Telangana State Council Higher Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	Electrical and Electronics Engineering 1st Aug 2022 Shift1
Subject Name :	Electrical and Electronics Engineering
Creation Date :	2022-08-01 13:15:00
Duration :	180
Total Marks :	200
Display Marks:	No
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No

Electrical and Electronics Engineering

Group Number :	1
Group Id :	81959961
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Mathematics

Section Id :	819599235
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	819599271
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 81959912031 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If p, q and r are 3 real numbers satisfying the matrix equation,

$$[p \quad q \quad r]\begin{bmatrix}3 & 4 & 1\\ 3 & 2 & 3\\ 2 & 0 & 2\end{bmatrix} = [3 \quad 0 \quad 1] \text{ then } 2p + q - r \text{ is equal to}$$

Options :

1. ✔ -3

2. ✖ -1

3. ✖ 4

4. ✖ 2

Question Number : 2 Question Id : 81959912032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(\alpha) = \begin{bmatrix}cos\alpha & sin\alpha\\ -sin\alpha & cos\alpha\end{bmatrix}$ then $f(\alpha)f(\beta) =$

Options :

1. ✖ $f(\alpha) - f(\beta)$

2. ✖ $f(\alpha) + f(\beta)$

3. ✖ $f(\alpha - \beta)$

4. ✔ $f(\alpha + \beta)$

Question Number : 3 Question Id : 81959912033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of "x" which satisfies the following equations $x + y + z = 9, 2x + 5y + 7z = 52$ and $2x + y - z = 0$ is

Options :

1. ✖ 0

2. ✔ 1

3. ✖ 2

4. ✖ 3

Question Number : 4 Question Id : 81959912034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The solutions of the equation $\begin{vmatrix} x & 2 & -1 \\ 2 & 5 & x \\ -1 & 2 & x \end{vmatrix} = 0$ are

Options :

1. ✔ $3, -1$

2. ✖ $-3, 1$

3. ✖ $3, 1$

4. ✖ $-3, -1$

Question Number : 5 Question Id : 81959912035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\frac{x+1}{(2x-a)(x+2)} = \frac{3}{2x-a} + \frac{b}{x+2} \text{ then } (a, b) =$$

Options :

1. ✖ $(1, 5)$

2. ✖ $(5,1)$

3. ✖ $(-5,1)$

4. ✔ $(-5, -1)$

Question Number : 6 Question Id : 81959912036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\text{If } \frac{x^2+x+1}{x^2+2x+1} = A + \frac{B}{(x+1)} + \frac{C}{(x+1)^2} \text{ then } A - B =$$

Options :

1. ✖ $4C$

2. ✖ $4C + 1$

3. ✔ $2C$

4. ✖ $3C$

Question Number : 7 Question Id : 81959912037 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Period of $4sin\left(\frac{x}{2}\right) + 5cos\left(\frac{x}{2}\right)$

Options :

1. ✖ π

2. ✖ 2π

3. ✖ 3π

4. ✔ 4π

Question Number : 8 Question Id : 81959912038 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $sinx = \frac{p-q}{p+q}$ then $tan\left(\frac{\pi}{4} - \frac{x}{2}\right) =$

Options :

1. ✔ $\sqrt{\frac{p}{q}}$

2. ✖ $\sqrt{pq}$

3. ✖ $\sqrt{\frac{q}{p}}$

4. ✖ 1

Question Number : 9 Question Id : 81959912039 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The numerical value of $tan\left[2tan^{-1}\left(\frac{1}{5}\right)-\frac{\pi}{4}\right]$ is

Options :

1. ✖ $\frac{7}{17}$

2. ✔ $\frac{-7}{17}$

3. ✖ $\frac{17}{7}$

4. ✖ $\frac{-17}{7}$

Question Number : 10 Question Id : 81959912040 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $tanx + cotx = \frac{4}{\sqrt{3}}$ then $x =$

Options :

1. ✔ $n\pi + \frac{\pi}{6}, \; n\pi + \frac{\pi}{3} \;\; n \in Z$

2. ✖ $2n\pi \pm \frac{\pi}{6}, \; 2n\pi \pm \frac{\pi}{3} \;\; n \in Z$

3. ✖ $n\pi + \frac{\pi}{6},\ n\pi - \frac{\pi}{3}\ \ n \in Z$

4. ✖ $n\pi + \frac{\pi}{4}, n \in Z$

Question Number : 11 Question Id : 81959912041 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If in a ΔABC, if $\frac{SinB}{SinC} = 2cosA$ then the triangle is

Options :

1. ✖ Equilateral triangle

2. ✖ Right angled triangle

3. ✔ Isosceles triangle

4. ✖ Scalene triangle

Question Number : 12 Question Id : 81959912042 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If z is a complex number such that $|z| = 4\ and\ \arg(z) = \frac{5\pi}{6}$ then $z =$

Options :

1. ✖ $2\sqrt{3} + 2i$

2. ✔ $-2\sqrt{3} + 2i$

3. ✖ $2\sqrt{3} - 2i$

4. ✖ $-\sqrt{3} + i$

Question Number : 13 Question Id : 81959912043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The angle between the lines $kx + y + 9 = 0$ and $y - 3x = 4$ is 45^0, then the value of "k" is

Options :

1. ✖ $2 \text{ or } \frac{1}{2}$

2. ✔ $2 \text{ or } -\frac{1}{2}$

3. ✖ $-2 \text{ or } \frac{1}{2}$

4. ✖ $-2 \text{ or } -\frac{1}{2}$

Question Number : 14 Question Id : 81959912044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the two lines $2x - 3y = 5$ and $3x - 4y = 7$ are two diameters of a circle of radius 7, then the equation of the circle is

Options :

1. ✖ $x^2 + y^2 + 2x - 4y - 47 = 0$

2. ✖ $x^2 + y^2 = 49$

3. ✔ $x^2 + y^2 - 2x + 2y - 47 = 0$

4. ✖ $x^2 + y^2 = 17$

Question Number : 15 Question Id : 81959912045 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The parabola $(y+1)^2 = a(x-2)$ passes through the point (-1,2). The equation of its directrix is

Options :

1. ✖ $4x + 5 = 0$

2. ✔ $4x - 5 = 0$

3. ✖ $4x + 9 = 0$

4. ✖ $4x - 9 = 0$

Question Number : 16 Question Id : 81959912046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$P(3,2)$ is a point on the ellipse $\frac{x^2}{18} + \frac{y^2}{8} = 1$ whose foci are S and S'. The sum of the distances from S and S' to the point $P(3,2)$ is _____units

Options :

1. ✖ $3\sqrt{2}$

2. ✖ $2\sqrt{3}$

3. ✖ $4\sqrt{3}$

4. ✔ $6\sqrt{2}$

Question Number : 17 Question Id : 81959912047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a Hyperbola the transverse and conjugate axes are in the ratio 3:4. The eccentricity of the hyperbola is

Options :

1. ✖ $\frac{4}{3}$

2. ✖ $\frac{3}{2}$

3. ✖ $\frac{5}{4}$

4. ✔ $\frac{5}{3}$

Question Number : 18 Question Id : 81959912048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \to a} \frac{xe^{-x} - ae^{-a}}{x - a} =$$

Options :

1. ✖ e^{-a}

2. ✖ ae^{-a}

3. ✔ $(1-a)e^{-a}$

4. ✖ $(1+a)e^{-a}$

Question Number : 19 Question Id : 81959912049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $y = tan^{-1}\left(\frac{ax-b}{bx+a}\right)$ then $\frac{dy}{dx} =$

Options :

1. ✔ $\frac{1}{1+x^2}$

2. ✖ $\frac{1}{x^2-1}$

3. ✖ $\frac{1}{1-x^2}$

4. ✖ $\frac{-1}{1+x^2}$

Question Number : 20 Question Id : 81959912050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $y = \left(\frac{1}{x}\right)^x$ then $y''(1) =$

