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 :	Electronics and Communication Engineering 1st Aug 2022 Shift1
Subject Name :	Electronics and Communication 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

Electronics and Communication Engineering

Group Number :	1
Group Id :	81959960
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 :	819599231
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 :	819599267
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 81959911831 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 : 81959911832 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 : 81959911833 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 : 81959911834 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 : 81959911835 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

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

Options :

1. ✖ $(1, 5)$

2. ✖ $(5,1)$

3. ✖ $(-5,1)$

4. ✔ $(-5, -1)$

Question Number : 6 Question Id : 81959911836 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 $\frac{x^2+x+1}{x^2+2x+1} = A + \frac{B}{(x+1)} + \frac{C}{(x+1)^2}$ then $A - B =$

Options :

1. ✖ $4C$

2. ✖ $4C + 1$

3. ✔ $2C$

4. ✖ $3C$

Question Number : 7 Question Id : 81959911837 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 : 81959911838 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 : 81959911839 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 : 81959911840 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 : 81959911841 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 : 81959911842 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 : 81959911843 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 : 81959911844 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 : 81959911845 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 : 81959911846 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 : 81959911847 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 : 81959911848 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 : 81959911849 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 : 81959911850 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 : 81959911851 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 : 81959911852 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 : 81959911853 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 : 81959911854 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 : 81959911855 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 : 81959911856 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 : 81959911857 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 : 81959911858 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 : 81959911859 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 : 81959911860 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 : 81959911861 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 : 81959911862 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 : 81959911863 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 : 81959911864 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 : 81959911865 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 : 81959911866 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 : 81959911867 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 : 81959911868 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 : 81959911869 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 : 81959911870 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 : 81959911871 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 : 81959911872 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 : 81959911873 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 : 81959911874 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 : 81959911875 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 : 81959911876 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 : 81959911877 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 : 81959911878 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 : 81959911879 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 : 81959911880 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 :	819599232
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 : 819599268
Question Shuffling Allowed : Yes

Question Number : 51 Question Id : 81959911881 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 : 81959911882 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 : 81959911883 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 : 81959911884 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 : 81959911885 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 : 81959911886 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 : 81959911887 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 : 81959911888 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 : 81959911889 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 : 81959911890 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 : 81959911891 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 : 81959911892 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 : 81959911893 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 : 81959911894 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 : 81959911895 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 : 81959911896 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 : 81959911897 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 : 81959911898 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 : 81959911899 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 : 81959911900 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 : 81959911901 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 : 81959911902 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 Ω

4. ✖ 10 Ω

Question Number : 73 Question Id : 81959911903 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 : 81959911904 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 : 81959911905 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 :	819599233
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 :	819599269
Question Shuffling Allowed :	Yes

Question Number : 76 Question Id : 81959911906 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 : 81959911907 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 : 81959911908 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 : 81959911909 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 : 81959911910 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 : 81959911911 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 $\mathbf{P^H}$ of the solution is

Options :

1. ✖ 1

2. ✔ 13

3. ✖ 14

4. ✖ 2

Question Number : 82 Question Id : 81959911912 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. ✖ $\mathbf{C_2H_2}$

2. ✔ $\mathbf{BF_3}$

3. ✖ $\mathbf{H_2O}$

4. ✖ $\mathbf{OH^-}$

Question Number : 83 Question Id : 81959911913 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 : 81959911914 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 : 81959911915 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 : 81959911916 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 : 81959911917 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 : 81959911918 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 : 81959911919 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 : 81959911920 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 : 81959911921 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 : 81959911922 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 : 81959911923 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 : 81959911924 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 : 81959911925 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 : 81959911926 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 : 81959911927 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 : 81959911928 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 : 81959911929 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 : 81959911930 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

Electronics and Communication Engineering

Section Id :	819599234
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 :	819599270
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 81959911931 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 region of junction diode has no mobile charge carriers?

Options :

1. ✔ Depletion region

2. ✖ Space charge region

3. ✖ Reverse charge region

4. ✖ Transition region

Question Number : 102 Question Id : 81959911932 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 reverse voltage, space charge width and capacitance of varactor diode are respectively

Options :

1. ✖ Larger, larger and larger

2. ✖ Smaller, smaller and larger

3. ✖ Smaller, smaller and smaller

4. ✔ Larger, larger and smaller

Question Number : 103 Question Id : 81959911933 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

Match the following:

(i)	Comparator	(a) Selects some part of the signal
(ii)	Clipper	(b) convert an alternating waveform into dc
(iii)	Clamper	(c) not reproduce any part of the signal
(iv)	Rectifier	(d) establishment of recurrent positive or negative extremity of signal

Options :

1. ✖ (i) – (a), (ii) – (b), (iii) – (c), (iv) – (d)

2. ✔ (i) – (c), (ii) – (a), (iii) – (d), (iv) – (b)

3. ✖ (i) – (a), (ii) – (c), (iii) – (b), (iv) – (d)

4. ✖ (i) – (b), (ii) – (d), (iii) – (c), (iv) – (a)

Question Number : 104 Question Id : 81959911934 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 of the following is not an advantage of Bridge Rectifier.

