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 3rd Aug 2021 Shift1
Subject Name :	Electronics and Communication Engineering
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Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
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Show Watermark on Console? :	Yes
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Electronics and Communication Engineering

Group Number :	1
Group Id :	80089499

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

Mathematics

Section Id :	800894384
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
Sub-Section Number :	1
Sub-Section Id :	800894438
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 80089419646 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $A = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 0 & 1 \\ 0 & 1 & 0 \end{bmatrix}$, then $A^{50} =$

Options :

1. ✖ $\begin{bmatrix}1 & 0 & 0\\0 & 1 & 0\\0 & 0 & 1\end{bmatrix}$

2. ✔ $\begin{bmatrix}1 & 0 & 0\\25 & 1 & 0\\25 & 0 & 1\end{bmatrix}$

3. ✖ $\begin{bmatrix}1 & 0 & 0\\24 & 1 & 0\\24 & 0 & 1\end{bmatrix}$

4. ✖ $\begin{bmatrix}1 & 0 & 0\\50 & 1 & 0\\50 & 0 & 1\end{bmatrix}$

Question Number : 2 Question Id : 80089419647 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $a+b+c=0$, $\begin{vmatrix}ax & by & cz\\bz & cx & ay\\cy & az & bx\end{vmatrix} = k\begin{vmatrix}x & y & z\\z & x & y\\y & z & x\end{vmatrix} = abc(x^3+y^3+z^3)-xyz(a^3+b^3+c^3)$, then $k=$

Options :

1. ✖ xyz

2. ✔ abc

3. ✖ $x+y+z$

4. ✖ 0

Question Number : 3 Question Id : 80089419648 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Consider the statements with reference to the 3×3 matrices A and B and k is a constant .

I) $A = kB \Rightarrow |A| = k|B|$.

II) adj (AB)=adj(B) adj(A) .

III) for a matrix C, if A=BC$\Rightarrow$ C=$B^{-1}A$

Which of the above statements are correct?

Options :

1. ✖ Only I and II are correct

2. ✔ Only II is correct

3. ✖ Only III is correct

4. ✖ Only II and III are correct

Question Number : 4 Question Id : 80089419649 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If the solution of the system of equations $x-y+z=4, 2x+y-3z=0, x+y+z=2$ is (x,y,z),

then x+y+z=

Options :

1. ✖ 0

2. ✖ 3

3. ✔ 2

4. ✖ 4

Question Number : 5 Question Id : 80089419650 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\frac{3x-2}{(x+1)(2x^2+3)} = \frac{A}{x+1} - \frac{Bx+C}{2x^2+3}$, then $A + B + C =$

Options :

1. ✖ 2

2. ✔ -4

3. ✖ 0

4. ✖ -2

Question Number : 6 Question Id : 80089419651 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $y = \frac{a^x+a^{-x}}{2}$, $x > 0$ and $a > 1$ then $x =$

Options :

1. ✖ $\frac{a^y-a^{-y}}{2}$

2. ✔

$\log_a\left(y+\sqrt{y^2-1}\right)$

3. ✖ $\log_a\left(\frac{y-\sqrt{y^2-1}}{2}\right)$

4. ✖ $\log_{1/a} y$

Question Number : 7 Question Id : 80089419652 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $a^{2019-x} \cdot b^{2021x} = a^{x+2021} \cdot b^{2019x}$, then $x =$

Options :

1. ✖ $\log_{(\frac{b}{a})} b$

2. ✖ $\log_{(\frac{a}{b})} b$

3. ✔ $\log_{(\frac{b}{a})} a$

4. ✖ $\log_{(\frac{a}{b})} a$

Question Number : 8 Question Id : 80089419653 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\tan\theta = \frac{p}{q}$ then $\frac{p\sin\theta - q\cos\theta}{p\sin\theta + q\cos\theta} =$

Options :

1. ✖ $\frac{p-q}{p+q}$

2. ✖ $\frac{p^2-q}{p+q^2}$

3. ✔ $\frac{p^2-q^2}{p^2+q^2}$

4. ✖ $\frac{2p}{p+q}$

Question Number : 9 Question Id : 80089419654 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the area of a triangle is 75 sq.cm and two of its sides are 20 cm and 15 cm, then the included angle between the sides is

Options :

1. ✖ 60^0 or 120^0

2. ✔ 30^0 or 150^0

3. ✖ 45^0 or 135^0

4. ✖ 90^0 or 135^0

Question Number : 10 Question Id : 80089419655 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\cosh 2x = 99$, then $\coth x =$

Options :

1. ✖ $\frac{5}{7\sqrt{2}}$

2. ✔ $\frac{10}{7\sqrt{2}}$

3. ✖ $\frac{10}{2\sqrt{7}}$

4. ✖ $\frac{5}{2\sqrt{7}}$

Question Number : 11 Question Id : 80089419656 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A complex number 'z 'having least modulus value and satisfying $|z - 2 + 2i| = 1$ is

Options :

1. ✖ $\left(2 - \frac{1}{\sqrt{2}}\right)(1 + i)$

2. ✖ $\left(2 + \frac{1}{\sqrt{2}}\right)(1 + i)$

3. ✔ $\left(2 - \frac{1}{\sqrt{2}}\right)(1 - i)$

4. ✖ $\left(2+\frac{1}{\sqrt{2}}\right)(1-i)$

Question Number : 12 Question Id : 80089419657 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If $\frac{(1+i)x-2i}{3+i}+\frac{(2-3i)y+i}{3-i}=1$, then $x+y=$

Options :

1. ✖ $\frac{75}{67}$

2. ✖ $\frac{18}{37}$

3. ✖ $\frac{57}{35}$

4. ✔ $\frac{66}{23}$

Question Number : 13 Question Id : 80089419658 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

$\left(\frac{\sqrt{3}+i}{2}\right)^6+\left(\frac{\sqrt{3}-i}{2}\right)^6=$

Options :

1. ✔ -2

2. ✖ -4

3. ✖ -6

4. ✖ -8

Question Number : 14 Question Id : 80089419659 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the equation of the straight line $x + y + 1 = 0$ is changed into the form $x\cos\alpha + y\sin\alpha = p$, $(p > 0)$, then α =

Options :

1. ✖ $\frac{\pi}{4}$

2. ✖ $\frac{3\pi}{4}$

3. ✔ $\frac{5\pi}{4}$

4. ✖ $\frac{7\pi}{4}$

Question Number : 15 Question Id : 80089419660 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

GCD of p, q, r is 1. If the line $px + qy + r = 0$ is passing through the point (4,3) the sum of the intercepts made by the line on the coordinate axes is 14, then a value of $p + q + r$ =

Options :

1. ✖ -25

2. ✖ -23

3. ✔ -17

4. ✖ 31

Question Number : 16 Question Id : 80089419661 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The distance between the parallel lines $3x-4y+20=0, 3x-4y+5=0$ is

Options :