Options :

1. ✖ e

2. ✖ 1

3. ✖ -1

4. ✔ 0

Question Number : 21 Question Id : 81959912051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $u = cos^{-1}\left[\frac{x^3+y^3}{xy}\right]$, then $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} =$

Options :

1. ✖ $cotu$

2. ✖ $\frac{1}{2}tanu$

3. ✖ $-\frac{1}{2}tanu$

4. ✔ $-cotu$

Question Number : 22 Question Id : 81959912052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The length of tangent at $\sqrt{x} + \sqrt{y} = 5$ at (9,4) is

Options :

1. ✔ $2\sqrt{13}$

2. ✖ $\sqrt{13}$

3. ✖ $4\sqrt{13}$

4. ✖ $5\sqrt{13}$

Question Number : 23 Question Id : 81959912053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the displacement in time "t" of a particle is given by $s = ae^t + be^{-t}$, then the acceleration is equal to

Options :

1. ✖ Velocity

2. ✔ Displacement

3. ✖ Initial velocity

4. ✖ Negative of velocity

Question Number : 24 Question Id : 81959912054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Minimum value of $\frac{1-x+x^2}{1+x+x^2}$

Options :

1. ✖ 1

2. ✖ 3

3. ✔ $\frac{1}{3}$

4. ✖ -3

Question Number : 25 Question Id : 81959912055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The approximate value of $(1.0002)^{3000}$ is

Options :

1. ✔ 1.6

2. ✖ 1.4

3. ✖ 1.2

4. ✖ 1.8

Question Number : 26 Question Id : 81959912056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int \frac{dx}{(x+100)\sqrt{x+99}}$

Options :

1. ✖ $2(x+100)^{1/2}+C$

2. ✖ $3(x+100)^{1/2}+C$

3. ✖ $2tan^{-1}\left(\sqrt{x+100}\right)+C$

4. ✔ $2tan^{-1}\left(\sqrt{x+99}\right)+C$

Question Number : 27 Question Id : 81959912057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int_0^1 \frac{1-x^2}{1+x^2}\,dx$

Options :

1. ✖ $\frac{\pi}{4} - 1$

2. ✖ $\frac{\pi}{4} + 1$

3. ✔ $\frac{\pi}{2} - 1$

4. ✖ $\frac{\pi}{4}$

Question Number : 28 Question Id : 81959912058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The area of the region enclosed by the curve $y = xsinx$ and the x- axis between $x = 0$ and $x = 2\pi$ is _____ sq. units

Options :

1. ✔ 2π

2. ✖ 3π

3. ✖ 4π

4. ✖ $\frac{3\pi}{4}$

Question Number : 29 Question Id : 81959912059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The volume generated by the rotation of the area bounded by the curve $y = e^x sinx$, the x- axis and the lines $x = 0$, $x = \pi$ about x-axis is ___ cu. units

Options :

1. ✖ $\frac{\pi}{6}(e^{2\pi}-1)$

2. ✔ $\frac{\pi}{8}(e^{2\pi}-1)$

3. ✖ $\frac{\pi}{8}(e^{\pi}-1)$

4. ✖ $\frac{\pi}{8}(e^{2\pi}+1)$

Question Number : 30 Question Id : 81959912060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Mean Value of the function $f(x)=\frac{2}{e^x+1}$ on the interval [0,2] is

Options :

1. ✖ $log\left(\frac{2}{e^2+1}\right)$

2. ✖ $1+log\left(\frac{2}{e^2+1}\right)$

3. ✔ $2+log\left(\frac{2}{e^2+1}\right)$

4. ✖ $2+log(e^2+1)$

Question Number : 31 Question Id : 81959912061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Values of abscissa (x) and ordinates (y) of a curve are as follows

x	2.0	2.5	3.0	3.5	4.0
y	5.00	7.25	10.00	13.25	17.00

then the area under the curve (round off to two decimal places) is

Options :

1. ✖ 20.45

2. ✖ 20.47

3. ✔ 20.67

4. ✖ 20.57

Question Number : 32 Question Id : 81959912062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The order and degree of the differential equation $\frac{d^2y}{dx^2} = \left(1 + \left(\frac{dy}{dx}\right)^2\right)^{\frac{1}{3}}$ is

Options :

1. ✖ 1, 6

2. ✔ 2, 3

3. ✖ 2, 2

4. ✖ 3,2

Question Number : 33 Question Id : 81959912063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$x = a\sin(\omega t + b)$ is a solution of

Options :

1. ✖ $\frac{dx}{dt} + \omega x = 0$

2. ✖ $\frac{d^2x}{dt^2} - \omega^2 x = 0$

3. ✔ $\frac{d^2x}{dt^2} + \omega^2 x = 0$

4. ✖ $\frac{dx}{dt} - \omega x = 0$

Question Number : 34 Question Id : 81959912064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation $y - x\frac{dy}{dx} = a\left(y^2 + \frac{dy}{dx}\right)$ is

Options :

1. ✖ $y = k(a + x)(ay - 1)$

2. ✔ $y = k(a + x)(1 - ay)$

3. ✖ $y = k(ax + 1)(y - 1)$

4. ✖ $y = k(ax - 1)(y^2 - 1)$

Question Number : 35 Question Id : 81959912065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation $\frac{dy}{dx} = x^3 - 2xy$ satisfying the condition $y(1) = 2$ is

Options :

1. ✖ $x^2 + 2y + 1 = 4e^{1-x^2}$

2. ✖ $2y - x^2 + 1 = 4e^{1+x^2}$

3. ✔ $2y - x^2 + 1 = 4e^{1-x^2}$

4. ✖ $x^2 - 2y + 1 = 4e^{1-x^2}$

Question Number : 36 Question Id : 81959912066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Solution of $\frac{d^3y}{dx^3} + 3\frac{d^2y}{dx^2} - 4y = 0$ is

Options :

1. ✖ $y = C_1e^{-x} + (C_2 + C_3x)e^{2x}$

2. ✔ $y = C_1e^{x} + (C_2 + C_3x)e^{-2x}$

3. ✖ $y = C_1e^{x} + C_2e^{-x} + C_3e^{2x}$

4. ✖ $y = C_1e^{-x} + e^{2x}(C_2cos2x + C_3sin2x)$

Question Number : 37 Question Id : 81959912067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The particular integral of $\frac{d^2y}{dx^2} - 3\frac{dy}{dx} + 2y = (e^x + 1)^2$ is

Options :

1. ✔ $xe^{2x} - 2xe^{x} + \frac{1}{2}$

2. ✖ $xe^{2x} - 2xe^{x} - 1$

3. ✖ $xe^{2x} + 2xe^{x} + 1$

4. ✖ $xe^{2x} - 2xe^{x} - \frac{1}{2}$

Question Number : 38 Question Id : 81959912068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Particular Integral of $\frac{d^3y}{dx^3} + 2\frac{d^2y}{dx^2} + \frac{dy}{dx} = sin2x$ is

Options :

1. ✖ $\frac{1}{50}(3\cos 2x + 4\sin 2x)$

2. ✖ $\frac{1}{50}(3\cos 2x + 2\sin 2x)$

3. ✔ $\frac{1}{50}(3\cos 2x - 4\sin 2x)$

4. ✖ $\frac{1}{50}(3\cos 2x + 2\sin 2x)$

Question Number : 39 Question Id : 81959912069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Particular Integral of $\frac{d^2y}{dx^2} - y = x^2$ is

Options :

1. ✔ $-(x^2+2)$

2. ✖ x^2-2

3. ✖ (x^2+2)