Options :

1. ✔ PIV of each diode is $\geq 2\ V_m$

2. ✖ Small transformer is required

3. ✖ High transformer utilization factor

4. ✖ Area of one full cycle is twice that of a half wave rectifier

Question Number : 105 Question Id : 81959911935 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 differs from the BJT in the following characteristics except

Options :

1. ✖ Unipolar device

2. ✖ Simpler to fabricate

3. ✔ Occupies large space

4. ✖ Exhibits high input resistance

Question Number : 106 Question Id : 81959911936 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 effect of bias current of op-amp integrator can be minimized by

Options :

1. ✔ Increasing the feedback capacitor while simultaneously decreasing the value of R

2. ✖ Decreasing the feedback capacitor while simultaneously decreasing the value of R

3. ✖ Increasing both feedback capacitor and the value of R

4. ✖ Decreasing both feedback capacitor and the value of R

Question Number : 107 Question Id : 81959911937 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 the linear region operation, the collector-base and base-emitter junctions of a transistor are respectively

Options :

1. ✖ both are forward bias

2. ✖ both are reverse bias

3. ✖ forward bias and reverse bias

4. ✔ reverse bias and forward bias

Question Number : 108 Question Id : 81959911938 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

Current amplification factor in common emitter configuration of transistor is

Options :

1. ✔ β

2. ✖ γ

3. ✖ δ

4. ✖ α

Question Number : 109 Question Id : 81959911939 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

To maintain a fixed and stable operating point, the value of stability factor for a transistor amplifier must be

Options :

1. ✔ Zero

2. ✖ Twice that of Vcc

3. ✖ Half of Vcc

4. ✖ Infinity

Question Number : 110 Question Id : 81959911940 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 number of input signal combinations are possible in differential amplifier except

Options :

1. ✖ An input signal is applied to either input with the other input connected to ground

2. ✖ Two opposite polarity input signals are applied

3. ✖ Same input is applied to both inputs

4. ✔ Both input signals are grounded

Question Number : 111 Question Id : 81959911941 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 amplifier is biased at a dc level above the zero-base-current level and above one-half the supply voltage level; this bias condition is

Options :

1. ✖ Class A

2. ✖ Class B

3. ✔ Class AB

4. ✖ Class D

Question Number : 112 Question Id : 81959911942 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 charge and discharge voltage levels of capacitor in Astable multivibrator using IC 555 timer are

Options :

1. ✖ $< \frac{2}{3}V_{cc} \quad and \quad > \frac{1}{3}V_{cc}$

2. ✔ $> \frac{2}{3}V_{cc} \quad and \quad < \frac{1}{3}V_{cc}$

3. ✖ $< \frac{1}{3}V_{cc} \quad and \quad > \frac{1}{3}V_{cc}$

4. ✖ $> 2V_{ce} \quad and \quad < -V_{cc}$

Question Number : 113 Question Id : 81959911943 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 range of input frequencies over which PLL will capture the input signal is referred as

Options :

1. ✖ free range

2. ✖ lock range

3. ✔ capture range

4. ✖ dead band

Question Number : 114 Question Id : 81959911944 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

Match the following with respect to the negative feedback effect on input and output impedances respectively:

(i)	Voltage series	(a) increased and increased
(ii)	Voltage shunt	(b) increased and decreased
(iii)	Current series	(c) decreased and decreased
(iv)	Current shunt	(d) decreased and increased

Options :

1. ✖ (i) - (c), (ii) – (d), (iii) – (b), (iv) – (a)

2. ✖ (i) - (b), (ii) – (a), (iii) – (d), (iv) – (c)

3. ✖ (i) - (a), (ii) – (b), (iii) – (c), (iv) – (d)

4. ✔ (i) - (b), (ii) – (c), (iii) – (a), (iv) – (d)

Question Number : 115 Question Id : 81959911945 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 following circuit protect the load from overcurrent as well as protecting the regulator.

Options :

1. ✔ fold back limiting

2. ✖ current limiting

3. ✖ fixed bias

4. ✖ comparator

Question Number : 116 Question Id : 81959911946 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 not true with respect to KVL?

Options :

1. ✖ The algebraic sum of the voltage drops is zero

2. ✔ The algebraic sum of the voltage rises is infinity

3. ✖ The algebraic sum of the voltage drops equals the algebraic sum of the voltage rises.

4. ✖ The Voltage drops are only across resistors and the voltage rises are only across voltage sources.

