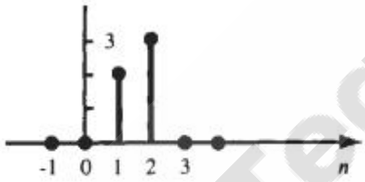


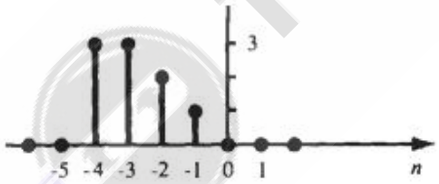
Which of the following sketches represents $x[-n+2]$?

Ans

A.


B.


C.


D.


Question ID : **897032451**
Status : **Answered**
Chosen Option : **3**

Q.107 The force on the current-carrying conductor in a magnetic field depends upon:

(a) The flux density of the field
(b) The strength of the current
(c) The length of the conductor perpendicular to the magnetic field
(d) The directions of the field and the current

Ans

A. (a), (c) and (d) only

B. (a), (b) and (c) only

✗ C. (a), (b) and (d) only

✓ D. (a), (b), (c) and (d)

Question ID : **897032464**
Status : **Answered**
Chosen Option : **2**

Q.108 A 4-pole wave-wound motor armature has 880 conductors and delivers 120 A. The brushes have been displaced through 3 angular degrees from the geometrical axis. Calculate the additional field current for neutralizing the demagnetisation of the field winding has 1100 turns/pole.

Ans

✗ A. 0.2 A

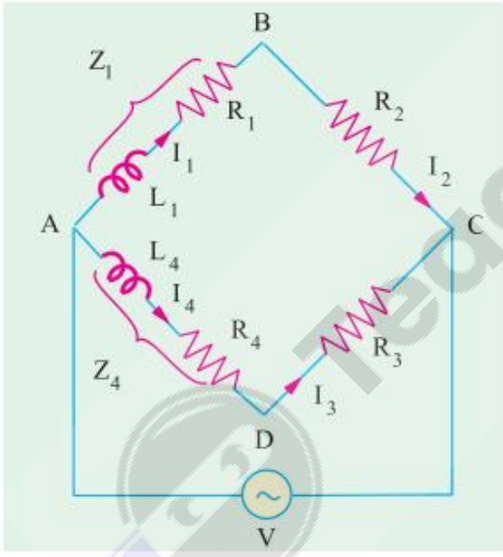
✓ B. 0.4 A

✗ C. 2 A

✗ D. 4 A

Question ID : **897032473**
Status : **Answered**
Chosen Option : **4**

Q.109 What is the balanced condition for the given bridge?



Ans

✓ A. $Z_1R_3 = R_2Z_4$

✗ B. $Z_1 - R_3 = R_2 - Z_4$

✗ C. $Z_1Z_4 = R_2R_3$

✗ D. $Z_1R_2 = R_3Z_4$

Question ID : **897032531**
Status : **Answered**
Chosen Option : **1**

Q.110 The relation between electric flux density D and Electric field intensity is given as:

Ans

✗ A. $\epsilon = E \times D$

✗ B. $E = \epsilon D$

✓ C. $D = \epsilon E$

✗ D. $E = D$

Question ID : **897032431**
Status : **Answered**
Chosen Option : **3**

Q.111 Obtain the equivalent resistance of three 60 Ω resistors in parallel.

Ans

✗ A. 10 Ω

✗ B. 30 Ω

✓ C. 20 Ω

✗ D. 180 Ω

Question ID : **897032418**
Status : **Answered**
Chosen Option : **3**

Q.112 What could be the rank R of a matrix $A_{m\times n}$, if $m < n$, and A is not a null matrix?

Ans

✗ A. $1 < R \leq n$

✗ B. $0 < R \leq n$

✗ C. $0 < R \leq m$

✓ D. $1 < R \leq m$

Question ID : **897032401**
Status : **Answered**
Chosen Option : **4**

Q.113 Find the expression for the electric field at $P\ (x, y, z)$ due to a point charge Q at orgin.

Ans

✗ A. $E = \frac{Q}{4\pi\epsilon(x^2+y^2+z^2)^2}\left(xa_x + ya_y + za_z\right)$

✓ B. $E = \frac{Q}{4\pi\epsilon(x^2+y^2+z^2)^{\frac{3}{2}}}\left(xa_x + ya_y + za_z\right)$

✗ C. $E = \frac{Q^2}{4\pi\epsilon(x^2+y^2+z^2)^2}\left(xa_x + ya_y + za_z\right)$

✗ D. $E = \frac{Q^2}{4\pi\epsilon(x^2+y^2+z^2)^{\frac{3}{2}}}\left(xa_x + ya_y + za_z\right)$

Question ID : **897032441**
Status : **Answered**
Chosen Option : **2**

Q.114 Which of the following type of measuring instrument used in the measurement of both ac and dc quantities?

Ans

✗ A. Split-phase induction type

✓ B. Dynamometer type

✗ C. Electrolytic type

✗ D. Shaded-pole induction type

Question ID : **897032514**
Status : **Answered**
Chosen Option : **2**

Q.115 Which of the following is not true with respect to hot-wire instruments?

Ans ✗ A.
Its deflection depends on the r.m.s. value of the alternating current, they can be used on direct current also.

✓ B. They have a very low power consumption

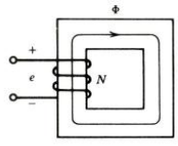
✗ C. They are unaffected by stray fields.

✗ D.
Their readings are independent of waveform and frequency.

Question ID : **897032525**
Status : **Answered**
Chosen Option : **2**

Q.116 A 1Φ, 120 V, 60 Hz supply is connected to the coil of the given circuit. The coil has 200 turns. The parameters of the core are as follows:

Length of core =100 cm
Cross-sectional area of core = 20 cm^2
Relative permeability of core = 2500



Obtain an expression for the flux density in the core.