4. ✖ $2-x^2$

Question Number : 40 Question Id : 81959912070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L\{(e^{3t}-e^{-3t})^2\} =$

Options :

1. ✖ $\frac{2s}{s^2-36}+\frac{2}{s}$

2. ✖ $\frac{s}{s^2-36}-\frac{1}{s}$

3. ✔ $\frac{2s}{s^2-36}-\frac{2}{s}$

4. ✖ $\frac{s}{s^2-36}+\frac{1}{s}$

Question Number : 41 Question Id : 81959912071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is FALSE

Options :

1. ✖ $L\{te^t\}=\frac{1}{(s-1)^2}$

2. ✖ If $L\{f(t)\} = F(s)$ then $L\{f(at)\} = \frac{1}{a}F\left(\frac{s}{a}\right)$

3. ✔ If $L\{f(t)\} = F(s)$ then $L\{e^{at}f(t)\} = F(s+a)$

4. ✖ If $L\{f(t)\} = F(s)$ then $L\{f(t-T)\} = e^{-st}F(s)$

Question Number : 42 Question Id : 81959912072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L\{te^{-t}sin3t\} =$

Options :

1. ✖ $\frac{6s}{s^2+2s+10}$

2. ✔ $\frac{6(s+1)}{(s^2+2s+10)^2}$

3. ✖ $\frac{6(s-1)}{s^2+2s+10}$

4. ✖ $\frac{6(s-1)}{(s^2+2s+10)^2}$

Question Number : 43 Question Id : 81959912073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L\left\{\frac{cos2t-cos3t}{t}\right\} =$

Options :

1. ✖ $\sqrt{log\left(\frac{s^2+9}{s^2+4}\right)}$

2. ✖ $e^{\frac{s^2+9}{s^2+4}}$

3. ✖ $log\left(\frac{s^2+9}{s^2+4}\right)$

4. ✔ $log\sqrt{\frac{s^2+4}{s^2+9}}$

Question Number : 44 Question Id : 81959912074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L^{-1}\left\{\frac{2s+3}{s^2+2s+2}\right\} =$

Options :

1. ✖ $e^{-t}(2cost + sint)$

2. ✖ $e^{-t}(2sint + cost)$

3. ✔ $e^{t}(2cost + sint)$

4. ✖ $e^{t}(2sint + cost)$

Question Number : 45 Question Id : 81959912075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L^{-1}\left\{\frac{1}{(s+1)(s^2+2s+2)}\right\} =$

Options :

1. ✖ $e^{t}(1 + cost)$

2. ✖ $e^{t}(1-\cos t)$

3. ✖ $e^{-t}(1+\cos t)$

4. ✔ $e^{-t}(1-\cos t)$

Question Number : 46 Question Id : 81959912076 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Consider the Differential equation $\frac{d^2y}{dt^2}+2\frac{dy}{dt}+y(t)=0$ with $y(0)=-2$ and $y'(0)=0$. The Laplace transform of $y(t)$ *is*

Options :

1. ✔ $\frac{-2(2+s)}{(s+1)^2}$

2. ✖ $\frac{2(2+s)}{(s+1)^2}$

3. ✖ $\frac{(2+s)}{(s+1)^2}$

4. ✖ $\frac{-(3+2s)}{(s+1)^2}$

Question Number : 47 Question Id : 81959912077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Fourier series expansion of $f(x)=|x|$ over $(-\pi,\pi)$, the value of Fourier coefficient $a_1=$

Options :

1. ✖ $\frac{2}{\pi}$

2. ✖ $\frac{4}{\pi}$

3. ✖ $-\frac{2}{\pi}$

4. ✔ $-\frac{4}{\pi}$

Question Number : 48 Question Id : 81959912078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(x) = xsinx, 0 < x < 2\pi$ and Fourier series of $f(x)$ is given by $f(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty}(a_n cosnx + b_n sinnx)$ then $b_1 =$

Options :

1. ✖ 1

2. ✖ 0

3. ✖ -1

4. ✔ π

Question Number : 49 Question Id : 81959912079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(x) = \begin{cases} x, \ when\ 0 < x < \frac{\pi}{2} \\ \pi - x, \ when \frac{\pi}{2} < x < \pi \end{cases}$ and the Fourier Series expansion of $f(x)$ is given by $f(x) = \sum_{n=1}^{\infty} b_n sinnx$ then the value of $b_2 =$

Options :

1. ✖ π

2. ✔ 0

3. ✖ $-\pi$

4. ✖ -1

Question Number : 50 Question Id : 81959912080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(x) = e^{-x}$ then the value of "a_0" in the Fourier series expansion of $f(x)$ in the interval $(-1, 1)$

Options :

1. ✔ $\frac{e^2-1}{e}$

2. ✖ $\frac{e^2+1}{e}$

3. ✖ $\frac{1-e^2}{e}$

4. ✖ $\frac{1}{e}$

Physics

Section Id :	819599236
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Sub-Section Number : 1
Sub-Section Id : 819599272
Question Shuffling Allowed : Yes

Question Number : 51 Question Id : 81959912081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The quantity which has the same dimensional formula as that of linear momentum is

Options :

1. ✖ Pressure

2. ✖ Linear acceleration

3. ✔ Impulse

4. ✖ Gravitational constant

Question Number : 52 Question Id : 81959912082 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The temperature at which the electrical resistance of mercury drops to zero is

Options :

1. ✖ 11.2 K

2. ✖ 7.2 K

3. ✔ 4.2 K

4. ✖ 0 K

Question Number : 53 Question Id : 81959912083 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Pick the correct answer from the following two statements on photoelectric effect

(a) Threshold frequency varies from metal to metal

(b) Work function is constant for all metals

Options :

1. ✔ Only (a) is true

2. ✖ Only (b) is true

3. ✖ Both (a) & (b) are true

4. ✖ Both (a) & (b) are false

Question Number : 54 Question Id : 81959912084 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A graph between the temperature (on x-axis) and the pressure (on y-axis) for the given mass of an ideal gas at constant volume gives a straight line intercepts x-axis at

Options :

1. ✖ 0 °C

2. ✖ 273.15 °C

3. ✔ -273.15 °C

4. ✖ 546.3 °C

Question Number : 55 Question Id : 81959912085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A heat energy of 1400 J is given to an ideal gas at constant pressure and the workdone in expansion of its volume is 800 J. The increase in internal energy is

Options :

1. ✖ 2200 J

2. ✔ 600 J

3. ✖ 200 J

4. ✖ 3000 J

Question Number : 56 Question Id : 81959912086 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The angle made by the vector $(\mathbf{i} + \mathbf{j})$ with x-axis is

Options :

1. ✖ 0°

2. ✖ 30°

3. ✔ 45°

4. ✖ 90°

Question Number : 57 Question Id : 81959912087 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two forces 20 N and 40 N act simultaneously at a point with an angle of 60° between them. The direction of their resultant is given by

Options :

1. ✔ $Tan^{-1}\left[\frac{\sqrt{3}}{2}\right]$

2. ✖ $Tan^{-1}\left[\frac{2}{\sqrt{3}}\right]$

3. ✖ $Tan^{-1}\left[\frac{\sqrt{3}}{4}\right]$

4. ✖ $Tan^{-1}\left[\frac{2\sqrt{3}}{3}\right]$

Question Number : 58 Question Id : 81959912088 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The dot product of force and velocity represents

Options :

1. ✖ Acceleration

2. ✖ Workdone

3. ✖ Momentum

4. ✔ Power

Question Number : 59 Question Id : 81959912089 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A bullet fired from a gun travels maximum horizontal range of 40m. With what velocity bullet is projected initially. ($g = 10\ m/s^2$, neglect air resistance)

Options :