Question Number : 117 Question Id : 81959911947 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

Quality factor-Q of a resonant circuit signifies:

Options :

1. ✖ Gain in the resonant circuit

2. ✔ Loss in the resonant circuit

3. ✖ Magnetic energy stored in the circuit

4. ✖ Electric energy stored in the circuit

Question Number : 118 Question Id : 81959911948 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 resistive load receives maximum power from a linear, bilateral dc circuit if the load resistance equals the Thevenin resistance of the circuit" is the statement of the following theorem.

Options :

1. ✖ Thevenin's

2. ✖ Norton's

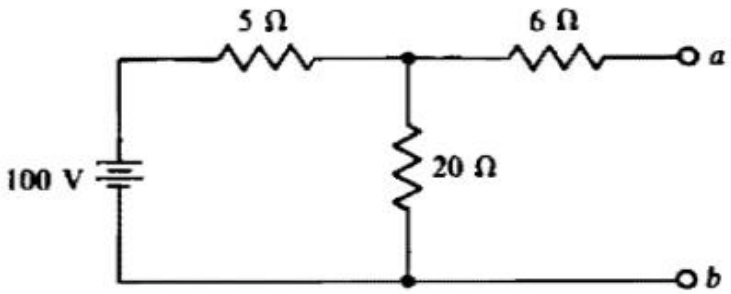
3. ✖ Superposition

4. ✔ Maximum power

Question Number : 119 Question Id : 81959911949 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 resistor draws a current of 5A when connected across terminals a and b of the following circuit?



Options :

1. ✖ 5 Ω

2. ✔ 6 Ω

3. ✖ 10 Ω

4. ✖ 20 Ω

Question Number : 120 Question Id : 81959911950 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 maximum power that can be drawn from a 12 V battery that has an internal resistance of 0.25 Ω?

Options :

1. ✖ 3 W

2. ✖ 48 W

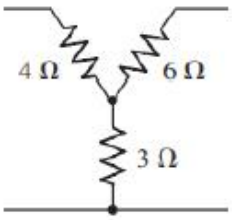
3. ✔ 144 W

4. ✖ 576 W

Question Number : 121 Question Id : 81959911951 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 resistances of delta equivalent circuit for the following star circuit are



Options :

1. ✖ 10Ω, 9Ω, 7Ω

2. ✖ 24Ω, 18Ω, 12Ω

3. ✔ 13.5Ω, 9Ω, 18Ω

4. ✖ 1.85Ω, 1.39Ω, 0.92Ω

Question Number : 122 Question Id : 81959911952 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 the simple RL circuit with the values of R= 200Ω, L=50mH and inductor has initial current of 2A at t=0, then the expression for $i_L(t)$ at t>0 is

Options :

1. ✔ $2e^{-4000t}$

2. ✖ $0.5e^{4000t}$

3. ✖ $0.5e^{10t}$

4. ✖ $2e^{-10t}$

Question Number : 123 Question Id : 81959911953 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 parallel RLC network is in resonance when the

Options :

1. ✖ Voltage and current at the network input terminals are in outoff phase

2. ✔ Voltage and current at the network input terminals are in phase

3. ✖ Voltage at the network input and output terminals are in outoff phase

4. ✖ Current at the network input and output terminals are in phase

Question Number : 124 Question Id : 81959911954 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 rank of a graph with '4' number of nodes is

Options :

1. ✖ 2

2. ✔ 3

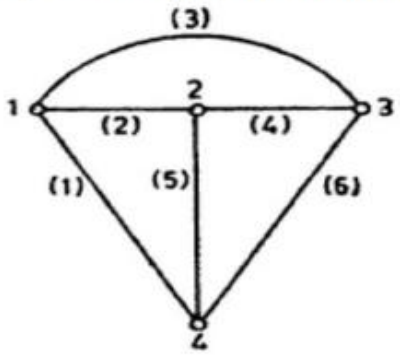
3. ✖ 4

4. ✖ 8

Question Number : 125 Question Id : 81959911955 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 possible twigs of the following graph are



Options :

1. ✖ {1,2,5}, {2,3,6},{3,4,6}

2. ✖ {1,3,4},{1,3,6},{2,3,5}

3. ✖ {1,5,6}, {1,4,5},{2,4,6}

4. ✔ {2,5,6}, {2,4,5},{1,4,6}

Question Number : 126 Question Id : 81959911956 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 reflection coefficient and VSWR of open circuit transmission line are

Options :

1. ✖ 0 and 1

2. ✖ 1 and 1

3. ✔ 1 and ∞

4. ✖ ∞ *and* ∞

Question Number : 127 Question Id : 81959911957 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 a lossless transmission line α, β, z_0 *and* v_p are respectively

Options :