1. ✖ 15 units

2. ✖ 20 units

3. ✔ 3 units

4. ✖ 5 units

Question Number : 17 Question Id : 80089419662 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The distance between the centers of the two circles touching the coordinate axes and the line $3x+4y=12$ in the first quadrant is

Options :

1. ✖ $5\sqrt{3}$

2. ✖ $2\sqrt{5}$

3. ✖ $3\sqrt{5}$

4. ✔ $5\sqrt{2}$

Question Number : 18 Question Id : 80089419663 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The equation of a tangent to the circle $x^2 + y^2 - 2x + 8y - 23 = 0$ having slope 3 is

Options :

1. ✖ $6x - 2y + 25 = 0$

2. ✖ $3x - y + 27 = 0$

3. ✖ $3x - y + 23 = 0$

4. ✔ $3x - y + 13 = 0$

Question Number : 19 Question Id : 80089419664 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The interval in which the value of λ lies, if the line $3x - 4y = \lambda$ cuts the circle $x^2 + y^2 - 4x - 8y = 5$ at two points is

Options :

1. ✖ $(15, 35)$

2. ✖ (35, 15)

3. ✔ (-35, 15)

4. ✖ (-15, 35)

Question Number : 20 Question Id : 80089419665 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For $A \neq 0$ $\lim_{n\to\infty}\left(\frac{A+e^{nx}}{x+Ae^{nx}}\right) =$

Options :

1. ✖ 1, when $x > 0$

2. ✔ $\frac{A}{x}$, when $x < 0$

3. ✖ $\frac{A}{x}$, when $x > 0$

4. ✖ 0, when $x \in \mathbb{R}$

Question Number : 21 Question Id : 80089419666 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let f be a differentiable function such that $f(x+y) = f(x) \cdot f(y), \forall\, x, y \in \mathbb{R}$. If $f'(0) = -3$ and $f(5) = 9$,

then $f'(5) =$

Options :

1. ✔ -27

2. ✖ 6

3. ✖ $-\frac{1}{3}$

4. ✖ -3

Question Number : 22 Question Id : 80089419667 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If $y = x^{-x}$ then $\frac{x}{y}\frac{d^2y}{dx^2} + 1 =$

Options :

1. ✖ x

2. ✖ y^2

3. ✔ $y(1 + \log_e x)^2$

4. ✖ $(1 + \log_e x)$

Question Number : 23 Question Id : 80089419668 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The angle of intersection between the curves $x^2 + y^2 = 36\sqrt{2}$ and $x^2 - y^2 = 36$, is

Options :

1. ✗ $\frac{\pi}{6}$

2. ✓ $\frac{\pi}{4}$

3. ✗ $\frac{\pi}{3}$

4. ✗ $\frac{\pi}{12}$

Question Number : 24 Question Id : 80089419669 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If m is the slope of a tangent to the curve $e^y = 1 + x^2$, then

Options :

1. ✗ $|m| > 1$

2. ✗ $m > 1$

3. ✗ $m > -1$

4. ✓ $|m| \leq 1$

Question Number : 25 Question Id : 80089419670 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The maximum and minimum values of the function $f(x) = x^3 - 18x^2 + 96x + 4$ are M and

m respectively, then M-m=

Options :

1. ✔ 32

2. ✖ 22

3. ✖ 42

4. ✖ 52

Question Number : 26 Question Id : 80089419671 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $u = log\left(\frac{x^3+y^3}{x^5+y^5}\right)$, then $\left(x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y}\right) =$

Options :

1. ✖ e^u

2. ✔ -2

3. ✖ log(u)

4. ✖ 1

Question Number : 27 Question Id : 80089419672 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(t) = 1 + t^2 + t^4 + t^6$, then $\int f(\tan x)dx =$

Options :

1. ✖ $x + \frac{(\tan x)^3}{3} + \frac{(\tan x)^5}{5} + \frac{(\tan x)^7}{7} + c$

2. ✔ $\tan x + \frac{(\tan x)^5}{5} + c$

3. ✖ $(\tan x)^2 + \frac{(\tan x)^5}{5} + c$

4. ✖ $\tan x + \frac{(\tan x)^3}{3} + \frac{(\tan x)^5}{5} + \frac{(\tan x)^7}{7} + c$

Question Number : 28 Question Id : 80089419673 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\int\big((1+x)\sin x + (1-x)\cos x\big)\,dx = A(\sin x - \cos x) + f(x)(\sin x + \cos x) + C$, then $A\,f(x) =$

Options :

1. ✖ $3x$

2. ✖ $3\sin x$

3. ✔ $-2x$

4. ✖ $2x + \sin x$

Question Number : 29 Question Id : 80089419674 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\int x^5 e^{x^2} dx = \frac{1}{2} e^{x^2} f(x) + c$ then $f(2) =$

Options :

1. ✖ 8

2. ✖ 9

3. ✔ 10

4. ✖ 12

Question Number : 30 Question Id : 80089419675 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$\lim_{n\to\infty} \frac{1}{n}\left(\sin\left(\frac{1}{n}\right) + \sin\left(\frac{2}{n}\right) + \sin\left(\frac{3}{n}\right) + \ldots\ldots \sin(1)\right) =$

Options :

1. ✖ $\cos(1)$

2. ✖ Cos (½)

3. ✔ $2\sin^2\left(\frac{1}{2}\right)$

4. ✖ log2

Question Number : 31 Question Id : 80089419676 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The area bounded by the curve $y = (x-1)(x-2)(x-3)$ and x-axis lying between $x = 1$ and $x = 3$ is

Options :

1. ✖ $\frac{5}{2}$

2. ✖ $\frac{11}{2}$

3. ✔ $\frac{1}{2}$

4. ✖ $\frac{7}{4}$

Question Number : 32 Question Id : 80089419677 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The area of the region bounded by the curves $y = \sin x$ and $y = \cos x$, x-axis, $x=0$ and $x=\frac{\pi}{2}$ is

Options :

1. ✖ twice the area between $y = (\sin x - \cos x)$, x-axis, $x=0$ and $x=\frac{\pi}{4}$

2. ✖ equal to the area between $y = \sin x$, x-axis, $x=0$ and $x=\frac{\pi}{4}$

3. ✖

equal to the area between $y = (\sin x + \cos x)$, x-axis, $x=0$ and $x=\frac{\pi}{2}$

4. ✔ twice the area between $y = \sin x$, x-axis, $x=0$ and $x=\frac{\pi}{4}$

Question Number : 33 Question Id : 80089419678 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The value of a function f at different points are given in the following table

x	0	1	2	3	4	5	6
f(x)	0	1	1.414	1.732	2	2.236	2.449

The approximate value of $\int_0^6 f(x)\,dx =$

Options :

1. ✖ 8.516

2. ✔ 9.716

3. ✖ 9.125

4. ✖ 9.203

Question Number : 34 Question Id : 80089419679 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If p and q respectively are order and degree of the differential equation $y^2\left(\frac{d^2y}{dx^2}\right)+3x\left(\frac{dy}{dx}\right)^{\frac{1}{3}}=\sin x-x^2y^2$, then pq =