Ans

✗ A. $\frac{1}{8.88}\sin 2\pi 60\ t$ Tesla

✗ B. $\frac{1}{0.888}\sin\ t$ Tesla

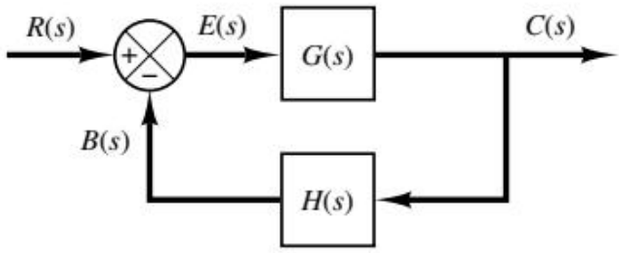
✓ C. $\frac{1}{0.888}\sin 2\pi 60\ t$ Tesla

✗ D. $\frac{1}{0.888}\sin 2\pi\ t$ Tesla

Question ID : **897032471**
Status : **Not Answered**
Chosen Option : **--**

Q.117

Find the transfer function $E(s)/R(s)$ for the system:



Ans

✔ A. $\frac{1}{1+G(s)H(s)}$

✘ B. $\frac{G(s)}{1+G(s)H(s)}$

✘ C. $\frac{G(s)}{1-G(s)H(s)}$

✘ D. $\frac{1}{1-G(s)H(s)}$

Question ID : **897032503**
Status : **Answered**
Chosen Option : **2**

Q.118 Find electric filed intensity at (0, 3, 4) m in Cartesian coordinates due to a point charge $Q = 0.5\ \mu$C at the origin.

Ans

✘ A. $180\frac{3a_y-4a_z}{5}$ V/m

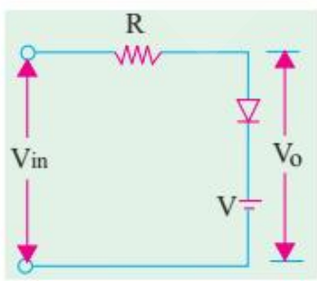
✔ B. $180\frac{3a_y+4a_z}{5}$ V/m

✘ C. $18\frac{3a_y-4a_z}{5}$ V/m

✘ D. $18\frac{3a_y+4a_z}{5}$ V/m

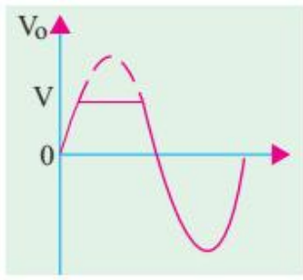
Question ID : **897032436**
Status : **Answered**
Chosen Option : **3**

Q.119 Identify the output wave form for the circuit.

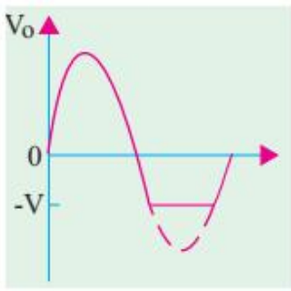


Ans

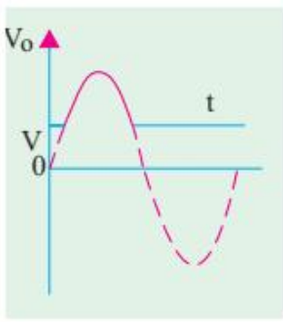
✗ A.



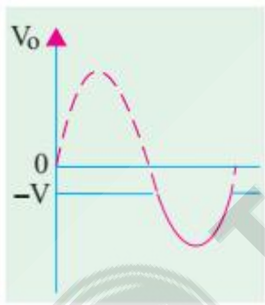
✗ B.



✓ C.



✗ D.



Question ID : **897032536**
Status : **Answered**
Chosen Option : **2**

Q.120 Find the first derivative of the signal.

$$x(t) = t[u(t) - u(t-a)], a > 0$$

Ans

✗ A. $u(t) + u(t-a) - a\delta(t-a)$

✗ B. $u(t) - \delta(t-a) - a\delta(t-a)$

✗ C. $u(t) - u(t-a) + a\delta(t-a)$

✓ D. $u(t) - u(t-a) - a\delta(t-a)$

Question ID : **897032463**
Status : **Answered**

Chosen Option : **4**

Q.121 In current situation, which of the following fuels is used more in electrical energy generation?

Ans

✗ A. Natural gas

✓ B. Coal

✗ C. Nuclear energy

✗ D. Wind energy

Question ID : **897032478**
Status : **Answered**
Chosen Option : **2**

Q.122 Simplify the Boolean function:

$$(A + B)(A + \bar{B})(\bar{A} + C)$$

Ans

✗ A. $\bar{A}\,B$

✓ B. AC

✗ C. AB

✗ D. BC

Question ID : **897032541**
Status : **Answered**
Chosen Option : **2**

Q.123 Given the vector field $A = 5\,x^2\left(\sin\left(\frac{\pi x}{2}\right)\right)a_x$, find div A at $x = 1$.

Ans

✗ A. 5

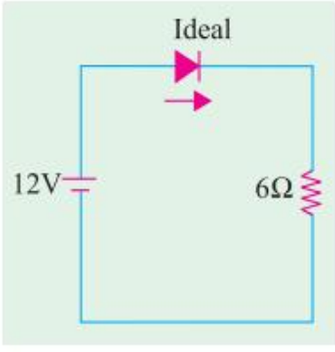
✗ B. 20

✓ C. 10

✗ D. 15

Question ID : **897032439**
Status : **Answered**
Chosen Option : **1**

Q.124 Find the current through the diode in the given circuit.



Ans

✗ A. 1 A

✓ B. 2 A

✗ C. 4 A

✗ D. 3 A

Question ID : **897032533**
Status : **Answered**
Chosen Option : **2**

Q.125 Which of the following plant converts the heat energy of coal combustion into electrical energy?