1. ✖ $1, \frac{1}{\sqrt{LC}}, \sqrt{\frac{L}{C}}, w\sqrt{LC}$

2. ✖ $0, w/\sqrt{LC}, \sqrt{\frac{C}{L}}, \frac{w}{\sqrt{LC}}$

3. ✔ $0, w\sqrt{LC}, \sqrt{\frac{L}{C}}, \frac{1}{\sqrt{LC}}$

4. ✖ $\infty, w/\sqrt{LC}, \sqrt{\frac{L}{C}}, \frac{w}{\sqrt{LC}}$

Question Number : 128 Question Id : 81959911958 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 characteristic impedance of symmetrical T network is

Options :

1. ✖ $\sqrt{\frac{Z_1 Z_2}{1+\frac{Z_1}{4Z_2}}}$

2. ✖ $\sqrt{\frac{Z_2^2}{4} + Z_1 Z_2}$

3. ✖ $\sqrt{\frac{Z_1^2}{4} - Z_1 Z_2}$

4. ✔ $\sqrt{\frac{Z_1^2}{4} + Z_1 Z_2}$

Question Number : 129 Question Id : 81959911959 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

Find selectivity of a series RLC resonance circuit with resonance frequency is 10kHz and a bandwidth of 2kHz?

Options :

1. ✖ 0.2

2. ✖ 2.5

3. ✔ 5.0

4. ✖ 10.0

Question Number : 130 Question Id : 81959911960 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 the quarter wave length transmission line

Options :

1. ✖ $Z_{in} = 2Z_o$

2. ✖ $l = \frac{\lambda}{8}$

3. ✖ Larger bandwidth

4. ✔ Matches at only one frequency

Question Number : 131 Question Id : 81959911961 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 bands of TRAIC are structured as

Options :

1. ✖ PNP

2. ✖ NPNP

3. ✖ PNPN

4. ✔ NPNPN

Question Number : 132 Question Id : 81959911962 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 Snubber circuit is used in thyristor to protect against

Options :

1. ✖ High $\frac{di}{dt}$

2. ✔ High $\frac{dv}{dt}$

3. ✖ Surge currents of long duration

4. ✖ Fault conditions

Question Number : 133 Question Id : 81959911963 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 welding is employed particularly for welding steel barrels, oil tanks and steam radiators?

Options :

1. ✖ Spot

2. ✖ Butt

3. ✖ Projection

4. ✔ Seam

Question Number : 134 Question Id : 81959911964 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 following all are characteristic features of induction heating except

Options :

1. ✖ The portion of the surface to be heated can be accurately controlled

2. ✖ Working conditions are pleasant near induction heaters

3. ✔ Induction heating is termed as volume heating

4. ✖ Induction heaters can be operated by unskilled labour in industry

Question Number : 135 Question Id : 81959911965 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 input voltage to an LVDT is 0.5V, displacement of the core is ±20μm and the sensitivity is 1mV/5μm/1V, calculate the output voltage.

Options :

1. ✖ 0.5 V

2. ✖ 1 V

3. ✔ 2 mV

4. ✖ 10 mV

Question Number : 136 Question Id : 81959911966 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 strain guage

Options :

1. ✔ High sensitivity implies a high value of guage factor

2. ✖ High sensitivity implies a low value of guage factor

3. ✖ low sensitivity implies a high value of guage factor

4. ✖ sensitivity and guage factor are not related

Question Number : 137 Question Id : 81959911967 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 a RTD, the variation of resistance with temperature is typically given as

Options :

1. ✖ $R_{T_2} = R_{T_1}(1 + \alpha/(2T_2 + T_1)$

2. ✔ $R_{T_2} = R_{T_1}(1 + \alpha(T_2 - T_1)$

3. ✖ $R_{T_2} = R_{T_1}/(1 + 2\alpha(T_2 - T_1)$

4. ✖ $R_{T_2} = R_{T_1}/(1 + \alpha(T_2 - 2T_1)$

Question Number : 138 Question Id : 81959911968 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 the thermocouple the two wires made of ---------are joined at one end

Options :

1. ✖ Metal and insulator

2. ✖ Metal and semiconductor

3. ✖ Similar metals

4. ✔ Dissimilar metals

Question Number : 139 Question Id : 81959911969 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 PLC does not contain the following section

Options :

1. ✔ ADC

2. ✖ CPU

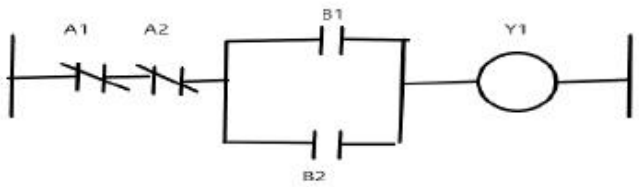
3. ✖ I/O

4. ✖ Programming device

Question Number : 140 Question Id : 81959911970 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 following ladder symbol diagram represents



Options :