Options :

1. ✖ 2

2. ✔ 6

3. ✖ 15

4. ✖ 12

Question Number : 35 Question Id : 80089419680 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The equation of the curve passing through the origin and satisfying the differential equation $\frac{dy}{dx}=\frac{x-y}{x+y}$ is

Options :

1. ✔ $x^2-y^2-2xy=0$

2. ✖ $x^2-y^2+2xy=0$

3. ✖ $x^2+y^2-2xy=0$

4. ✖ $x^2+y^2+2xy=0$

Question Number : 36 Question Id : 80089419681 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation $\frac{dy}{dx} - ky = 0, y(0) = 1$, approach zero as x$\rightarrow \infty$, when

Options :

1. ✖ $k = 0$

2. ✖ $k > 0$

3. ✔ $k < 0$

4. ✖ k is any real number

Question Number : 37 Question Id : 80089419682 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $x\frac{dy}{dx} + y = x^3y^6$ is

Options :

1. ✖ $(5x^3 - cx^5)y^5 = 2$

2. ✖ $(5x^5 - cx^3)y^5 = 2$

3. ✖ $(5x^5 + cx^3)y^5 = 2$

4. ✔ $(5x^3 + cx^5)y^5 = 2$

Question Number : 38 Question Id : 80089419683 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the particular integral of $\frac{d^2y}{dx^2} - 6\frac{dy}{dx} + 13y = 8e^{3x}\sin 2x$ is equal to f(x) times the particular integral of $\frac{d^2y}{dx^2} + 4y = \sin 2x$, then f(x) =

Options :

1. ✖ e^{2x}

2. ✔ $8e^{3x}$

3. ✖ $8\sin 2x$

4. ✖ $8e^{3x}\sin 2x$

Question Number : 39 Question Id : 80089419684 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The particular integral of $\frac{d^2y}{dx^2} + 4y = -4\cos 2x$ is

Options :

1. ✔ $-x\sin 2x$

2. ✖ $\frac{-x\sin 2x}{2}$

3. ✖ $\frac{-x\cos 2x}{2}$

4. ✖ $-x\cos 2x$

Question Number : 40 Question Id : 80089419685 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Laplace transform of the function $f(t) = |t-1| + |t+1|, t \geq 0$ is

Options :

1. ✖ $\frac{2}{s}(s + e^{-s})$

2. ✔ $\frac{2}{s^2}(s + e^{-s})$

3. ✖ $\frac{2}{s^2}(s - e^{-s})$

4. ✖ $\frac{2}{s}(s - e^{-s})$

Question Number : 41 Question Id : 80089419686 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $L\{F(t)\} = \frac{2s+5}{s^2+2s-3}$ then $L\{F(2t)\} =$

Options :

1. ✔ $\frac{2s+10}{s^2+4s-12}$

2. ✖ $\frac{2s+10}{s^2+4s+12}$

3. ✖ $\frac{2s+10}{s^2+6s-12}$

4. ✖ $\frac{s+5}{s^2+4s-12}$

Question Number : 42 Question Id : 80089419687 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(t)= \sin t + (\sin 2t - \sin t)u(t-\pi) + (\sin 3t - \sin 2t)u(t-2\pi)$ where u(t - a) is a unit step

function , then f(t) when $\pi \le t \le 2\pi$ is

Options :

1. ✖ Sint

2. ✔ sin 2t

3. ✖ sin 3t

4. ✖ sint + sin2t

Question Number : 43 Question Id : 80089419688 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Laplace transform of $f(t) = \begin{cases} 0, 0 < t \le 1 \\ (t-1), 1 < t < 2 \\ 1, \ t \ge 2 \end{cases}$

Options :

1. ✖

$\frac{e^{-s}+e^{-2s}}{s^2}$

2. ✖ $\frac{e^{-s}-e^{-2s}}{s}$

3. ✔ $\frac{e^{-s}-e^{-2s}}{s^2}$

4. ✖ $\frac{e^{-2s}-e^{-s}}{s^2}$

Question Number : 44 Question Id : 80089419689 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

$L^{-1}\left\{\frac{3s+1}{(s+1)^4}\right\}=e^{-t}F(t)$ then $F(1)=$

Options :

1. ✖ $\frac{1}{6}$

2. ✖ $\frac{1}{3}$

3. ✔ $\frac{7}{6}$

4. ✖ $\frac{5}{6}$

Question Number : 45 Question Id : 80089419690 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $L(f(t)) = \left\{\frac{1}{(s+4)^{5/2}}\right\}$, than f(t) is

Options :

1. ✔ $\frac{4}{3\sqrt{\pi}} e^{-4t} t^{3/2}$

2. ✖ $\frac{4}{3\sqrt{\pi}} t^{3/2}$

3. ✖ $\frac{4}{3\sqrt{\pi}} e^{4t} t^{3/2}$

4. ✖ $\frac{4}{3\sqrt{\pi}} e^{-4t} t^{5/2}$

Question Number : 46 Question Id : 80089419691 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $y = y(t)$ satisfies the differential equation $y''' + 2y'' - y' - 2y = 0$ together with the conditions

$y(0) = y'(0) = 0, y''(0) = 3$, then the Laplace transform of $y(t)$ is equal to

Options :

1. ✖ $\frac{3}{(s^2-1)(s-2)}$

2. ✔ $\frac{3}{(s^2-1)(s+2)}$

3. ✖ $\frac{3}{(s^2+1)(s+2)}$

4. ✖ $\frac{3}{(s^2+1)(s-2)}$

Question Number : 47 Question Id : 80089419692 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let $f(x)=e^{2x}$ in $(-\pi,\pi)$ and $f(x+2\pi)=f(x),\forall x$. If the Fourier series expansion of the function is

$$f(x)=\sum_{n=0}^{\infty}(a_n\cos nx+b_n\sin nx) \text{ then } a_0 =$$

Options :

1. ✖ $\frac{\sinh 2\pi}{8\pi}$

2. ✖ $\frac{\sinh 2\pi}{\pi}$

3. ✖ $\frac{\sinh 2\pi}{4\pi}$

4. ✔ $\frac{\sinh 2\pi}{2\pi}$

Question Number : 48 Question Id : 80089419693 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(x)=\begin{cases}0, \text{if} -\pi \le x \le 0 \\ \sin x, \text{if} 0 \le x \le \pi\end{cases}$. $f(x+2\pi)=f(x), \forall x$ and $f(x)=\sum_{n=0}^{\infty}(a_n \cos nx + b_n \sin nx)$, then

$b_1+b_2+b_3=$

Options :

1. ✖ 0

2. ✖ -1

3. ✔ $\frac{1}{2}$

4. ✖ $\frac{1}{4}$

Question Number : 49 Question Id : 80089419694 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If f(x) is periodic function defined on $-p \le x \le p$, then the coefficient of $\cos \frac{n\pi x}{p}$ in the Fourier series expansion of f(x) is