Ans

✗ A. Tidal power plant

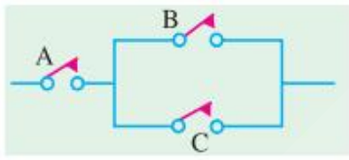
✓ B. Steam power plant

✗ C. Diesel power plant

✗ D. Nuclear power plant

Question ID : **897032479**
Status : **Answered**
Chosen Option : **2**

Q.126 Identify the Boolean function for the given switching circuit.



Ans

✗ A. $(A+B)C$

✓ B. $A(B+C)$

✗ C. $A+B+C$

✗ D. ABC

Question ID : **897032538**
Status : **Answered**
Chosen Option : **2**

Q.127 Find the first derivative of the signal $x(t) = u(t) - u(t-a), a > 0$.

Ans

✗ A. 1

✗ B. $\delta(t) - a\delta(t-a)$

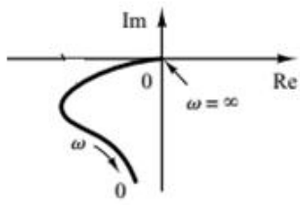
✗ C. $\delta(t) + a\delta(t-a)$

✓ D. $\delta(t) - \delta(t-a)$

Question ID : **897032455**
Status : **Answered**
Chosen Option : **4**

Q.128

Which of the following transfer function has the given polar plot?



Ans

✗ A. $G(s) = \frac{(s+\omega_1)(s+\omega_2)}{s^2(s+\omega_2)(s+\omega_3)}$

✓ B. $G(s) = \frac{s+\omega_1}{s(s+\omega_2)(s+\omega_3)}$

✗ C. $G(s) = \frac{s+\omega_1}{s(s+\omega_2)}$

✗ D. $G(s) = \frac{1}{(s+\omega_2)(s+\omega_3)}$

Question ID : **897032512**
Status : **Answered**
Chosen Option : **2**

Q.129 Cost of equipment used in power system is ₹1,00,000, and its scrap value is ₹10,000 after a useful life of 20 years. What is the annual depreciation charge of the equipment?

Ans

✗ A. ₹5,000

✗ B. ₹5,500

✗ C. ₹500

✓ D. ₹4,500

Question ID : **897032490**
Status : **Answered**
Chosen Option : **3**

Q.130 A circular disk of radius 4 m with a charge density $\rho_s = 12\sin\phi$ μC/m^2 is enclosed by surface S. What net flux crosses S?

Ans

✗ A. 32π μC

✗ B. $12\,\mu$C

✗ C. $32 \times 12\pi$ μC

✓ D. 0 C

Question ID : **897032443**
Status : **Answered**
Chosen Option : **4**

Q.131 The real part of a complex exponential sequence $x[n] = e^{j\Omega n}$ is:

Ans

✗ A. $\cosh \Omega n$

✓ B. $\cos \Omega n$

✗ C. $\sinh \Omega n$

✗ D. $\sin \Omega n$

Question ID : **897032449**
Status : **Answered**
Chosen Option : **2**

Q.132 Hysteresis loss in electrical machine is typically given as:

Ans

✗ A. $K_h B_{max}^n \frac{1}{f}$

✗ B. $K_h B_{max}^n \frac{1}{f^2}$

✗ C. $K_h B_{max}^n f^2$

✓ D. $K_h B_{max}^n f$

Question ID : **897032466**
Status : **Answered**
Chosen Option : **4**

Q.133 Evaluate $\frac{d}{dt} sgn(t)$.

Ans

✗ A. $-2\delta(t)$

✗ B. 0

✓ C. $2\delta(t)$

✗ D. $\delta(t)$

Question ID : **897032456**
Status : **Answered**
Chosen Option : **3**

Q.134 Simplify the Boolean function:

$(A + B)(A + C)$

Ans

✗ A. $AC + B$

✗ B. $AB + C$

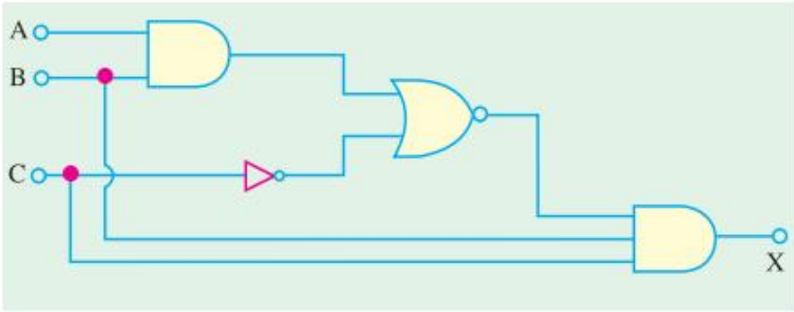
✗ C. ABC

✓ D. $A + BC$

Question ID : **897032537**
Status : **Answered**
Chosen Option : **4**

Q.135

Find the output Boolean function for the logic circuit.



Ans

A. $X = ABC$

B. $X = \bar{A}\,BC$

C. $X = \bar{A}\,\bar{B}C$

D. $X = \bar{A}\,B\bar{C}$

Question ID : **897032539**
Status : **Answered**
Chosen Option : **2**

Q.136 Choose the wrong statement with respect to Coulomb's law, the force between two charges Q_1 and Q_2 is:

Ans

A. Directly proportional to the distance

B. Directly proportional to Q_2

C. Directly proportional to Q_1

D. Inversely proportional to the square of the distance

Question ID : **897032427**
Status : **Answered**
Chosen Option : **1**

Q.137 Current and voltage in a pure inductor are characterized by:

Ans

A. $v = \frac{1}{L}\frac{di}{dt}$

B. $i = L\frac{dv}{dt}$

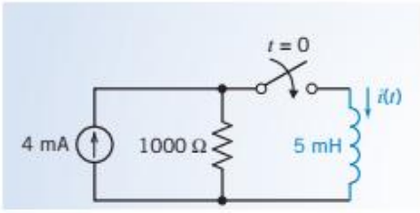
C. $v = L\frac{di}{dt}$

D. $v = L \times i$

Question ID : **897032414**
Status : **Answered**
Chosen Option : **3**

Q.138

Find the inductor current after the switch closes in the circuit.