1. ✔ 20 m/s

2. ✖ 4 m/s

3. ✖ 8 m/s

4. ✖ 160 m/s

Question Number : 60 Question Id : 81959912090 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A bomb is dropped from an aeroplane flying horizontally with constant velocity at some height from the ground. The path of the bomb is like

Options :

1. ✔ Parabola

2. ✖ Hyperbola

3. ✖ Circle

4. ✖ Ellipse

Question Number : 61 Question Id : 81959912091 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A body is projected into the air with a velocity of 19.6 m/s at an angle of 30° to the horizontal. The time during which the body remains in air is (neglect air resistance)

Options :

1. ✖ 0.5 s

2. ✖ 1 s

3. ✔ 2 s

4. ✖ 9.8 s

Question Number : 62 Question Id : 81959912092 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A body of mass m is sliding down on a rough inclined plane of 'θ' angle of inclination. The normal reaction acting on the body is balanced by which component of weight

Options :

1. ✖ mg(sinθ-cosθ)

2. ✖ mg(sinθ+cosθ)

3. ✖ mgsinθ

4. ✔ mgcosθ

Question Number : 63 Question Id : 81959912093 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A body of mass m dropped freely from a height of 'y' from the ground. After travelling a distance of 'x' downwards, its kinetic energy becomes (neglect air resistance)

Options :

1. ✖ mgy

2. ✔ mgx

3. ✖ mg(y-x)

4. ✖ 0

Question Number : 64 Question Id : 81959912094 Question Type : MCQ Option Shuffling : Yes Display

Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The workdone in lifting 6 cement bags each of mass 25 kg to the top of a building of height 10 m is ($g=10\ m/s^2$)

Options :

1. ✖ 2500 J

2. ✖ 600 J

3. ✔ 15000 J

4. ✖ 150 J

Question Number : 65 Question Id : 81959912095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Pick the correct statement for a body falling freely in air

Options :

1. ✖ Its potential energy increases, kinetic energy decreases

2. ✔ Its potential energy decreases, kinetic energy increases

3. ✖ Its potential energy remains constant, kinetic energy increases

4. ✖ Its kinetic energy remains constant, potential energy increases

Question Number : 66 Question Id : 81959912096 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The displacement of a particle executing simple harmonic motion is given by $y = 4\,Sin\,(\pi t + \frac{\pi}{4})$ where y is in metre and t is in second. The frequency of oscillation is

Options :

1. ✔ 0.5 Hz

2. ✖ 1 Hz

3. ✖ 2 Hz

4. ✖ 3.14 Hz

Question Number : 67 Question Id : 81959912097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If 'l' and 'T' are the length and time period of oscillations of a simple pendulum at a given place respectively then

Options :

1. ✖ $l \propto \frac{1}{T}$

2. ✖ $l \propto \frac{l}{T^2}$

3. ✖ $l \propto \sqrt{T}$

4. ✔ $l \propto T^2$

Question Number : 68 Question Id : 81959912098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The principle of sound used in the detection of dangerous gases in mines is

Options :

1. ✖ Echo

2. ✔ Beats

3. ✖ Reverberation

4. ✖ Doppler effect

Question Number : 69 Question Id : 81959912099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A person hears an echo of his own voice in 1 s from a distant hill. If the velocity of sound in air is 340 m/s, the distance between the person and the hill is

Options :

1. ✔ 170 m

2. ✖ 340 m

3. ✖ 510 m

4. ✖ 85 m

Question Number : 70 Question Id : 81959912100 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

S.I unit of the Young's modulus of the material of a wire is

Options :

1. ✖ Joule

2. ✖ Dyne

3. ✖ kg/m^3

4. ✔ Pascal

Question Number : 71 Question Id : 81959912101 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If 'd' is the density of liquid which rises to a height of 'h' in a capillary tube of radius 'r' (r « h) and 'θ' is the angle of contact then the surface tension of the liquid is given by

Options :

1. ✖ $\frac{hrdg}{2sin\theta}$

2. ✔ $\frac{hrdg}{2cos\theta}$

3. ✖ $\frac{hrd}{2gsin\theta}$

4. ✖ $\frac{hrdg}{sin\theta}$

Question Number : 72 Question Id : 81959912102 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The resistance of the material of a wire is 5 Ω. The resistance of another wire of same material having double length and half the radius is

Options :

1. ✔ 40 Ω

2. ✖ 0.4 Ω

3. ✖ $5\ \Omega$

4. ✖ $10\ \Omega$

Question Number : 73 Question Id : 81959912103 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two currents 3 mA and 4.5 mA are flowing towards the junction in a circuit and three currents 1 mA, 4 mA and 'x' are flowing away. The value of 'x' (in mA) is

Options :

1. ✖ 12.5

2. ✖ 5

3. ✔ 2.5

4. ✖ 1.5

Question Number : 74 Question Id : 81959912104 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The force between two magnetic poles separated in air is 4×10^{-6} N. If the distance between them is doubled then the force becomes

Options :

1. ✖ 16×10^{-6} N

2. ✖ 16×10^{-12} N

3. ✖ 2×10^{-6} N

4. ✔ 10^{-6} N

Question Number : 75 Question Id : 81959912105 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The magnetic moment of a bar magnet of pole strength 50 A-m is 5 A-m^2. The length of the bar magnet is

Options :

1. ✖ 0.05 m

2. ✔ 0.1 m

3. ✖ 0.25 m

4. ✖ 0.4 m

Chemistry

Section Id :	819599237
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	819599273
Question Shuffling Allowed :	Yes

Question Number : 76 Question Id : 81959912106 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of unpaired electrons present in Cl atom

Options :

1. ✖ Four

2. ✖ Three

3. ✖ Two

4. ✔ One

Question Number : 77 Question Id : 81959912107 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Stark effect is

Options :

1. ✖ Splitting of Spectral lines in Magnetic field

2. ✔ Splitting of Spectral lines in Electric field

3. ✖ Splitting of Spectral lines in Magnetic and Electric fields

4. ✖ Spectral lines do not split in Magnetic and Electric fields

Question Number : 78 Question Id : 81959912108 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An Element A with Atomic number 12 combines with an Element **B** of Atomic number 8. Then the Compound formed is

Options :

1. ✔ Ionic **AB**

2. ✖ Covalent **AB**

3. ✖ Covalent A_2

4. ✖ Ionic A_2B

Question Number : 79 Question Id : 81959912109 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of moles of solute present in 1000ml of 0.2M solution are

Options :

1. ✖ 0.1 mole

2. ✔ 0.2 mole

3. ✖ 0.4 mole

4. ✖ 0.5 mole

Question Number : 80 Question Id : 81959912110 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is true for milk colloid system

Options :

1. ✔ Dispersed phase is Fat Globules

2. ✖ Dispersion medium is Fat Globules

3. ✖ Dispersed phase is Water

4. ✖ Dispersion medium is Milk

Question Number : 81 Question Id : 81959912111 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

5.6 g of KOH are dissolved in 1Litre of Water. The P^H of the solution is

Options :

1. ✖ 1

2. ✔ 13

3. ✖ 14

4. ✖ 2

Question Number : 82 Question Id : 81959912112 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Among the following which is not Lewis Base

Options :

1. ✖ C_2H_2

2. ✔ BF_3

3. ✖ H_2O

4. ✖ OH^-

Question Number : 83 Question Id : 81959912113 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Composition of German Silver is

Options :

1. ✖ Ni ,Fe,Cr

2. ✔ Cu,Zn,Ni

3. ✖ Cu,Zn

4. ✖ Al,Cu,Mg

Question Number : 84 Question Id : 81959912114 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The method which is not used for Concentration of Ore

Options :

1. ✖ Hand picking

2. ✖ Froth floatation

3. ✖ Electromagnetic separation

4. ✔ Smelting

Question Number : 85 Question Id : 81959912115 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The mass of a substance deposited by passing 1Coulomb of elecricity is