1. ✖ AND

2. ✖ OR

3. ✖ AND and OR

4. ✔ NAND and OR

Question Number : 141 Question Id : 81959911971 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

Match the following for different multiplexing methods:

(i)	FDM	(a) used for optical fibers
(ii)	TDM	(b) message signal is identified by distinctive code
(iii)	CDM	(c) Pule modulation is used
(iv)	WDM	(d) CW modulation is used

Options :

1. ✖ (i) – (c), (ii) – (a), (iii) – (d) (iv) – (b)

2. ✖ (i) – (b), (ii) – (d), (iii) – (a) (iv) – (c)

3. ✖ (i) – (a), (ii) – (b), (iii) – (c) (iv) – (d)

4. ✔ (i) – (d), (ii) – (c), (iii) – (b) (iv) – (a)

Question Number : 142 Question Id : 81959911972 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 efficiency η of digital communication system is given by

(R is signaling rate, B is channel bandwidth, C is information capacity of channel and SNR is Signal to Noise Ratio)

Options :

1. ✔ R/C

2. ✖ B/C

3. ✖ B/SNR

4. ✖ R/B

Question Number : 143 Question Id : 81959911973 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 Costas receiver is used to demodulate the following modulated signal.

Options :

1. ✖ AM

2. ✔ DSB

3. ✖ SSB

4. ✖ VSB

Question Number : 144 Question Id : 81959911974 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 equation for VSB modulated signal

Options :

1. ✖ $A_c[1 + k_a m(t)]\cos(2\pi f_c t)$

2. ✖ $A_c m(t)\cos(2\pi f_c t)$

3. ✖ $\frac{1}{2}A_c m_1(t)\cos(2\pi f_c t) \pm \frac{1}{2}A_c m_2(t)\sin(2\pi f_c t)$

4. ✔ $\frac{1}{2}A_c m(t)\cos(2\pi f_c t) \pm \frac{1}{2}A_c m'(t)\sin(2\pi f_c t)$

Question Number : 145 Question Id : 81959911975 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 carrier wave of frequency 100MHz is FM by a sinusoidal wave of amplitude 20 V and frequency 100kHz. The frequency sensitivity of the modulator is 25kHz per volt. Determine the approximate bandwidth of the FM signal using Carson's rule.

Options :

1. ✖ 50 kHz

2. ✔ 1200 kHz

3. ✖ 100 MHz

4. ✖ 2500 MHz

Question Number : 146 Question Id : 81959911976 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

Linear prediction is used to encode an Analog message signals at reduced bit rates in

Options :

1. ✖ Pulse Code Modulation

2. ✖ Delta Modulation

3. ✖ Delta Sigma Modulation

4. ✔ Differential Pulse Code Modulation

Question Number : 147 Question Id : 81959911977 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 samples of the message signal are used to vary the duration of the individual pulses in the carrier is called

Options :

1. ✖ Pulse Amplitude Modulation

2. ✖ Pulse Position Modulation

3. ✔ Pulse Width Modulation

4. ✖ Pulse Code Modulation

Question Number : 148 Question Id : 81959911978 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 modulation methods exhibit a similar noise performance?

Options :

1. ✖ AM and FM

2. ✖ PCM and AM

3. ✖ PWM and PPM

4. ✔ PPM and FM

Question Number : 149 Question Id : 81959911979 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 of the following produces smaller bit error rates?

Options :

1. ✖ ASK

2. ✖ FSK

3. ✔ PSK

4. ✖ coherent FSK

Question Number : 150 Question Id : 81959911980 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 most popular frequency band 6/4GHz for satellite communications offers the following advantages except

Options :

1. ✔ Terrestrial microwave systems interference

2. ✖ Relative inexpensive microwave equipment

3. ✖ Low attenuation due to rain fall

4. ✖ Insignificant sky background noise

Question Number : 151 Question Id : 81959911981 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 ratio of the power available at the antenna terminals to the power per unit area of the appropriately polarized incident electromagnetic wave" is called

Options :

1. ✖ Effective aperture

2. ✔ Effective length

3. ✖ Radiation resistance

4. ✖ Beam width

Question Number : 152 Question Id : 81959911982 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 figure of merit of earth station of satellite communication system is given by

Options :

1. ✖ C/N

2. ✖ EIRP

3. ✔ G/T

4. ✖ $\frac{4\pi d}{\lambda}$

Question Number : 153 Question Id : 81959911983 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 superheterodyne receiver constant frequency difference is maintained between the local oscillator and RF circuity; normally through

Options :

1. ✖ Inductive tunning

2. ✖ Variable resistor

3. ✔ Gang capacitor

4. ✖ Variable frequency

Question Number : 154 Question Id : 81959911984 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 IF frequency of receiver is high then it have all of the following except

Options :

1. ✖ Poor selectivity

2. ✔ Poor image frequency rejection

3. ✖ Poor adjacent channel rejection

4. ✖ Tracking difficulties

Question Number : 155 Question Id : 81959911985 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 of the following is not correct with respect to broad side array.