Ans

✗ A. $i(t) = 4\left(1 + e^{-\frac{t}{5}}\right)$ mA, and t is in μs

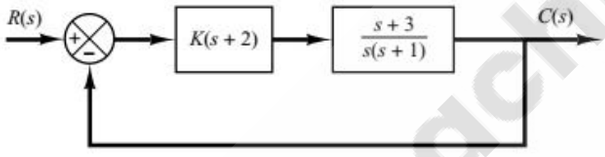
✗ B. $i(t) = 4\left(1 + e^{-\frac{t}{5}}\right)$ mA, and t is in μs

✓ C. $i(t) = 4\left(1 - e^{-\frac{t}{5}}\right)$ mA, and t is in μs

✗ D. $i(t) = 4\left(1 - e^{\frac{t}{5}}\right)$ mA, and t is in μs

Question ID : **897032426**
Status : **Answered**
Chosen Option : **3**

Q.139 Consider a feedback control system:



The root locus of the system has which of the following characteristics?

Ans

✗ A.

Root loci exist on the negative real axis between –2 and –1 and between –3 and $-\infty$. When $K \to \infty$, the root loci terminate at $s = -2$, and $s = -3$.

✗ B.

Root loci exist on the negative real axis between 0 and –1 and between –2 and –3. When $K \to \infty$, two roots are going to $-\infty$

✗ C.

Root loci exist on the negative real axis between 0 and –1 and between –2 and –3. When $K \to \infty$, two roots are going to ∞

✓ D.

Root loci exist on the negative real axis between 0 and –1 and between –2 and –3. When $K \to \infty$, the root loci terminate at $s = -2$, and $s = -3$.

Question ID : **897032511**
Status : **Answered**
Chosen Option : **4**

Q.140 If $A = 5t^2 I + t J - t^3 K$, $B = \sin t\ I - \cos t\ J$, find $\frac{d}{dt}(A.B)$.

Ans

✗ A. $5t^2 \cos t + 9t \sin t + \cos t$

✔ B. $5t^2 \cos t + 11t \sin t - \cos t$

✘ C. $5t^2 \cos t + 11t \sin t + \cos t$

✘ D. $5t^2 \cos t + 9t \sin t - \cos t$

Question ID : **897032404**
Status : **Answered**
Chosen Option : **3**

Q.141 Determine the current required in a 400mm length of conductor of an electric motor, when the conductor is situated at right-angles to a magnetic field of flux density 1.2T, if a force of 1.92N is to be exerted on the conductor.

Ans

✘ A. 8 A

✘ B. 6 A

✔ C. 4 A

✘ D. 2 A

Question ID : **897032472**
Status : **Answered**
Chosen Option : **3**

Q.142 The B-H curve for a deltamax core is:

Ans

✔ A. Almost square

✘ B. Almost circle

✘ C. Almost triangle

✘ D. Almost zero

Question ID : **897032465**
Status : **Answered**
Chosen Option : **4**

Q.143 A full-wave rectifier uses two diodes, the internal resistance of each diode is 20 Ω constant. The transformer r.m.s secondary voltage from centre tap each end of secondary is 50 V and load resistance is 980 Ω. Find the maximum load current.

Ans

✔ A. 70.7 mA

✘ B. 0.7 mA

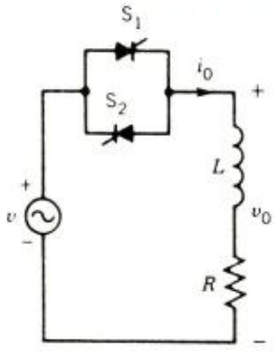
✘ C. 3.5 mA

✘ D. 7.07 mA

Question ID : **897032540**
Status : **Answered**
Chosen Option : **3**

Q.144

Identify the circuit based on the working principle.



Ans

✗ A. Fully-controlled rectifier

✗ B. Semi-controlled rectifier

✓ C. A.C. regulator

✗ D. Controlled inverter.

Question ID : **897032543**
Status : **Answered**
Chosen Option : **1**

Q.145 The impedance $Z(s) = \frac{V(s)}{I(s)}$ for a capacitor is:

Ans

✓ A. $\frac{1}{Cs}$

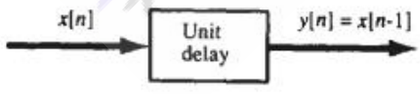
✗ B. $\frac{C}{s}$

✗ C. $\frac{s}{C}$

✗ D. Cs

Question ID : **897032498**
Status : **Answered**
Chosen Option : **1**

Q.146 Consider a unit delay element:



Determine whether the system is memoryless, causal and linear.

Ans

✗ A. Memoryless, causal and linear

✗ B. Not memoryless, non-causal and non-linear

✓ C. Not memoryless, causal and linear

✗ D. Not memoryless, causal and non-linear

Question ID : **897032458**
Status : **Answered**

Chosen Option : **3**

Q.147 A steam power plant produces 1 unit of electrical energy by using 0.5 kg of coal and its overall efficiency is 20%. Calculate the calorific value of fuel.