Options :

1. ✖ $\frac{1}{p}\int_{-p}^{p} f(x) \cos nx dx$

2. ✖ $\frac{1}{2p}\int_{-p}^{p} f(x) \cos \frac{nx}{p} dx$

3. ✖ $\frac{2}{p}\int_{0}^{p} f(x) \cos \frac{n\pi x}{p} dx$

4. ✔ $\frac{1}{p}\int_{-p}^{p} f(x)\cos\frac{n\pi x}{p}dx$

Question Number : 50 Question Id : 80089419695 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(x) = |\cos x|, x \in (-\pi, \pi)$ and $f(x) = \sum_{n=0}^{\infty}(a_n \cos nx + b_n \sin nx)$, then $a_0 + b_1 =$

Options :

1. ✖ $\frac{-4}{\pi^2}$

2. ✔ $\frac{2}{\pi}$

3. ✖ $\frac{4}{\pi}$

4. ✖ $\frac{-2}{\pi^2}$

Physics

Section Id :	800894385
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	Yes

Clear Response :

Sub-Section Number : 1

Sub-Section Id : 800894439

Question Shuffling Allowed : Yes

Question Number : 51 Question Id : 80089419696 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The dimensional formulae of the following pair of physical quantities are same

Options :

1. ✖ Heat and Temperature

2. ✖ Work and Power

3. ✔ Work and Energy

4. ✖ Power and Energy

Question Number : 52 Question Id : 80089419697 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the phenomenon of photo electric effect, the number of photo electrons emitted is proportional to

Options :

1. ✔ The intensity of radiation

2. ✖ The frequency of radiation

3. ✖ The velocity of incident radiation

4. ✖ The work-function of cathode material

Question Number : 53 Question Id : 80089419698 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The superconducting state is perfectly _____ in nature

Options :

1. ✔ Diamagnetic

2. ✖ Paramagnetic

3. ✖ Ferromagnetic

4. ✖ Non-magnetic

Question Number : 54 Question Id : 80089419699 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An ideal gas at temperature T is compressed through an isochoric process until its pressure is doubled
What is the final temperature

Options :

1. ✔ 2T

2. ✖ T/2

3. ✖ T

4. ✖ 3T

Question Number : 55 Question Id : 80089419700 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Match the following lists

List-I	List-II
A. Isochoric process	i. Pressure remains constant
B. Isobaric process	ii. Temperature remains constant
C. Isothermal process	iii. Heat remains constant
D. Adiabatic process	iv. Volume remains constant

Options :

1. ✖ A-i, B-ii, C-iii, D-iv

2. ✖ A-iv, B-ii, C-iii, D-i

3. ✖ A-iv, B-iii, C-ii, D-i

4. ✔ A-iv, B-i, C-ii, D-iii

Question Number : 56 Question Id : 80089419701 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The difference between two specific heats, C_p and C_v for a gas represents

Options :

1. ✖ Increase in kinetic energy of gas molecules

2. ✖ Increase in potential energy of gas molecules

3. ✔ External work done

4. ✖ Internal work done

Question Number : 57 Question Id : 80089419702 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Two vectors of equal magnitude R make an angle 60 degrees with each other. What is the magnitude of their resultant?

Options :

1. ✖ $R/\sqrt{2}$

2. ✖ $2\sqrt{2}\,R$

3. ✖ $\sqrt{2}\,R$

4. ✔ $\sqrt{3}\,R$

Question Number : 58 Question Id : 80089419703 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If **i** and **j** represent unit vectors in East and North directions, then the vector **i – j** is in the direction of

Options :

1. ✖ North-East

2. ✖ North-West

3. ✔ South-East

4. ✖ South-West

Question Number : 59 Question Id : 80089419704 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If θ is the angle between two vectors $\vec{a}$ and $\vec{b}$, then $|\vec{a}.\vec{b}| = |\vec{a} \times \vec{b}|$, when θ is equal to

Options :

1. ✖ 0

2. ✔ $\frac{\pi}{4}$

3. ✖ $\frac{\pi}{2}$

4. ✖ π

Question Number : 60 Question Id : 80089419705 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A stone of mass 10 gm is horizontally thrown from a cliff of height 500 m with an initial velocity 100 m/s. Time taken to reach the ground. [Take g = 10 m/s^2 , and neglect air resistance].

Options :

1. ✖ $\sqrt{80}$ s

2. ✖ 40 s

3. ✖ 20 s

4. ✔ 10 s

Question Number : 61 Question Id : 80089419706 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The maximum height a football reaches if it is kicked with a velocity 40 m/s at an angle 30 degrees with the horizontal. (Take g = 10 m/s^2)

Options :

1. ✖ 60 m

2. ✖ 40 m

3. ✔ 20 m

4. ✖ 10 m

Question Number : 62 Question Id : 80089419707 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following produces least friction?

Options :

1. ✖ Sliding friction

2. ✖ Composite friction

3. ✔ Rollingfriction

4. ✖ Static friction

Question Number : 63 Question Id : 80089419708 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Two cars of unequal masses, having similar tyres, are moving on horizontal surface with the same initial speed. The minimum stopping distance is

Options :

1. ✖ smaller for lighter car

2. ✖ smaller for heavier car

3. ✖ depends on the volume of the car

4. ✔ same for both the cars

Question Number : 64 Question Id : 80089419709 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the work done by an engine which lifts a mass of 100 kg through a height of 10 cm

[Take g = 10 m/s^2]

Options :

1. ✔ 100 J

2. ✖ 1000J

3. ✖ 10,000 J

4. ✖ 1 J

Question Number : 65 Question Id : 80089419710 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If a light body and a heavy body have equal momentum, then

Options :

1. ✔ The lighter body has greater energy than the heavier body

2. ✖ The lighter body has lesser kinetic energy than the heavier body

3. ✖ The kinetic energy of the lighter body is equal to the kinetic energy of the heavier body

4. ✖ The kinetic energy of both the bodies are independent of momentum

Question Number : 66 Question Id : 80089419711 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In simple harmonic motion, the restoring force must be proportional to

Options :

1. ✖ Amplitude

2. ✖ Frequency

3. ✖ Velocity

4. ✔ Displacement

Question Number : 67 Question Id : 80089419712 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The time period of the particle executing simple harmonic motion as per the equation

$x = (25\ m) \sin [\ (2\ \pi\ s^{-1})\ t + \ \pi / 2\ ].$

Options :

1. ✔ 1 s

2. ✖ 2 s

3. ✖ 3 s

4. ✖ 4 s

Question Number : 68 Question Id : 80089419713 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the length of a simple pendulum that has a period of 10 s ?