Options :

1. ✔ Phase lag between the succeeding elements

2. ✖ Number of dipoles of equal size

3. ✖ Equally spaced along a line

4. ✖ All elements fed from the same source

Question Number : 156 Question Id : 81959911986 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 Rhombic antenna does not have to be an integral number of half-wavelengths long because

Options :

1. ✔ It is non-resonant

2. ✖ It is resonant

3. ✖ Of terminated with high resistance

4. ✖ Of high operating frequencies

Question Number : 157 Question Id : 81959911987 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 transit time of electrons in repeller space of Reflex klystron is (n is any integer)

Options :

1. ✖ $n+\frac{1}{3}$

2. ✖ $n+\frac{1}{4}$

3. ✖ $n+\frac{2}{3}$

4. ✔ $n+\frac{3}{4}$

Question Number : 158 Question Id : 81959911988 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 coho of MTI radar operates at the

Options :

1. ✖ Receiver frequency

2. ✖ Transmitting frequency

3. ✔ Intermediate frequency

4. ✖ Pulse repetition time

Question Number : 159 Question Id : 81959911989 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 echo signals produced from reflecting objects are shown in plan position with range and azimuth angle displayed in

Options :

1. ✖ A scope

2. ✖ B scope

3. ✖ J scope

4. ✔ P scope

Question Number : 160 Question Id : 81959911990 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 formula for the cut-off wavelength, in a standard rectangular waveguide with 2:1 aspect ratio for the TM_{11} mode is

Options :

1. ✖ 2a

2. ✖ 2b

3. ✔ $\frac{2a}{\sqrt{5}}$

4. ✖ $\frac{1}{\sqrt{a+b}}$

Question Number : 161 Question Id : 81959911991 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 equivalent binary number of $(123.4)_8$ is

Options :

1. ✔ 001010011.100

2. ✖ 010001100.101

3. ✖ 101010100.110

4. ✖ 101001001.001

Question Number : 162 Question Id : 81959911992 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 minimization of the Boolean function $xyz+xyz^{l}+x^{l}yz+x^{l}y^{l}z$ is

Options :

1. ✖ xy+yz

2. ✖ $x^{l}z+yz$

3. ✔ $xy+x^{l}z$

4. ✖ xyz

Question Number : 163 Question Id : 81959911993 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 of following gate is functionally complete.

Options :

1. ✖ AND

2. ✖ OR

3. ✖ Ex-OR

4. ✔ NOR

Question Number : 164 Question Id : 81959911994 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 flip-flop remains in one state indefinitely until it is directed by an input signal to do otherwise?

Options :

1. ✖ JK flip-flop

2. ✖ RS flip-flop

3. ✔ T flip-flop

4. ✖ D flip-flop

Question Number : 165 Question Id : 81959911995 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 modulo-8 binary counter is

Options :

1. ✖ Capable of counting in the binary number system up to 8

2. ✖ Producing an output value 1 for every eight input 1 values

3. ✖ After a count of eight is reached, the next input value 1 will reset the counter

4. ✔ After a count of eight counter will reach initial state i.e., count of zero

Question Number : 166 Question Id : 81959911996 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 data router is a

Options :

1. ✖ Multiplexer

2. ✔ Demultiplexer

3. ✖ Encoder

4. ✖ Adder

Question Number : 167 Question Id : 81959911997 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 12-bit adder in the 2's complement notation can handle

Options :

1. ✔ 11 bit integers plus a sign

2. ✖ 12 bit integers plus a sign

3. ✖ 10 bit integers plus a 2 bits for sign

4. ✖ 12 bit integers only

Question Number : 168 Question Id : 81959911998 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 data storage, the more bits per package is better because

Options :

1. ✖ Ability to gain access to all the bits simultaneously

2. ✖ Easy to specifying which bit or group of bits look at

3. ✖ Slow storage capability

4. ✔ Price per bit is declining

Question Number : 169 Question Id : 81959911999 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 address bits required for 1M X 1-bit RAM is

Options :

1. ✖ 8 bits

2. ✖ 16 bits

3. ✔ 20 bits

4. ✖ 32 bits

Question Number : 170 Question Id : 81959912000 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 resolution of 12 bit DAC with full scale voltage of 10V is

Options :

1. ✔ 2.44 mV

2. ✖ 8.33mV

3. ✖ 1.2 V

4. ✖ 10V

Question Number : 171 Question Id : 81959912001 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 8051 has all of the following except

Options :

1. ✖ 128 bytes of RAM

2. ✔ 8k bytes of on-chip ROM

3. ✖ Two timers

4. ✖ Four I/O ports, each 8 bits wide

Question Number : 172 Question Id : 81959912002 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 interrupt sources in 8051 microcontroller is

Options :

1. ✖ 2

2. ✖ 4

3. ✔ 6

4. ✖ 8

Question Number : 173 Question Id : 81959912003 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 Directives in the microcontroller

Options :

1. ✔ Give directions to the assembler

2. ✖ Tell the CPU what to do?