Options :

1. ✖ Atomic weight

2. ✖ Molecular weight

3. ✔ Electrochemical equivalent

4. ✖ Equivalent weight

Question Number : 86 Question Id : 81959912116 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

When the same quantity of electricity is passed through an aqueous solution of $AgNO_3$ and $CuSO_4$. Solution connected in a series. The amount of Ag deposited is 1.08 g, the amount of Cu deposited is

Options :

1. ✖ 3.175 g

2. ✖ 63.5 g

3. ✖ 0.635 g

4. ✔ 0.3175 g

Question Number : 87 Question Id : 81959912117 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

In a Galvanic cell

Options :

1. ✖ Electrical energy is converted into Chemical energy

2. ✖ Mechanical energy is converted into Electrical energy

3. ✔ Chemical energy is converted into Electrical energy

4. ✖ Chemical energy is converted into Mechanical energy

Question Number : 88 Question Id : 81959912118 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Among the following which is not a secondary battery

Options :

1. ✖ Lithium- ion battery

2. ✖ Lead Storage battery

3. ✖ Ni-Cd battery

4. ✔ Leclanche battery

Question Number : 89 Question Id : 81959912119 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Among the following metals, which easily undergoes corrosion is

Options :

1. ✖ Au

2. ✔ Na

3. ✖ Cu

4. ✖ Pt

Question Number : 90 Question Id : 81959912120 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is an example for Cathodic Coating

Options :

1. ✖ Zn coating on Fe

2. ✖ Al coating on Fe

3. ✖ Ba coating on Fe

4. ✔ Sn coating Fe

Question Number : 91 Question Id : 81959912121 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

When the Hard Water is boiled, the precipitate formed is

Options :

1. ✖ $MgSO_4$

2. ✖ $MgCl_2$

3. ✖ $Ca(HCO_3)_2$

4. ✔ $CaCO_3$

Question Number : 92 Question Id : 81959912122 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Chemical Formula of Zeolite is

Options :

1. ✖ $K\ Al\ Si_3O_8$

2. ✔ $Na_2Al_2Si_2O_8.xH_2O$

3. ✖ $Al_2O_3.2H_2O$

4. ✖ $K_2O\ Al_2O_3\ 6SiO_2\ 2H_2O$

Question Number : 93 Question Id : 81959912123 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is an odd compound

Options :

1. ✔ Buna-S

2. ✖ Polystyrene

3. ✖ PVC

4. ✖ Teflon

Question Number : 94 Question Id : 81959912124 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The configuration at every double bond in Natural Rubber is

Options :

1. ✖ Octet

2. ✔ Cis

3. ✖ Trans

4. ✖ Sextet

Question Number : 95 Question Id : 81959912125 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Blue gas mainly contains

Options :

1. ✔ CO, H_2

2. ✖ CH_4, H_2

3. ✖ CH_4, CO_2

4. ✖ CO, N_2

Question Number : 96 Question Id : 81959912126 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

How many grams of O_2 is required for combustion of 16 grams of methane (CH_4)

Options :

1. ✖ 32 g

2. ✔ 64 g

3. ✖ 16 g

4. ✖ 8g

Question Number : 97 Question Id : 81959912127 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Ozone layer depletion is due to

Options :

1. ✖ SO_2

2. ✖ CO_2

3. ✔ CFC

4. ✖ H_2

Question Number : 98 Question Id : 81959912128 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Hyacinth is useful in reduction of

Options :

1. ✖ Air pollution

2. ✖ Ozone layer depletion

3. ✖ Global warming

4. ✔ Water pollution

Question Number : 99 Question Id : 81959912129 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The parameter used to indicate the Water pollution is

Options :

1. ✔ BOD

2. ✖ Contaminant

3. ✖ pollutant

4. ✖ TLV

Question Number : 100 Question Id : 81959912130 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is Non-Renewable energy source

Options :

1. ✔ Coal

2. ✖ Wind energy

3. ✖ Solar energy

4. ✖ Tidal energy

Electrical and Electronics Engineering

Section Id :	819599238
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	819599274
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 81959912131 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

One kilo-watt-hour is equal to

Options :

1. ✖ 4200 k.calories

2. ✖ 820 k.calories

3. ✖ 4180 k.calories

4. ✔ 860 k.calories

Question Number : 102 Question Id : 81959912132 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A voltage of 100 V is applied to a circuit of resistance of 10 ohms, the power dissipated by the resistance is

Options :

1. ✖ 100 watts

2. ✔ 1000 watts

3. ✖ 1500 watts

4. ✖ 500 watts

Question Number : 103 Question Id : 81959912133 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The B/H curve can be used to determine?

Options :

1. ✔ Hysteresis loss

2. ✖ Iron loss

3. ✖ Voltage loss

4. ✖ Windage loss

Question Number : 104 Question Id : 81959912134 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the diameter of a copper wire is doubled, it's current carrying capacity becomes

Options :

1. ✔ four times

2. ✖ double

3. ✖ one fourth

4. ✖ one half

Question Number : 105 Question Id : 81959912135 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Cells are connected in series to

Options :

Increase the Current rating

1. ✖

2. ✔ Increase Voltage rating

3. ✖ Decrease Current Rating

4. ✖ Decrease Voltage Rating

Question Number : 106 Question Id : 81959912136 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two electric bulbs of 100 watts and 40 watts are connected in series. Which one of them will be brighter

Options :

1. ✖ Both of them are brighter

2. ✖ 100 watt bulb

3. ✔ 40 watt bulb

4. ✖ None of them will glow

Question Number : 107 Question Id : 81959912137 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During Di-electric break down of a capacitor

Options :

1. ✖ Electrons cease to move from one plate to another

2. ✔ Permanent conducting path is established between plates

3. ✖ Electrons get scattered

4. ✖ Capacitor voltage will increase

Question Number : 108 Question Id : 81959912138 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Nichrome is an alloy of

Options :

1. ✖ Nickle, Chromium, Aluminium

2. ✖ Nickle, Chromium, Copper

3. ✖ Nickle, Chromium, Boron

4. ✔ Nickle, Chromium, Manganese

Question Number : 109 Question Id : 81959912139 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following instruments is free from hysteresis and eddy current loss errors

Options :

1. ✖ Moving Iron instrument

2. ✖ PMMC type instrument

3. ✔ Electrostatic instrument

4. ✖ Dynamometer type instrument

Question Number : 110 Question Id : 81959912140 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Schering bridge is used to measure

Options :

1. ✖ Resistance

2. ✖ Frequency

3. ✖ Input Voltage

4. ✔ Capacitance

Question Number : 111 Question Id : 81959912141 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two milli ammeters, with full scale current of 1mA and 10mA are connected in parallel and they read 0.5mA and 2.5mA respectively. Their internal resistances are in the ratio of

Options :

1. ✖ 1 : 10

2. ✖ 10 : 1

3. ✖ 1 : 5

4. ✔ 5 : 1

Question Number : 112 Question Id : 81959912142 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Generally, in a measuring instrument, the error when reading at half scale is

Options :

1. ✖ less than the error at full scale reading

2. ✖ equal to the error at full scale reading

3. ✔ greater than the error at full scale reading

4. ✖ equal to the error at quarter scale reading

Question Number : 113 Question Id : 81959912143 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following meters cannot measure both DC as well as AC

Options :

1. ✖ Moving –Iron meter

2. ✖ Dynamometer

3. ✖ Thermo couple meter

4. ✔ Induction type meter

Question Number : 114 Question Id : 81959912144 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The instrument which gives the value of the quantity to be measured in terms of the constants of the instrument and their direction only, are known as

Options :

1. ✔ Absolute Instruments

2. ✖ Recording Instruments

3. ✖ Integrating Instruments

4. ✖ Secondary Instruments

Question Number : 115 Question Id : 81959912145 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

While measuring power in a 3-phase load by two watt meter method, the reading of the two watt meters will be equal and opposite when the load is

Options :

1. ✖ purely Resistive

2. ✖ balanced

3. ✔ purely inductive

4. ✖ not balanced

Question Number : 116 Question Id : 81959912146 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A Shunt Generator running at 1000 rpm has generated e.m.f of 200 V. If the speed increases to 1200 rpm, the generated e.m.f will be

Options :

1. ✖ 150 V

2. ✔ 240 V

3. ✖ 290 V

4. ✖ 200 V

Question Number : 117 Question Id : 81959912147 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A 4 pole DC machine has ___ magnetic circuits

Options :

1. ✔ 4

2. ✖ 8

3. ✖ 16

4. ✖ 2

Question Number : 118 Question Id : 81959912148 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

In a shunt motor, $R_a = 0.4$ ohms, back e.m.f = 210V and supply voltage is 220V.