Options :

1. ✖ 24.84 cm

2. ✖ 2.484 cm

3. ✖ 2.484 m

4. ✔ 24.84 m

Question Number : 69 Question Id : 80089419714 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The intensity of sound is measured in the units of

Options :

1. ✖ Joule

2. ✖ Ampere

3. ✔ Decibel

4. ✖ Volt

Question Number : 70 Question Id : 80089419715 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

According to Sabine the reverberation time is

Options :

1. ✔ Proportional to the volume of the hall and inversely proportional to the total absorption

2. ✖ Proportional to the total absorption and inversely proportional to the volume of the hall

3. ✖ Proportional to both volume of the hall and total absorption

4. ✖ Independent of volume of the hall and total absorption

Question Number : 71 Question Id : 80089419716 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When the deforming forces are removed, if a body remains in the deformed state and does not even partially regain its original shape it is called

Options :

1. ✖ Elastic body

2. ✖ Perfectly elastic body

3. ✔ Inelastic body

4. ✔ Plastic body

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 72 Question Id : 80089419717 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The viscosity of a gas_____

Options :

1. ✖ Decreases with increase in temperature

2. ✔ Increases with increase in temperature

3. ✖ Is independent of temperature

4. ✖ is independent of pressure for very high pressure intensities

Question Number : 73 Question Id : 80089419718 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Ohm's law is not applicable to _____

Options :

1. ✖ DC circuits

2. ✖ High currents

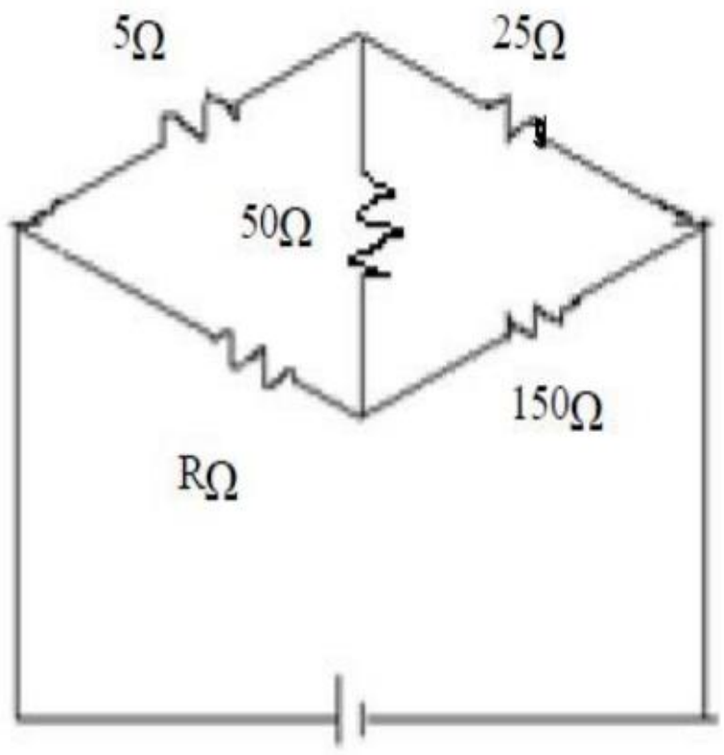
3. ✖ Small resistors

4. ✔ Semiconductors

Question Number : 74 Question Id : 80089419719 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Assume that the current through resistor 50Ω in the given circuit is zero, the value of R is



Options :

1. ✔ $30\ \Omega$

2. ✖ $40\ \Omega$

3. ✖ $50\ \Omega$

4. ✖ $100\ \Omega$

Question Number : 75 Question Id : 80089419720 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The force of attraction between the magnetic poles of strength m_1 and m_2 separated by a distance 'd' in free space is given by

Options :

1. ✖ $$F = \frac{\mu}{4\pi}\frac{m_1 m_2}{d^2}$$

2. ✔ $$F = \frac{\mu_0}{4\pi}\frac{m_1 m_2}{d^2}$$

3. ✖ $$F = \frac{\mu_0}{2\pi}\frac{m_1 m_2}{d^2}$$

4. ✖ $$F = \frac{\mu_0}{4\pi}\frac{d^2}{m_1 m_2}$$

Chemistry

Section Id :	800894386
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
Sub-Section Number :	1
Sub-Section Id :	800894440

Question Shuffling Allowed : Yes

Question Number : 76 Question Id : 80089419721 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

According to Paulis exclusion principle, two electrons in the same orbital contains

Options :

1. ✖ Vertical spins

2. ✖ Angular spins

3. ✖ Same spins

4. ✔ Opposite spins

Question Number : 77 Question Id : 80089419722 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the formation of nitrogen molecule, the number of electron pairs shared between the two nitrogen atoms is

Options :

1. ✖ Two

2. ✔ Three

3. ✖ One

4. ✖ Four

Question Number : 78 Question Id : 80089419723 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the redox reaction of hypo and Iodine, the oxidation number of sulphur atom changes from

Options :

1. ✔ $+2$ to $+2.5$

2. ✖ $+2.5$ to $+2.0$

3. ✖ $+2.0$ to $+3.0$

4. ✖ $+1.0$ to $+2.0$

Question Number : 79 Question Id : 80089419724 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When the Phenol and water mixed together, the formed solution is called

Options :

1. ✖ Homogeneous

2. ✔ Heterogeneous

3. ✖ Colloidal

4. ✖ Azeotropic

Question Number : 80 Question Id : 80089419725 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many grams of anhydrous oxalic acid is required to prepare one liter of 0.1 N oxalic acid solution?

Options :

1. ✖ 45 grams

2. ✖ 9.0 grams

3. ✔ 4.5 grams

4. ✖ 0.9 grams

Question Number : 81 Question Id : 80089419726 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the sulphate ion concentration in a solution of $Al_2(SO_4)_3$ is 0.25 M, the concentration of $Al_2(SO_4)_3$ in the solution is

Options :

1. ✖ 0.250 M

2. ✖ 0.0625 M

3. ✔ 0.0833 M

4. ✖ 0.125M

Question Number : 82 Question Id : 80089419727 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following pair of species represent as conjugate Acid base?

Options :

1. ✖ HCl, H_2O

2. ✖ H_3PO_4, H_3O^+

3. ✔ HSO_3^-, SO_3^{2-}

4. ✖ H_2CO_3, CO_2

Question Number : 83 Question Id : 80089419728 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

From the following, choose the correct $[H^+]$ of a NaOH solution in M, if its pOH is 11.3

Options :

1. ✔ 2×10^{-3}

2. ✖ 2.7×10^{-3}

3. ✖ 2.7×10^{-12}

4. ✖ 6.2×10^{-8}

Question Number : 84 Question Id : 80089419729 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hydrochloric acid is a strong acid. This means that _____.