3. ✖ Add the source byte to register

4. ✖ Load the value to the register

Question Number : 174 Question Id : 81959912004 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 linker program takes one or more object code files and produce an absolute object file with the extension

Options :

1. ✖ lst

2. ✖ obj

3. ✔ abs

4. ✖ hex

Question Number : 175 Question Id : 81959912005 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 Program counter of 8051 microcontroller can access program addresses of

Options :

1. ✖ 000 to FFH

2. ✖ 000 to FFFH

3. ✖ 0000 to FFFF

4. ✔ 0000 to FFFFH

Question Number : 176 Question Id : 81959912006 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 status of the CY, AC, and P flag after the following instructions:

MOV A, #38H
ADD A, #2FH

Options :

1. ✖ CY = 0, AC = 0, P = 1

2. ✔ CY = 0, AC = 1, P = 1

3. ✖ CY = 1, AC = 0, P = 0

4. ✖ CY = 1, AC = 1, P = 0

Question Number : 177 Question Id : 81959912007 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 following line driver is used to convert the RS232's signals to TTL voltage levels that will be acceptable to 8051's TXD and RxD pins.

Options :

1. ✔ MAX 232

2. ✖ IC 8257

3. ✖ IC89C430

4. ✖ UART

Question Number : 178 Question Id : 81959912008 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

Indicate which mode and which timer of 8051 are selected for the following instruction.

Options :

1. ✖ TMOD=00000001, mode1 of timer 0 is selected

2. ✖ TMOD=00100000, mode 2 of timer 1 is selected

3. ✖ TMOD=00100001, mode2 of timer 1 and mode 1 of timer 2 are selected

4. ✔ TMOD=00010010, mode2 of timer 0 and mode 1 of timer 1 are selected

Question Number : 179 Question Id : 81959912009 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 key matrix is connected to microcontroller in such way that

Options :

1. ✖ All rows and columns are grounded

2. ✖ Rows are connected to ground and columns are connected to Vcc

3. ✖ Rows are connected to Vcc and columns are connected to ground

4. ✔ Rows are connected to an output port and columns are connected to an input port

Question Number : 180 Question Id : 81959912010 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

Match the following:

(i)	IC 8257	(a) Audio amplifier
(ii)	IC 8251	(b) PPI
(iii)	IC 8255	(c) DMA controller
(iv)	MD 8002A	(d) USART

Options :

1. ✔ (i) – (c) , (ii) - (d), (iii) – (b), (iv) – (a)

2. ✖ (i) – (b) , (ii) - (a), (iii) – (d), (iv) – (c)

3. ✖ (i) – (d) , (ii) - (c), (iii) – (b), (iv) – (a)

4. ✖ (i) – (a) , (ii) - (b), (iii) – (c), (iv) – (d)

Question Number : 181 Question Id : 81959912011 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

State true or false for the following statements with respect to color TV

(i)	the hue is indicated by a luminance signal
(ii)	Phase Alteration by Line is a color TV system
(iii)	single camera with a stripe filter is used
(iv)	Color transmissions are not reproducible in black and white

Options :

1. ✖ (i) true (ii) false (iii) false (iv) true

2. ✔ (i) false (ii) true (iii) true (iv) false

3. ✖ (i) true (ii) true (iii) true (iv) false

4. ✖ (i) false (ii) false (iii) true (iv) true

Question Number : 182 Question Id : 81959912012 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 TV the field frequency is ------- the frame frequency.

Options :

1. ✖ Half of

2. ✖ Same

3. ✔ Twice

4. ✖ Three times

Question Number : 183 Question Id : 81959912013 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 electron beam is directed to move by

Options :

1. ✔ Deflection coils is in the form of a sawtooth wave

2. ✖ Vertical amplifier in the form of sinusoidal wave

3. ✖ Horizontal oscillator in the form of square wave

4. ✖ Time delay unit in the form of triangular wave

Question Number : 184 Question Id : 81959912014 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

Progressive scanning is advantage compared to interlaced scanning except

Options :

1. ✖ Better for moving objects

2. ✖ No flicker

3. ✖ Higher vertical resolution

4. ✔ Less bandwidth

Question Number : 185 Question Id : 81959912015 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 serrations are used to

Options :

1. ✔ Provide horizontal sync during vertical pulse

2. ✖ Extract the vertical sync pulse at receiver

3. ✖ Remove blanking after sync pulses

4. ✖ Add equalizing pulses

Question Number : 186 Question Id : 81959912016 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 function of synchronizing circuits is