Ans

✗ A. 6600 kcal/kg

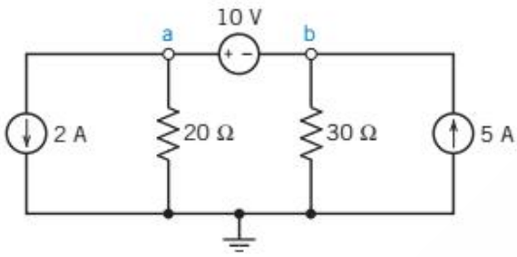
✗ B. 8000 kcal/kg

✓ C. 8600 kcal/kg

✗ D. 8400 kcal/kg

Question ID : **897032491**
Status : **Answered**
Chosen Option : **4**

Q.148 Find the node voltage v_b in the given network.



Ans

✗ A. $-40\ V$

✓ B. 30 V

✗ C. $-30\ V$

✗ D. 40 V

Question ID : **897032423**
Status : **Answered**
Chosen Option : **2**

Q.149 A consumer has a maximum demand of 250 kW at 40% load factor. If the tariff is ₹100 per kW of maximum demand plus 10 paise per kWh, find the overall cost per kWh.

Ans

✗ A. 1126/876

✗ B. 876/1126

✗ C. 8760/1126

✓ D. 1126/8760

Question ID : **897032495**
Status : **Not Answered**
Chosen Option : **--**

Q.150 The reading '100' of a 120-V electrostatic voltmeter is to represent 10,000 volts when its range is extended by the use of a capacitor in series. If the capacitance of the voltmeter at the above reading is 70 μF, find the capacitance of the capacitor multiplier required.

Ans

✓ A. 0.7 μF

✗ B. 70 μF

✗ C. 0.07 µF

✗ D. 7 µF

Question ID : **897032528**
Status : **Answered**
Chosen Option : **3**

Section : **General Knowledge_Awareness**

Q.1 2019 में भारत में आयोजित संयुक्त राष्ट्र मरुस्थलीकरण प्रतिरोध सम्मेलन (UNCCD) के 14 वें अधिवेशन में कॉन्फ्रेंस ऑफ पार्टीज़ के (COP) के सम्मेलन का विषय "जीवन को बनाए रखने के लिए _____को पुनर्स्थापित करना," था।

Ans

✗ A. जल

✓ B. भूमि

✗ C. वायु

✗ D. पहाड़ों

Question ID : **897032565**
Status : **Answered**
Chosen Option : **1**

Q.2 कंप्यूटर शब्दावली में, आप कंप्यूटर स्क्रीन के शीर्ष पर टूल और कमांड के सेट को क्या कहते हैं?

Ans

✗ A. स्क्रॉल बार

✗ B. शासक बार

✗ C. स्टेटस बार

✓ D. रिबन

Question ID : **897032566**
Status : **Answered**
Chosen Option : **1**

Q.3 भारत का सबसे लंबा पुल 'ढोला-सादिया पुल' निम्नलिखित में से किस नदी पर बनाया गया है?

Ans

✗ A. दिहिंग

✗ B. ब्रह्मपुत्र

✓ C. लोहित

✗ D. धनसिरी

Question ID : **897032556**
Status : **Answered**
Chosen Option : **2**

Q.4 'बुर्जहोम' और 'चिरांद' भारत के ऐसे दो स्थान हैं,जहाँ नवपाषाणकालीन वासियों द्वारा निर्मित _____ के उपकरणों-हथियारों की खोज की गई थी।

Ans

✗ A. लकड़ी

✔ B. हड्डी

✘ C. धातु

✘ D. पत्थर

Question ID : **897032554**
Status : **Answered**
Chosen Option : **4**

Q.5 यूएनडब्ल्यूटीओ ने 'विश्व पर्यटन दिवस-2019' मनाने के लिए निम्नलिखित में से किस देश को मेजबान देश के रूप में चुना है?

Ans

✘ A. कनाडा

✘ B. बेल्जियम

✘ C. स्विट्जरलैंड

✔ D. भारत

Question ID : **897032563**
Status : **Answered**
Chosen Option : **4**

Q.6 बुल्गारिया की क्रिस्टालिना जॉर्जीवा को औपचारिक रूप से सितंबर 2016 में निम्न में से किस संस्थान का नेतृत्व करने के लिए चुना गया है?

Ans

✘ A. World Bank

✔ B. International Monetary Fund (IMF)

✘ C. International Finance Corporation

✘ D. United Nations (UN)

Question ID : **897032569**
Status : **Answered**
Chosen Option : **2**

Q.7 29th August which is celebrated as the National Sports day marks the birthday of which one of the following sports-person?

Ans

✘ A. Milkha Singh

✘ B. Ramnathan Krishnan

✘ C. P.T. Usha

✔ D. Dhyan Chand

Question ID : **897032561**
Status : **Answered**
Chosen Option : **4**

Q.8 सितंबर 2019 में _____ नाम से इंडियन कोस्ट गार्ड शिप कमीशन किया गया।

Ans

✘ A. विशाखा

✔ B. वराह

✘ C. विशाल

✗ D. विराट

Question ID : **897032570**
Status : **Answered**
Chosen Option : **2**

Q.9 किस टेनिस टूर्नामेंट में लिएंडर पेस और महेश भूपति के बीच सबसे लंबे समय तक डबल्स जीतने का रिकॉर्ड है?

Ans

✗ A. विंबलडन

✗ B. फ्रेंच ओपन

✗ C. ऑस्ट्रेलियन ओपन

✓ D. डेविस कप

Question ID : **897032567**
Status : **Answered**
Chosen Option : **4**

Q.10 निम्नलिखित में से कौन सा भारत का विशालतम राष्ट्रीय उद्यान है?

Ans

✗ A. रणथंभौर राष्ट्रीय उद्यान (नेशनल पार्क)

✗ B. जिम कॉर्बेट राष्ट्रीय उद्यान (नेशनल पार्क)

✓ C. हेमिस राष्ट्रीय उद्यान (नेशनल पार्क)

✗ D. काजीरंगा राष्ट्रीय उद्यान(नेशनल पार्क)

Question ID : **897032555**
Status : **Answered**
Chosen Option : **2**

Q.11 निम्नलिखित में से किसने माइक्रोसॉफ्ट डिस्क ऑपरेटिंग सिस्टम (MS-DOS) का निर्माण किया?