Options :

1. ✔ HCl dissociates completely in to $H^+(aq)$ and $Cl^-(aq)$ when it dissolves in water

2. ✖ HCl does not dissociate at all when it is dissolved in water

3. ✖ HCl produces a gaseous product when it is neutralized

4. ✖ HCl cannot be neutralized by a weak base

Question Number : 85 Question Id : 80089419730 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The impurities associated with mineral used in metallurgy are called

Options :

1. ✖ Flux

2. ✔ Gangue

3. ✖ Slag

4. ✖ Ore

Question Number : 86 Question Id : 80089419731 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

German silver is an alloy of

Options :

1. ✖ Ag, Cu, Zn

2. ✖ Ag, Cu, Au

3. ✔ Cu, Zn, Ni

4. ✖ Cu, Zn, Fe

Question Number : 87 Question Id : 80089419732 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The degree of dissociation of weak electrolytes is

Options :

1. ✖ 100 %

2. ✖ $\geq 30\ \%$

3. ✖ $\leq 10\ \%$

4. ✔ $< 3\ \%$

Question Number : 88 Question Id : 80089419733 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

With reference to Faraday's second law, the weights of different substances deposited by the passage of the same quantity of electricity, are proportional to their _____

Options :

1. ✔ Chemical equivalent weights

2. ✖ Current supply

3. ✖ Chemical equivalent density

4. ✖ Molecular Weights

Question Number : 89 Question Id : 80089419734 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A zinc rod is placed in 0.1M solution of zinc sulphate at 25°C. Assuming that the salt is dissociated to the extent of 95% at this dilution. The potential of the electrode at this temperature is ($E^{\circ}_{Zn^{2+}/Zn}$ = - 0.76 V and log 0.095 = -1.0223).

Options :

1. ✖ $-0.76\ \mathrm{V}$

2. ✖ $+0.76\ \mathrm{V}$

3. ✔ $-0.79\ \mathrm{V}$

4. ✖ $+0.79\ \mathrm{V}$

Question Number : 90 Question Id : 80089419735 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following does not corrode when exposed to air?

Options :

1. ✖ Cu

2. ✔ Al

3. ✔ Ag

4. ✖ Fe

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 91 Question Id : 80089419736 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which metals from the following can provide cathodic protection to Iron?

Options :

1. ✖ Zn and Cu

2. ✖ Al and Cu

3. ✖ Al and Ni

4. ✔ Al and Zn

Question Number : 92 Question Id : 80089419737 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The hardness of water is caused by

Options :

1. ✖ Undissolved salts of Ca^{+2} and Mg^{+2}

2. ✖ Undissolved salts of Cu^{+2} and Mg^{+2}

3. ✔ Dissolved salts of Ca^{+2} and Mg^{+2}

4. ✖ Undissolved $CaCO_3$

Question Number : 93 Question Id : 80089419738 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A water sample contains 204 mg of $CaSO_4$ per Litre. Its hardness in terms of $CaCO_3$ equivalent is

Options :

1. ✔ 150 ppm

2. ✖ 136 ppm

3. ✖ 204 ppm

4. ✖ 100 ppm

Question Number : 94 Question Id : 80089419739 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Hard water can block radiators due to the formation of?

Options :

1. ✔ insoluble calcium and magnesium salts

2. ✖ insoluble sodium salts

3. ✖ insoluble phosphate salts

4. ✖ insoluble potassium salts

Question Number : 95 Question Id : 80089419740 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Choose the incorrect statement from the following options.

Options :

1. ✖ The molecular weight of the polymer steadily rises throughout the reaction, in condensation polymerisation

2. ✖ In addition polymerisation, growth of chain is at one active centre.

3. ✖ No by product will be formed in the addition polymerisation

4. ✔ The molecular weight of the polymer steadily increases throughout the reaction, in addition polymerisation

Question Number : 96 Question Id : 80089419741 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following is a thermoplastic?

Options :

1. ✔ Teflon

2. ✖ Natural rubber

3. ✖ Neoprene

4. ✖ Buna-S

Question Number : 97 Question Id : 80089419742 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following a characteristic feature is of a good fuel?

Options :

1. ✖ High moisture content

2. ✖ Should undergo spontaneous combustion

3. ✖ Low calorific value

4. ✔ High calorific value

Question Number : 98 Question Id : 80089419743 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Producer gas is primarily a mixture of

Options :

1. ✔ $CO + N_2$

2. ✖ $CO + H_2$

3. ✖ $CO + CH_4$

4. ✖ $N_2 + H_2$

Question Number : 99 Question Id : 80089419744 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The measurement of dissolved oxygen used by microorganisms during the biochemical oxidation of organic matter in 5 days at 20°C is said to be

Options :

1. ✔ Biological Oxygen Demand

2. ✖ Chemical Oxygen Demand

3. ✖ Biological Dissolved Oxygen

4. ✖ Threshold Oxygen Demand

Question Number : 100 Question Id : 80089419745 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following is a green house gas?

Options :

1. ✖ H_2

2. ✖ N_2

3. ✖ CO

4. ✔ CO_2

Electronics and Communication Engineering

Section Id :	800894387
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
Sub-Section Number :	1

Sub-Section Id : 800894441

Question Shuffling Allowed : Yes

Question Number : 101 Question Id : 80089419746 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a PN junction diode the Depletion region behaves as

Options :

1. ✖ Semiconductor

2. ✔ Insulator

3. ✖ Conductor

4. ✖ High resistance

Question Number : 102 Question Id : 80089419747 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following circuit is used to add a dc voltage to its input signal?

Options :

1. ✖ Rectifier

2. ✖ Regulator

3. ✔ Clamper

4. ✖ Clipper

Question Number : 103 Question Id : 80089419748 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

JFET exhibits a high input impedance because

Options :

1. ✔ The input is reverse biased

2. ✖ It is made up of semiconductor material

3. ✖ It is made of impurity atoms

4. ✖ It has a channel

Question Number : 104 Question Id : 80089419749 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Match the following with reference to rectifiers:

(i) Ripple factor of Half wave rectifier	(a) $\frac{V_m}{\pi} - I_{dc}R_f$
(ii) Ripple factor of Full wave rectifier	(b) 1.21
(iii) PIV of full wave rectifier	(c) $2V_m$
(iv) V_{dc} of Half wave rectifier	(d) 0.482

Options :

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

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

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

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

Question Number : 105 Question Id : 80089419750 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a rectifier, larger the value of shunt capacitor filter

Options :

1. ✖ Larger the peak to peak value of ripple voltage

2. ✖ Longer the time that current pulse flows through the diode

3. ✔ Larger the peak current in the rectifying diode

4. ✖ Smaller the DC voltage across the load

Question Number : 106 Question Id : 80089419751 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is major drawback of Series Voltage Regulator compared to Shunt Voltage Regulator?