Options :

1. ✖ Provide a drive power to the horizontal amplifier

2. ✔ Extraction of sync information from the composite waveform

3. ✖ Separate a sound wave

4. ✖ Supply a power to vertical amplifier

Question Number : 187 Question Id : 81959912017 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 color disk shows that the received Q signal is zero and I is maximum then the color produced is

Options :

1. ✖ Saturated yellowish green

2. ✖ Paler raddish orange

3. ✔ Saturated raddish orange

4. ✖ Pure blue

Question Number : 188 Question Id : 81959912018 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 short burst of color subcarrier is sent to

Options :

1. ✖ Provide a luminance signal as match with monochrome transmission

2. ✖ Separate the sound signal and apply to sound section

3. ✔ Ensure that the absolute phase of I and Q vectors is correct

4. ✖ Represent a required color on screen

Question Number : 189 Question Id : 81959912019 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 interference between the sound subcarrier and video voltage due to color is reduced by making the sound subcarrier frequency is

Options :

1. ✖ As possible as high

2. ✖ Same as vertical field frequency

3. ✖ Same as chroma frequency

4. ✔ Multiple of the horizontal scanning frequency

Question Number : 190 Question Id : 81959912020 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

Match the following with respect to TV system

(i)	Shadow mask	(a) speed up the retrace
(ii)	Degassing coil	(b) reducing the ac magnetic field
(iii)	Color killer	(c) a beam strikes the appropriate phosphorus dots
(iv)	Damper diode	(d) chroma amplifier is off during monochrome reception

Options :

1. ✖ (i) - (a), (ii) - (c), (iii) - (b), (iv) – (d)

2. ✔ (i) - (c), (ii) - (b), (iii) - (d), (iv) – (a)

3. ✖ (i) - (c), (ii) - (a), (iii) - (d), (iv) – (b)

4. ✖ (i) - (d), (ii) - (b), (iii) - (c), (iv) – (a)

Question Number : 191 Question Id : 81959912021 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 cladding of the optical fiber is used to

Options :

1. ✖ Protect the fiber

2. ✖ Reduce the interference

3. ✔ Guide the light in the core

4. ✖ Provide a mechanical strength

Question Number : 192 Question Id : 81959912022 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

Match the following

(i)	PAN	(a) Router
(ii)	LAN	(b) Ethernet
(iii)	MAN	(c) Bluetooth
(iv)	WAN	(d) Cable network

Options :

1. ✖ (i) – (c) , (ii) - (d), (iii) – (a), (iv) – (b)

2. ✖ (i) – (d) , (ii) - (a), (iii) – (b), (iv) – (c)

3. ✖ (i) – (a) , (ii) - (b), (iii) – (d), (iv) – (c)

4. ✔ (i) – (c) , (ii) - (b), (iii) – (d), (iv) – (a)

Question Number : 193 Question Id : 81959912023 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 true end-to-end layer is

Options :

1. ✖ Data layer

2. ✖ Physical layer

3. ✔ Transport layer

4. ✖ Session layer

Question Number : 194 Question Id : 81959912024 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

TCP and UCP protocols are used in layer of

Options :

1. ✖ Application layer

2. ✖ Network layer

3. ✖ Link layer

4. ✔ Transport layer

Question Number : 195 Question Id : 81959912025 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 of the following is incorrect with respect to HTTP.

Options :

1. ✔ Network layer protocol

2. ✖ Runs over TCP

3. ✖ Specifies what messages clients may send to servers

4. ✖ Specifies what responses they get back in return

Question Number : 196 Question Id : 81959912026 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 proxy is used

Options :

1. ✖ to provide a small cache

2. ✔ as an agent that acts on behalf of someone else

3. ✖ then bandwidth is increased

4. ✖ then web requests are slowdown

Question Number : 197 Question Id : 81959912027 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 mechanism used to block the incoming connections to operate internal machines safely is

Options :

1. ✖ Buffers

2. ✖ Routers

3. ✔ Firewall

4. ✖ Ethernet

Question Number : 198 Question Id : 81959912028 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 following all are the advantages of circuit switching except

Options :

1. ✖ No waiting time at switches

2. ✖ Connection-oriented service

3. ✖ Data is transmitted with fixed data rate

4. ✔ Dedicated channels

Question Number : 199 Question Id : 81959912029 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 host is connected to one or multiple hosts in the topology of

Options :

1. ✖ Bus

2. ✖ Star

3. ✔ Mesh

4. ✖ Ring

Question Number : 200 Question Id : 81959912030 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

Socket is a combination of

Options :

1. ✔ Port and IP address

2. ✖ Server and user

3. ✖ Data and datagram

4. ✖ File and protocol