Ans

✓ A. टिम पैटरसन

✗ B. गैरी किल्डल

✗ C. बिल गेट्स

✗ D. स्टीव बाल्मर

Question ID : **897032551**
Status : **Answered**
Chosen Option : **3**

Q.12 निम्नलिखित में से केंद्रीय सूचना आयोग (CIC) के प्रमुख कौन हैं?

Ans

✗ A. पूनम मार्कण्डेय

✗ B. ओंकार सिंह

✗ C. जी. एस. मीना

✔ D. सुधीर भार्गव

Question ID : **897032557**
Status : **Answered**
Chosen Option : **4**

Q.13 2019 के अनुसार भारत का विशालतम और सर्वाधिक लाभप्रद सार्वजनिक उपक्रम निम्नलिखित में से कौन सा है?

Ans

✔ A. ऑइल एंड नैचरल गैस कॉर्पोरेशन

✘ B. कोल इंडिया लिमिटेड

✘ C. गेल (इंडिया)

✘ D. पावर ग्रिड कॉर्पोरेशन

Question ID : **897032559**
Status : **Answered**
Chosen Option : **1**

Q.14 कंप्यूटर मदरबोर्ड _____ का उपयोग करके डेस्कटॉप कंप्यूटर केस को कनेक्ट करता है।

Ans

✘ A. फ्लैट पैनल (Flat Panel)

✔ B. स्टैंड आउट (Standout)

✘ C. जॉयस्टिक (Joystick)

✘ D. फैन (Fan)

Question ID : **897032552**
Status : **Answered**
Chosen Option : **1**

Q.15 2nd October 2019 marks the _____ birth anniversary of Mahatma Gandhi?

Ans

✘ A. 100th

✔ B. 150th

✘ C. 125th

✘ D. 130th

Question ID : **897032564**
Status : **Answered**
Chosen Option : **2**

Q.16 निम्नलिखित में से किस शासक के दरबार में यूनानी यात्री मेगस्थनीज आया था?

Ans

✘ A. अशोक

✘ B. समुद्रगुप्त

✔ C. चंद्रगुप्त मौर्य

✗ D. बिन्दुसार

Question ID : **897032553**
Status : **Answered**
Chosen Option : **3**

Q.17 निम्नलिखित में से राष्ट्रमंडल खेलों में व्यक्तिगत एथलेटिक्स स्वर्ण पदक प्राप्त करने वाला/वाली प्रथम भारतीय एथलीट कौन है?

Ans

✗ A. पी. टी. उषा

✗ B. नीरज चोपड़ा

✗ C. कृष्णा पूनिया

✓ D. मिल्खा सिंह

Question ID : **897032562**
Status : **Answered**
Chosen Option : **1**

Q.18 निम्नलिखित में से भारत में विशालतम शेयर बाजार (स्टॉक एक्सचेंज)कौन सा है?

Ans

✗ A. बॉम्बे स्टॉक एक्सचेंज (BSE)

✗ B. ओवर-द-काउंटर एक्सचेंज ऑफ इंडिया

✓ C. नेशनल स्टॉक एक्सचेंज (NSE)

✗ D. इंटर-कनेक्टेड स्टॉक एक्सचेंज

Question ID : **897032560**
Status : **Answered**
Chosen Option : **1**

Q.19 What is the maximum strength of elected members of Rajya Sabha?

Ans

✗ A. 246

✗ B. 224

✗ C. 213

✓ D. 238

Question ID : **897032558**
Status : **Answered**
Chosen Option : **1**

Q.20 _____ एकमात्र भारतीय है जिसने स्नूकर और बिलियर्ड्स दोनों में एमेच्योर विश्व खिताब जीता है।

Ans

✓ A. पंकज आडवाणी

✗ B. लकी वतननी

✗ C. आदित्य मेहता

✗ D. गीत सेठी

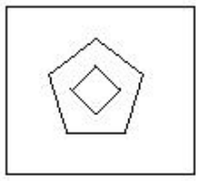
Question ID : **897032568**
Status : **Answered**
Chosen Option : **1**

Section : **Reasoning_Apptitude**

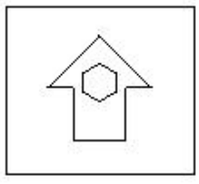
Q.1 Three of the following options are alike in certain manner. Select the option that is different from other three options.

Ans

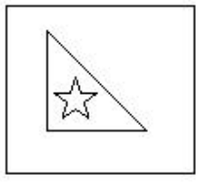
✗ A.



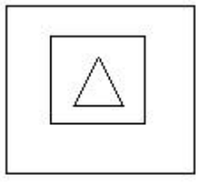
✗ B.



✓ C.



✗ D.



Question ID : **897032588**
Status : **Answered**
Chosen Option : **3**

Q.2 A, B, C, D, E, F और G चाय के साथ पर मिल रहे हैं। A और E भाई-बहन हैं। B, E के मामा/ मौसा C की एकमात्र बहन है। D, C की मां F का दामाद है। G, D की एकमात्र बेटी है। A, D से कैसे संबंधित है?

Ans

✗ A. पति

✓ B. बेटा

✗ C. दामाद

✗ D. भतीजा/भांजा

Question ID : **897032577**
Status : **Answered**
Chosen Option : **2**

Q.3 निम्नलिखित में से कौन सा शब्द 'KH' शब्द से उसी तरह संबंधित है जैसे 'OT' शब्द 'RQ' शब्द से संबंधित है?