Options :

1. ✖ Regulating device is in series with the load

2. ✔ Additional circuitry is required for the short circuit protection

3. ✖ Easily fabricated on a single silicon chip

4. ✖ More complex than the discrete configuration

Question Number : 107 Question Id : 80089419752 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The conditions for a transistor to be in saturation are

Options :

1. ✖ $|I_B| \geq \frac{|I_C|}{h_{FE}}$, V_{CB} is positive for a npn transistor, emitter junction is forward bias

2. ✖ $|I_B| \leq \frac{|I_C|}{h_{FE}}$, V_{CB} is positive for a pnp transistor, emitter junction is reverse bias

3. ✔ $|I_B| \geq \frac{|I_C|}{h_{FE}}$, V_{CB} is positive for a pnp transistor, emitter junction is forward bias

4. ✖ $|I_B| \leq \frac{|I_C|}{h_{FE}}$, V_{CB} is positive for a npn transistor, emitter junction is reverse bias

Question Number : 108 Question Id : 80089419753 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In an ideal differential amplifier, a large value of emitter resistor R_E is

Options :

1. ✖ Increases both differential & common mode gains

2. ✖ Increases the common mode gain only

3. ✖ Decreases the differential gain only

4. ✔ Decreases the common mode gain only

Question Number : 109 Question Id : 80089419754 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a differential amplifier, the differential voltage gain and the common mode voltage gain are 48 dB & 2 dB

respectively, then its common mode rejection ratio is____ dB

Options :

1. ✖ 25

2. ✖ 50

3. ✔ 46

4. ✖ 24

Question Number : 110 Question Id : 80089419755 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The condition of sustained oscillations in RC phase shift oscillator using BJT is

Options :

1. ✖ $h_{fe(\min)} \leq 4\frac{R}{R_C} + 23 + 29\frac{R}{R_C}$

2. ✖ $h_{fe(\min)} \geq 4\frac{R_C}{R} + 23 + 29\frac{R_C}{R}$

3. ✔ $h_{fe(\min)} \geq 4\frac{R_C}{R} + 23 + 29\frac{R}{R_C}$

4. ✖ $h_{fe(\min)} \leq 4\frac{R}{R_C} + 23 + 29\frac{R_C}{R}$

Question Number : 111 Question Id : 80089419756 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following devices does not have a negative resistance characteristics ?

Options :

1. ✖ Tunnel Diode

2. ✖ UJT

3. ✔ FET

4. ✖ SCR

Question Number : 112 Question Id : 80089419757 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following ideal characteristics of operational amplifier is correct?

$(R_i = input\ resistance, R_0 = output\ resistance, A_V = open\ circuit\ voltage\ gain\ , B = Band\ width)$

Options :

1. ✖ $R_i = \infty,\ \ R_0 = \infty,\ \ A_V = 0\ ,\ \ B = 0$

2. ✖ $R_i = 0,\ \ R_0 = \infty,\ \ A_V = \infty\ ,\ \ B = 1$

3. ✔ $R_i = \infty,\ \ R_0 = 0,\ \ A_V = -\infty\ ,\ \ B = \infty$

4. ✖ $R_i = 0,\ \ R_0 = \infty,\ \ A_V = 0\ ,\ \ B = -\infty$

Question Number : 113 Question Id : 80089419758 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In IC 555 oscillator circuit which of the pins are connected together to re-trigger itself for every cycle?

Options :

1. ✖ Pin7 and 8

2. ✖ Pin 4 and 5

3. ✖ Pin 1 and 3

4. ✔ Pin2 and 6

Question Number : 114 Question Id : 80089419759 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The function of low pass filter in phase-locked loop is

Options :

1. ✖ Improves low frequency noise

2. ✔ Removes high frequency noise

3. ✖ Tracks the voltage changes

4. ✖ Changes the input frequency

Question Number : 115 Question Id : 80089419760 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The voltage gain of a tuned amplifier is …… at resonant frequency.

Options :

1. ✖ Minimum

2. ✔ Maximum

3. ✖ Half-way between maximum and minimum

4. ✖ Zero

Question Number : 116 Question Id : 80089419761 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Kirchhoff's voltage law states that

Options :

1. ✔ Sum of voltages around a loop is equal to zero

2. ✖ Sum of voltages around a node is equal to zero

3. ✖ Sum of current entering a node is equal to zero

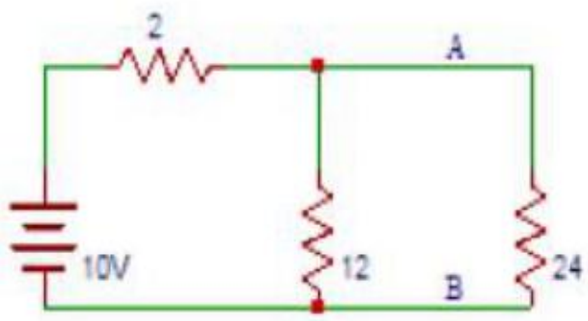
4. ✖ Sum of voltages entering a node is equal to zero

Question Number : 117 Question Id : 80089419762 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For the circuit shown below the current flowing through 24Ω resistor is _____ A.



Options :

1. ✔ 0.33

2. ✖ 0.66

3. ✖ 0

4. ✖ 0.99

Question Number : 118 Question Id : 80089419763 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The matrix formed by link branches of a tie set matrix is

Options :

1. ✖ Row matrix

2. ✖ Column matrix

3. ✖ Diagonal matrix

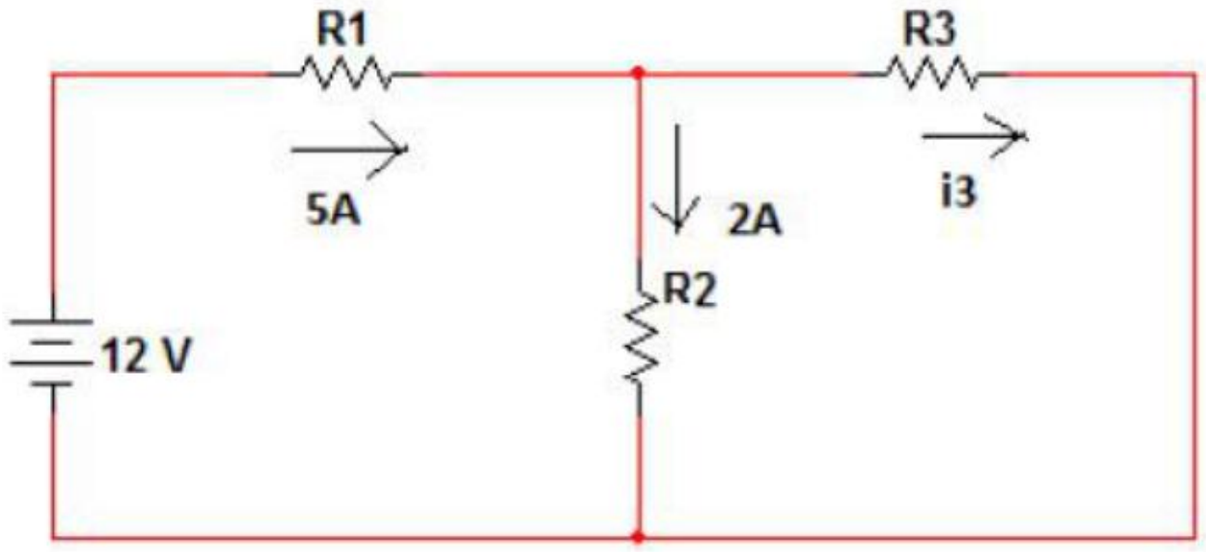
4. ✔ Identity matrix

Question Number : 119 Question Id : 80089419764 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The current i3 in the circuit shown below is _____ A.