Then Armature current is

Options :

1. ✖ 50 A

2. ✔ 25 A

3. ✖ 4 A

4. ✖ 40 A

Question Number : 119 Question Id : 81959912149 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

A 230 V d.c series motor is connected to 230 V a.c, it will

Options :

1. ✖ run slowly

2. ✖ not run

3. ✖ burn

4. ✔ run with less efficiency

Question Number : 120 Question Id : 81959912150 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The type of DC generator used for arc welding purpose is a

Options :

1. ✖ Shunt generator

2. ✔ Differentially compounded generator

3. ✖ Cumulatively compounded generator

4. ✖ Series generator

Question Number : 121 Question Id : 81959912151 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Poles are made of laminated core, because it reduces the

Options :

1. ✔ eddy current losses

2. ✖ copper losses

3. ✖ friction losses

4. ✖ hysteresis losses

Question Number : 122 Question Id : 81959912152 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Two D.C series motors connected with their armature windings in series to a common supply are driving the same mechanical load. If the motors are now connected in parallel, the speed becomes

Options :

1. ✖ slightly less than the double

2. ✖ slightly less than half

3. ✔ slightly more than double

4. ✖ slightly more than half

Question Number : 123 Question Id : 81959912153 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A 3-phase 4-wire system supplies to a balanced star load. If the current in each phase is 5A, then the current in neutral wire is

Options :

1. ✖ 5A

2. ✖ 15A

3. ✖ $5\sqrt{3}$ A

4. ✔ 0 A

Question Number : 124 Question Id : 81959912154 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In an A.C series circuit, the p.f at resonance is

Options :

1. ✖ lagging

2. ✖ leading

3. ✔ Unity

4. ✖ Zero

Question Number : 125 Question Id : 81959912155 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a highly capacitive AC circuit the

Options :

1. ✖ apparent power is equal to the actual power

2. ✔ reactive power is more than the apparent power

3. ✖ reactive power is more than the actual power

4. ✖ actual power is more than it's reactive power

Question Number : 126 Question Id : 81959912156 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The input of an a.c circuit having a p.f of 0.8 lag is 20kVA. The power drawn by the circuit in kW is,

Options :

1. ✖ 12

2. ✖ 20

3. ✖ 8

4. ✔ 16

Question Number : 127 Question Id : 81959912157 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a pure capacitive circuit, if the supply frequency is reduced to ¼, the current will become

Options :

1. ✖ 50%

2. ✖ 200%

3. ✖ 400%

4. ✔ 25%

Question Number : 128 Question Id : 81959912158 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

By adding more resistance to an RC circuit

Options :

1. ✔ the true power will increase

2. ✖ the true power decreases

3. ✖ the power factor decreases

4. ✖ the reactive power increases

Question Number : 129 Question Id : 81959912159 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The time period of 1kHz is

Options :

1. ✖ 1s

2. ✖ 0.1s

3. ✖ 0.01s

4. ✔ 0.001s

Question Number : 130 Question Id : 81959912160 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The phase sequence of a system is RYB, and, if the emf induced in the R phase is expressed as $E_m \sin \omega t$, then the emf in B phase can be expressed as

Options :

1. ✔ $e_b = E_m \sin(\omega t+120)$

2. ✖ $e_b = E_m \sin(\omega t-120)$

3. ✖ $e_b = E_m \sin(\omega t+240)$

4. ✖ $e_b = E_m \sin(\omega t)$

Question Number : 131 Question Id : 81959912161 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In any transformer, the voltage per turn in primary and secondary is

Options :

1. ✔ always same

2. ✖ always in the ratio of K

3. ✖ always different

4. ✖ a dependent on the load

Question Number : 132 Question Id : 81959912162 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

At every instant the direction of secondary current in a transformer must be such as to oppose any change in flux. This is in accordance with

Options :

1. ✖ Faraday's Law

2. ✔ Lenz's Law

3. ✖ Joule's Law

4. ✖ Coulomb's Law

Question Number : 133 Question Id : 81959912163 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A transformer has a turns ratio of 1 to 10 and a resistance of 5000 ohms is connected across the secondary terminals. The resistance offered by the load to a current flowing in the primary is

Options :

1. ✔ 50 ohms

2. ✖ 500 ohms

3. ✖ 5000 ohms

4. ✖ 50 kilo ohms

Question Number : 134 Question Id : 81959912164 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

When a 400Hz transformer is operated at 50Hz, its kVA rating is

Options :

1. ✔ reduced to 1/8

2. ✖ increased 8 times

3. ✖ reduced to ¼

4. ✖ increased 4 times

Question Number : 135 Question Id : 81959912165 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An ideal transformer is one which

Options :

1. ✖ has a common core for its primary and secondary windings

2. ✔ has no losses and magnetic leakage

3. ✖ has core of stainless steel and windings of pure copper metal

4. ✖ has equal primary and second turns

Question Number : 136 Question Id : 81959912166 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which part of the transformer is subjected to more heating?

Options :

1. ✖ frame

2. ✔ winding

3. ✖ oil

4. ✖ core

Question Number : 137 Question Id : 81959912167 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If three 1-phase transformers connected in Δ- Δ, are delivering to a common load and one of the transformers is removed, the resulting capacity of the remaining system will be

Options :

1. ✖ 66.6%

2. ✖ 173.2%

3. ✔ 57.7%

4. ✖ 73.2%

Question Number : 138 Question Id : 81959912168 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which test on a transformer provides information about regulation, efficiency and heating under loading condition?

Options :

1. ✖ open circuit test

2. ✖ short circuit test

3. ✖ Hopkinson test

4. ✔ back to back test

Question Number : 139 Question Id : 81959912169 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The main purpose of using core in transformers is to

Options :

1. ✖ decrease iron losses

2. ✖ prevent eddy current losses

3. ✖ eliminate magnetic hysteresis

4. ✔ decrease the reluctance of the common magnetic path

Question Number : 140 Question Id : 81959912170 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Buchholz relay is a -------- sensing relay

Options :

1. ✖ voltage

2. ✖ current

3. ✖ frequency

4. ✔ gas

Question Number : 141 Question Id : 81959912171 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If a 3-phase induction motor is run at 25% of its rated voltage, the motor will

Options :

1. ✖ start with less torque

2. ✖ start at low speed

3. ✔ not start, get heated and damaged eventually

4. ✖ run normally

Question Number : 142 Question Id : 81959912172 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

At slip = 1, the frequency of rotor current in a 3-phase Induction motor will be

Options :

1. ✔ equal to the supply frequency

2. ✖ ∞

3. ✖ zero

4. ✖ half of the frequency at full load

Question Number : 143 Question Id : 81959912173 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is the most economical methods for starting 1-phase induction motor?