Ans

✗ A. JI

✗ B. HJ

✓ C. HK

✗ D. KL

Question ID : **897032580**
Status : **Answered**
Chosen Option : **1**

Q.4 यदि एक कोडिंग भाषा में 'NEURO' को ' JAQNK' लिखा जाता है, तो ' MATRIX' को उसी कोडिंग भाषा में कैसे लिखा जाएगा?

Ans

✗ A. HXQNFU

✗ B. OQUNCZ

✗ C. JWQNFT

✓ D. IWPNET

Question ID : **897032579**
Status : **Answered**
Chosen Option : **3**

Q.5 उस विकल्प का चयन करें जो प्रवाह के बीच संबंधों का सही प्रतिनिधित्व करता है।

डैफोडिल, गिलहरी, फूल

Ans

✗ A.

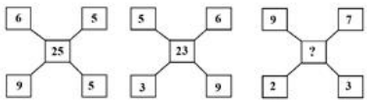
✗ B.

✓ C.

✗ D.

Question ID : **897032587**
Status : **Answered**
Chosen Option : **4**

Q.6 Select the option which can correctly replace the question mark (?) in the given figure.



Ans

✓ A. 21

✗ B. 18

✗ C. 30

✗ D. 25

Question ID : **897032571**
Status : **Answered**
Chosen Option : **1**

Q.7 A man goes towards East 10 km, then he takes a turn to North and goes 5 km. He then takes a turn towards West and goes 10 km. From there, he takes a turn and goes towards North 15 km. With respect to the point from where he started, in which direction is he now?

Ans

✗ A. West

✗ B. At the starting point

✗ C. South

✓ D. North

Question ID : **897032581**
Status : **Answered**
Chosen Option : **4**

Q.8 A, B, C, D, E और F एक ट्रेन में एक साथ यात्रा कर रहे हैं। D, E की माँ है। A, B का चचेरा/ममेरा/मौसेरा/फुफेरा भाई है। B, C की बहन है। C, D का पिता है। E, F का भाई है। C का संबंध F से कैसे है?

Ans

✓ A. दादा/नाना

✗ B. पिता

✗ C. चाचा/फुफा

✗ D. मामा/मौसा

Question ID : **897032575**
Status : **Answered**
Chosen Option : **1**

Q.9 Which number will correctly replace the question mark (?) in the third diagram?

Ans

✗ A. 8

✗ B. 6

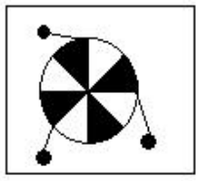
✗ C. 5

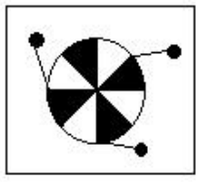
✓ D. 4

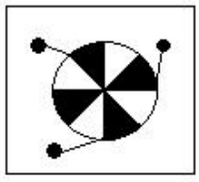
Question ID : **897032572**
Status : **Answered**
Chosen Option : **2**

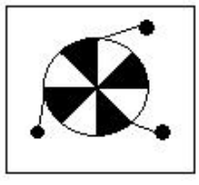
Q.10 Three of the following options are alike in certain manner. Select the option that is different from other three options.

Ans

✗ A. 

✓ B. 

✗ C. 

✗ D. 

Question ID : **897032590**
Status : **Answered**
Chosen Option : **4**

Q.11 A, B, C, D, E, F और G एक विज्ञान मेले में भाग ले रहे हैं। E, F का भाई है। C, D की माँ है। A, B की बेटी है। D, E की पत्नी है। B, C का पुत्र है। G, F का पति है। E, C से कैसे संबंधित है?

Ans

✗ A. भतीजा/भांजा

✓ B. दामाद

✗ C. पति

✗ D. बेटा

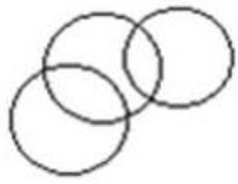
Question ID : **897032576**
Status : **Answered**
Chosen Option : **2**

Q.12 उस विकल्प का चयन करें जो निम्नलिखित के बीच संबंधों का सही प्रतिनिधित्व करता है।

पक्षी, मनुष्य और कीट

Ans

✗ A. 

✗ B. 

✗ C. 

✓ D. 

Question ID : **897032584**
Status : **Answered**
Chosen Option : **4**

Q.13 यदि एक कोडिंग भाषा में 'COURSE' को 'AMSOPB' लिखा जाता है, तो 'LETTER' को उसी कोडिंग भाषा में कैसे लिखा जाएगा?

Ans

✓ A. JCRQBO

✗ B. JCRRCJ

✗ C. JCRRCO

✗ D. JBRQCJ

Question ID : **897032578**
Status : **Answered**
Chosen Option : **1**

Q.14 Select the option that will replace the question mark (?) and complete the series correctly.

D48X, G24A, J12D, M6G, ?

Ans

✗ A. P3K

✗ B. Q3L

✗ C. O3J

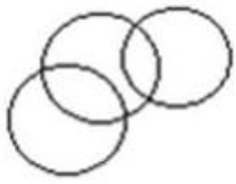
✓ D. P3J

Question ID : **897032574**
Status : **Answered**
Chosen Option : **4**

Q.15 उस विकल्प का चयन करें जो निम्नलिखित के बीच संबंधों का सही प्रतिनिधित्व करता है।

आहार विशेषज्ञ, पशु, स्ट्राबेरी

Ans

✗ A. 

✗ B. 

✗ C. 

✓ D. 

Question ID : **897032585**
Status : **Answered**
Chosen Option : **4**

Q.16 Identify the missing term in the given series.

F2Y, H7X, (?), O32V, T52U

Ans

✓ A. K17W

✗ B. M18W

✗ C. K22W

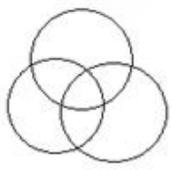
✗ D. L18V

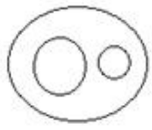
Question ID : **897032573**
Status : **Answered**
Chosen Option : **1**

Q.17 उस विकल्प का चयन करें जो निम्नलिखित के बीच संबंधों का सही प्रतिनिधित्व करता है।

डॉक्टर, व्यक्ति, शिशु

Ans

✗ A. 

✓ B. 

✗ C. 

✗ D. 

Question ID : **897032586**
Status : **Answered**
Chosen Option : **2**

Q.18 A girl runs 10 m towards East and turns to right, then she runs 5 m and turns to right, runs 8 m and turns to left, runs 4 m and then turns to left, runs 10 m and finally turns to left and runs 5 m. Now, which direction is the girl facing?

Ans

✓ A. North

✗ B. West

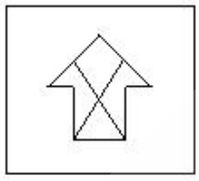
✗ C. East

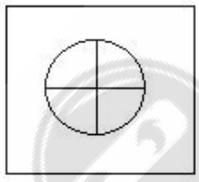
✗ D. South

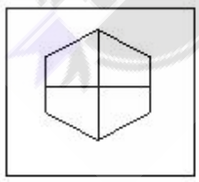
Question ID : **897032582**
Status : **Answered**
Chosen Option : **1**

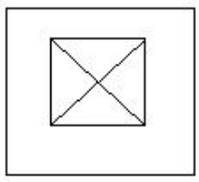
Q.19 Three of the following options are alike in certain manner. Select the option that is different from other three options.

Ans

✓ A. 

✗ B. 

✗ C. 

✗ D. 

Question ID : **897032589**
Status : **Answered**
Chosen Option : **1**

Q.20 A cat runs 30 m towards East and turns to right, then runs 10 m and turns to left, runs 10 m and then turns to right, runs 5 m. From there, it turns to right, runs 40 m and then turns to right, runs 15 m. With respect to the starting point, in which direction is it now?

Ans

✗ A. West

✓ B. At the starting point

✗ C. North

✗ D. South

Question ID : **897032583**
Status : **Answered**
Chosen Option : **4**

Section : **General Hindi**

Q.1 'जैसा चाहा, वैसा हो गया' - अर्थ प्रकट करने वाली लोकोक्ति चुनें।

Ans

✗ A. तबेले की बला बंदर के सिर

✗ B. थोथा चना बाजे घना

✗ C. खिसियानी बिल्ली खंभा नोचे

✓ D. बिल्ली के भागों छींका टूटा

Question ID : **897032595**
Status : **Answered**
Chosen Option : **1**

Q.2 निम्नलिखित में से कौन सा विलोम-युग्म सही नहीं है?

Ans

✗ A. कर्म-अकर्म

✗ B. कर्कश-मधुर

✗ C. कर्मण्य-अकर्मण्य

✓ D. कर्ता-धर्ता

Question ID : **897032591**
Status : **Answered**
Chosen Option : **4**

Q.3 'गोचर' शब्द के लिए सही वाक्यांश चुनिए।

Ans

✓ A. जिसका ज्ञान इंद्रियों द्वारा हो सके

✗ B. गायों को चराने का स्थान

✗ C. गाय से संबंधित

✗ D. जो गाय चराता हो

Question ID : **897032600**
Status : **Answered**

Chosen Option : **1**

Q.4 'जिसका कभी जन्म न हो'- वाक्यांश के लिए एक शब्द चुनिए।

Ans
✗ A. अज्ञ
✓ B. अजन्मा
✗ C. अजातशत्रु
✗ D. अजेय

Question ID : **897032599**
Status : **Answered**
Chosen Option : **2**

Q.5 निम्नलिखित में से कौन सा विकल्प 'सूर्य' का पर्यायवाची नहीं है?

Ans
✗ A. मार्तण्ड
✗ B. प्रभाकर
✗ C. दिवाकर
✓ D. विराट

Question ID : **897032592**
Status : **Answered**
Chosen Option : **4**

Q.6 'पावस ऋतु थी पर्वत प्रदेश,
पल पल परिवर्तित प्रकृति वेश।'

काव्य-पंक्ति में कौन-सा अलंकार है?

Ans
✓ A. अनुप्रास
✗ B. यमक
✗ C. श्लेष
✗ D. उपमा

Question ID : **897032596**
Status : **Answered**
Chosen Option : **3**

Q.7 'आसमान टूट पड़ना'- मुहावरे का अर्थ बताएँ।

Ans
✗ A. बहुत घमंडी होना
✓ B. अचानक विपत्ति आ पड़ना
✗ C. बहुत तारीफ करना

✗ D. बहुत हो-हल्ला मचाना

Question ID : **897032594**
Status : **Answered**
Chosen Option : **2**

Q.8 'कनक कनक ते सौ गुनी मादकता अधिकाय,
वा खाए बौराइ नर, या पाए बौराय।'

दोहे में प्रयुक्त 'कनक' शब्द में कौन सा अलंकार है?

Ans
✗ A. असंगति
✗ B. अत्युक्ति
✓ C. यमक
✗ D. श्लेष

Question ID : **897032597**
Status : **Answered**
Chosen Option : **3**

Q.9 जहाँ उपमेय को उपमान के रूप में दिखाया जाय, वहाँ _____ अलंकार होता है।

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

Question ID : **897032598**
Status : **Answered**
Chosen Option : **1**

Q.10 निम्नलिखित में से कौन सा सही विलोम-युग्म है?

Ans
✗ A. नीरस-नूतन
✗ B. न्याय-न्यायी
✓ C. नैसर्गिक-कृत्रिम
✗ D. निष्काम-निष्क्रिय

Question ID : **897032593**
Status : **Answered**
Chosen Option : **3**