Options :

1. ✖ Split phase

2. ✔ Capacitor start

3. ✖ Induction start

4. ✖ Resistance method

Question Number : 144 Question Id : 81959912174 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A 3-phase, 6-pole, 50Hz induction motor is working with 5% slip. The actual speed of the motor is

Options :

1. ✖ 1000 rpm

2. ✖ 900 rpm

3. ✖ 1050 rpm

4. ✔ 950 rpm

Question Number : 145 Question Id : 81959912175 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A 15HP, 400V, Delta connected, 50Hz, 4-pole induction motor gives the following test results.

	Applied voltage	Line current	Input power
No Load Test	400V	8A	1kW
Blocked rotor Test	100V	25A	1.75kW

The short circuit current with normal voltage is

Options :

1. ✖ 8A

2. ✖ 25A

3. ✖ 75A

4. ✔ 100A

Question Number : 146 Question Id : 81959912176 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The 3-phase alternators are invariably star connected as a result of which

Options :

1. ✔ High terminal voltage is obtained

2. ✖ Less no. of turns of wire is required

3. ✖ Life of the motor will increase

4. ✖ Magnetic losses are minimized

Question Number : 147 Question Id : 81959912177 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Under no load condition, the power drawn by the prime mover of an alternator goes to

Options :

1. ✖ produce induced emf in armature winding

2. ✔ meet no load losses

3. ✖ produce power in armature

4. ✖ meet copper loses both in armature and rotor winding

Question Number : 148 Question Id : 81959912178 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Alternators are rated in

Options :

1. ✖ kWH

2. ✖ kVAR

3. ✔ kVA

4. ✖ MW

Question Number : 149 Question Id : 81959912179 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Power factor of an induction motor is maximum when it is running at

Options :

1. ✔ full load

2. ✖ synchronous speed

3. ✖ no load

4. ✖ one third of full load

Question Number : 150 Question Id : 81959912180 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The crawling of an Induction motor is due to

Options :

1. ✖ improper design of machine

2. ✖ low supply voltage

3. ✖ over load

4. ✔ presence of 7^{th} harmonics in the flux wave

Question Number : 151 Question Id : 81959912181 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The highest point on the daily load curve represents

Options :

1. ✖ Average demand

2. ✔ Maximum Demand

3. ✖ Load factor

4. ✖ Form factor

Question Number : 152 Question Id : 81959912182 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a power station

Options :

1. ✖ Reserve capacity = Plant capacity + maximum demand

2. ✖ Reserve capacity = Plant capacity +average demand

3. ✔ Reserve capacity = Plant capacity - maximum demand

4. ✖ Reserve capacity = Plant capacity -average demand

Question Number : 153 Question Id : 81959912183 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The annual costs of power plant A and power plant B are as under

Station A= 80 x kW + 0.02 x kWh

Station B =50 x kW + 0.03 x kWh

Which plant should be selected for base load operation?

Options :

1. ✔ Plant A only

2. ✖ Plant B only

3. ✖ Either A or B

4. ✖ Neither A nor B

Question Number : 154 Question Id : 81959912184 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A Pelton wheel is

Options :

1. ✔ axial flow impulse turbine

2. ✖ inward flow impulse turbine

3. ✖ out ward flow impulse turbine

4. ✖ inward flow reaction turbine

Question Number : 155 Question Id : 81959912185 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The reactor which uses liquid metal as a coolant is

Options :

1. ✖ Boiling water reactor

2. ✖ Gas cooled reactor

3. ✖ Pressurised water reactor

4. ✔ fast breeder reactor

Question Number : 156 Question Id : 81959912186 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Which of the following conductor have less sag

Options :

1. ✖ AAC

2. ✔ ACSR

3. ✖ ACAR

4. ✖ AAAC

Question Number : 157 Question Id : 81959912187 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

In short transmission line, the neglected parameter

Options :

1. ✖ Inductance

2. ✔ Capacitance

3. ✖ Resistance

4. ✖ Inductance and Capacitance

Question Number : 158 Question Id : 81959912188 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The power transmission capacity of a transmission line is

Options :

1. ✔ proportional to the square of the operational voltage

2. ✖ inversely proportional to the voltage

3. ✖ proportional to the voltage

4. ✖ inversely proportional to the square of the voltage

Question Number : 159 Question Id : 81959912189 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In nominal π method, the total line capacitance is assumed to act at

Options :

1. ✖ the sending end with half value

2. ✖ the sending end with full value

3. ✔ each end of the line with half value

4. ✖ the receiving end with full value

Question Number : 160 Question Id : 81959912190 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Proximity effect is due to current flow in

Options :

1. ✖ Earth wire

2. ✖ Communication conductors

3. ✖ Micro wave link

4. ✔ neighboring conductors

Question Number : 161 Question Id : 81959912191 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following Circuit Breaker is preferred in EHT applications

Options :

1. ✖ Air Break circuit breaker

2. ✔ SF_6 circuit breaker

3. ✖ Bulk oil circuit breaker

4. ✖ Minimum oil circuit breaker

Question Number : 162 Question Id : 81959912192 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The pick up current of a relay is 7.5A and fault current in relay is 30A. It's plug setting multiplier (P.S.M) is

Options :

1. ✖ 2

2. ✖ 8

3. ✖ 6

4. ✔ 4

Question Number : 163 Question Id : 81959912193 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the length of the arc increases, it's resistance

Options :

1. ✔ increases

2. ✖ decreases

3. ✖ remains same

4. ✖ becomes zero

Question Number : 164 Question Id : 81959912194 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For very long and high voltage transmission lines, the system of over current protection used is

Options :

1. ✖ time graded protection

2. ✖ pilot wire system

3. ✔ distance protection

4. ✖ differential protection

Question Number : 165 Question Id : 81959912195 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a directional relay, tapings are provided for current setting to the

Options :

1. ✔ upper magnet of the over current element

2. ✖ lower magnet of the over current element

3. ✖ upper magnet of the directional element

4. ✖ lower magnet of the directional element

Question Number : 166 Question Id : 81959912196 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Merz-Price protection for generator is provided for

Options :

1. ✔ stator earth fault

2. ✖ rotor earth fault

3. ✖ anti motoring

4. ✖ machine body to earth fault

Question Number : 167 Question Id : 81959912197 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The phase angle between the two fluxes in an induction relay should be nearer to

Options :

1. ✖ zero

2. ✔ 90^0

3. ✖ 180^0

4. ✖ 360^0

Question Number : 168 Question Id : 81959912198 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Circuit breakers are usually made to operate under

Options :

1. ✖ Complete DC component protection

2. ✖ Sub Transient state

3. ✖ Steady state

4. ✔ Transient state

Question Number : 169 Question Id : 81959912199 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

SF_6 gas is transported in

Options :

1. ✖ Air cylinders

2. ✔ Liquid form in cylinders

3. ✖ Gas cylinders

4. ✖ Solid form

Question Number : 170 Question Id : 81959912200 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The expulsion type lightning arrestor is also called as _____ type lightning arrestor

Options :

1. ✖ Lightening tube

2. ✖ Pilot tube

3. ✔ protector tube

4. ✖ arrestor tube

Question Number : 171 Question Id : 81959912201 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Switch is placed in

Options :

1. ✔ Live wire

2. ✖ Neutral wire

3. ✖ Earth wire

4. ✖ Either in Neutral wire or in Earth wire

Question Number : 172 Question Id : 81959912202 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In SV lamp, Sodium is at solid state below _____

Options :

1. ✖ $0^{o}C$

2. ✖ $31^{o}C$

3. ✔ $60^{o}C$

4. ✖ $85^{o}C$

Question Number : 173 Question Id : 81959912203 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Resistance welding requires

Options :

1. ✖ High voltage and low current

2. ✖ Low Voltage and Low current

3. ✖ High Current and high voltage

4. ✔ High Current and low voltage

Question Number : 174 Question Id : 81959912204 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In Electric traction, speed remains constant during

Options :

1. ✖ Accelerating period

2. ✔ Free running period

3. ✖ Coasting period

4. ✖ Braking period

Question Number : 175 Question Id : 81959912205 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Mostly used material for trolley wire in electric traction is

Options :

1. ✖ Silicon steel

2. ✔ Silicon bronze

3. ✖ Graphite

4. ✖ Silicon Copper

Question Number : 176 Question Id : 81959912206 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The distance between two stations is 1km. Average and schedule speeds of a train are 36kmph and 30kmph respectively. The stopping time in stations is

Options :

1. ✔ 20sec

2. ✖ 40sec

3. ✖ 10sec

4. ✖ 16sec

Question Number : 177 Question Id : 81959912207 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

When a 250V lamp takes a current of 0.8 amp, it produces a total flux of 3260 lumens. Calculate the luminous efficiency of the lamp in its appropriate units

Options :

1. ✖ 32.6

2. ✖ 40.8

3. ✖ 8.2

4. ✔ 16.3

Question Number : 178 Question Id : 81959912208 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Welding generator should have

Options :

1. ✖ Rising characteristics

2. ✖ Linear characteristics

3. ✔ Drooping characteristics

4. ✖ Constant characteristics

Question Number : 179 Question Id : 81959912209 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An Intrinsic Semiconductor at absolute zero temperature

Options :

1. ✔ behaves like an insulator

2. ✖ behaves like a conductor

3. ✖ will not change its properties

4. ✖ fails due to material breakdown

Question Number : 180 Question Id : 81959912210 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A reverse biased p-n junction has a

Options :

1. ✖ Narrow depletion layer

2. ✖ Net hole current

3. ✖ Net electron current

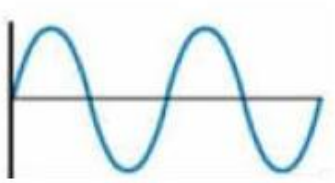
4. ✔ Zero current

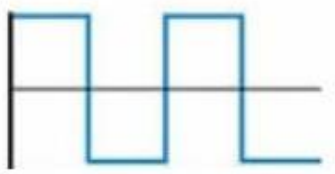
Question Number : 181 Question Id : 81959912211 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

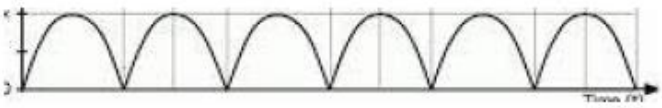
Correct Marks : 1 Wrong Marks : 0

The output wave form of full wave rectifier can be

Options :

1. ✖ 

2. ✖ 

3. ✔ 

4. ✖ 

Question Number : 182 Question Id : 81959912212 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For getting good frequency response in amplifiers, which of the following is preferred?

Options :

1. ✖ R-Coupling

2. ✖ Transformer Coupling

3. ✖ Inductor & Capacitor

4. ✔ Direct Coupling

Question Number : 183 Question Id : 81959912213 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The combined dB gain of two cascaded voltage amplifiers whose individual voltage gains are 10 and 100 is

Options :

1. ✖ 40

2. ✔ 110

3. ✖ 80

4. ✖ 1000

Question Number : 184 Question Id : 81959912214 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The FET is a

Options :

1. ✔ current controlled device

2. ✖ voltage controlled device

3. ✖ resistance controlled device

4. ✖ power controlled device

Question Number : 185 Question Id : 81959912215 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two's complement of 10010100 is

Options :

1. ✖ 01101011

2. ✔ 01101100

3. ✖ 11101011

4. ✖ 10010110

Question Number : 186 Question Id : 81959912216 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A 'NIBBLE' means

Options :

group of 16 bits

1. ✖

group of 2 bits

2. ✖

group of 8 bits

3. ✖

group of 4 bits

4. ✔

Question Number : 187 Question Id : 81959912217 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Bubbled OR gate is equivalent to

Options :

NOR

1. ✖

AND

2. ✖

NAND

3. ✔

EX-OR

4. ✖

Question Number : 188 Question Id : 81959912218 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The output of a gate is HIGH when at least one of its input is low. It is true for

Options :

EX-OR

1. ✖

2. ✔ NAND

3. ✖ NOR

4. ✖ OR

Question Number : 189 Question Id : 81959912219 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Boolean expression ($A\bar{B}C+ABC+\overline{A\bar{B}C}+\bar{A}\bar{B}C$) is equal to

Options :

1. ✖ BC+AC+AB

2. ✖ A+B+B

3. ✔ C

4. ✖ ABC

Question Number : 190 Question Id : 81959912220 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The speed of conversion is maximum in

Options :

1. ✖ Successive approximation A/D converter

2. ✖ Dual slope A/D converter

Counter ramp A/D converter

3. ✖

Parallel comparator A/D converter

4. ✔

Question Number : 191 Question Id : 81959912221 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which semiconductor power device out of the following is not a current triggering device?

Options :

Thyristor

1. ✖

MOSFET

2. ✔

G.T.O

3. ✖

Triac

4. ✖

Question Number : 192 Question Id : 81959912222 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following can be used as voltage regulators?

Options :

series invertors

1. ✖

choppers

2. ✖

parallel invertors

3. ✖

4. ✔ cyclo-convertors

Question Number : 193 Question Id : 81959912223 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a three phase semi converter, if firing angle is less than or equal to 60°, then the duration of conduction of each thyristor and diode would respectively by

Options :

1. ✖ 60° and 60°

2. ✖ 90° and 30°

3. ✔ 120° and 120°

4. ✖ 180° and 180°

Question Number : 194 Question Id : 81959912224 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A freewheeling diode is sometimes connected in an inductive load circuit. Its purpose in half wave rectifier is

Options :

1. ✖ to conduct during negative half cycle of the supply

2. ✖ to give better filtering and reduce ripple

3. ✖ to improve transformation utilisation

to conduct so as to reduce the angle of conduction of the outgoing SCR to π

4. ✔

Question Number : 195 Question Id : 81959912225 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which semiconductor device behaves like two SCRs

Options :

1. ✖ UJT

2. ✔ TRIAC

3. ✖ MOSFET

4. ✖ JFET

Question Number : 196 Question Id : 81959912226 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the amplitude of the gate pulse during turn-ON of an SCR is increased then,

Options :

1. ✖ the delay time would increase but the rise time would decrease

2. ✖ both delay time and rise time would increase

3. ✖ the delay time would decrease but the rise time would decrease

4. ✔ the delay time would decrease while the rise time remains same

Question Number : 197 Question Id : 81959912227 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a two quadrant DC to DC chopper, the load voltage is varied from positive maximum to negative maximum by varying the time ratio of the chopper from

Options :

1. ✔ zero to unity

2. ✖ unity to zero

3. ✖ zero to 0.5

4. ✖ 0.5 to zero

Question Number : 198 Question Id : 81959912228 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In PLC, CTU stands for

Options :

1. ✖ Central Terminal Unit

2. ✖ Central Thermal Unit

3. ✔ Count Terminal Unit

4. ✖ Count up instruction

Question Number : 199 Question Id : 81959912229 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a correct sequence for PLC operation?

Options :

1. ✖ Self-test, output scan, logic scan, input scan

2. ✖ Self-test, input scan, output scan, logic scan

3. ✔ Self-test, input scan, logic scan, output scan

4. ✖ Self-test, logic scan, output scan, input scan

Question Number : 200 Question Id : 81959912230 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is the result of logical or relational expression in C?

Options :

1. ✖ True or False

2. ✔ 0 or 1

3. ✖ 0 if an expression is false and any positive number if an expression is true

4. ✖ -1 or 1