Options :

1. ✖ 2

2. ✖ 1

3. ✔ 3

4. ✖ 0.5

Question Number : 120 Question Id : 80089419765 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

At resonant frequency, the voltage across capacitor is _____ the voltage across inductor in LC circuit.

Options :

1. ✖ greater than

2. ✖ less than

3. ✖ greater than or equal to

4. ✔ equal to

Question Number : 121 Question Id : 80089419766 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

One of the following statement is false with respect to Reciprocity theorem:

Options :

1. ✖ The current must have a single source

2. ✖ Initial conditions are assumed to be absent in the circuit

3. ✖ Dependent sources are excluded even if they are linear

4. ✔

When the positions of source and response are interchanged, their directions should be opposite as in the original circuit

Question Number : 122 Question Id : 80089419767 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Superposition Theorem is applicable to

Options :

1. ✖ Voltage Sources only

2. ✖ Current Sources only

3. ✖ Both Voltage and Current Sources

4. ✔ Voltage and Current and power Sources

Question Number : 123 Question Id : 80089419768 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If the Q of the coil is increased, the power factor of it will

Options :

1. ✖ increase

2. ✔ decrease

3. ✖ remains constant

4. ✖ become zero

Question Number : 124 Question Id : 80089419769 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The distributed capacitance and inductance parameters of loss-less transmission line are 20μF/m and 80 μH/m.

The values of characteristic impedance and speed of propagation are

Options :

1. ✖ 25 Ω , 2 Km/sec

2. ✔ 2 Ω , 25 Km/sec

3. ✖ 4 Ω , 16 Km/sec

4. ✖ 1.33 Ω, 4 Km/sec

Question Number : 125 Question Id : 80089419770 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The measure of mismatch between the load and the transmission line is known as

Options :

1. ✔ Reflection coefficient

2. ✖ 1/Gain

3. ✖ Standing wave ratio

4. ✖ Directivity

Question Number : 126 Question Id : 80089419771 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the cathode of SCR is made positive with respect to the anode and gate current is not applied, then

Options :

1. ✖ All the junctions are reverse biased

2. ✖ All the junctions are forward biased

3. ✔ Only the middle junction is forward biased

4. ✖ Only the middle junction is reverse biased

Question Number : 127 Question Id : 80089419772 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An SCR is rated at 800V peak inverse voltage. Find the voltage for which the device can be operated if the voltage safety factor is 2?

Options :

1. ✖ 400 V

2. ✔ 282.8 V

3. ✖ 250 V

4. ✖ 2.5 mV

Question Number : 128 Question Id : 80089419773 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In two phase servomotor, the voltage applied to control phase is ---------- with the reference phase.

Options :

1. ✖ Same phase

2. ✖ 45^0 phase difference

3. ✔ 90^0 out of phase

4. ✖ 180^0 in phase

Question Number : 129 Question Id : 80089419774 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The sensitivity of an LVDT that produces an RMS output voltage of 2.6 V for a displacement of 0.4 μm is _____

Options :

1. ✖ 7.5 V/ m

2. ✔ 6.5 V/ µm

3. ✖ 8.5 V/ m

4. ✖ 5.6 V/ µm

Question Number : 130 Question Id : 80089419775 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the gauge factor of the material of a strain gauge is such that the resistance changes from 1000Ω to 1009Ω

when subjected to a strain 0.002, calculate the value of the gauge factor?

Options :

1. ✖ 0.002

2. ✖ 0.009

3. ✖ 2.22

4. ✔ 4.50

Question Number : 131 Question Id : 80089419776 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Induction heating takes place in

Options :

1. ✖ conducting but non-magnetic materials

2. ✔ conducting materials which may be either magnetic or non-magnetic materials

3. ✖ insulating materials

4. ✖ conducting and magnetic materials

Question Number : 132 Question Id : 80089419777 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

___ heating method has a leading power factor

Options :

1. ✖ Arc

2. ✖ Resistance

3. ✔ Dielectric

4. ✖ Inductive

Question Number : 133 Question Id : 80089419778 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The capability of conventional relay systems for complex operations is _____that of the PLCs

Options :

1. ✖ better than

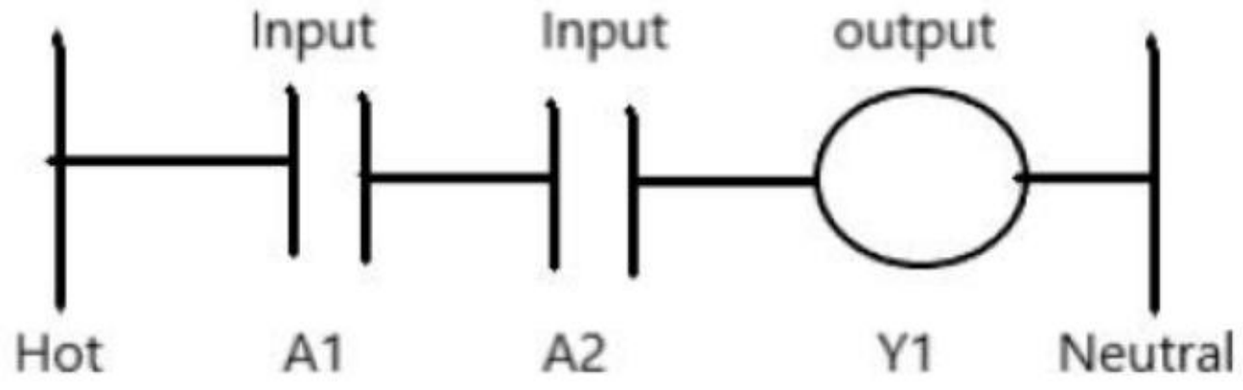
2. ✔ poorer than

3. ✖ unpredictable than

4. ✖ as good as

Question Number : 134 Question Id : 80089419779 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The following ladder symbol diagram represents:



Options :

1. ✔ And gate

2. ✖ Not gate

3. ✖ OR gate

4. ✖ NOR gate

Question Number : 135 Question Id : 80089419780 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A closed loop system has negative gain margin, then the system is

Options :

1. ✔ Unstable

2. ✖ Stable

3. ✖ Marginally stable

4. ✖ Conditionally stable

Question Number : 136 Question Id : 80089419781 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An Amplitude Modulated Signal has V_{max} of 5.9 and V_{min} of 1.2. The Modulation Index is

Options :

1. ✖ 0.64

2. ✔ 0.662

3. ✖ 0.712

4. ✖ 0.46

Question Number : 137 Question Id : 80089419782 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is an indirect method of generating FM signal?

Options :

1. ✖ Varactor diode modulation

2. ✔ Arm strong modulation

3. ✖ Reactance BJT Modulator

4. ✖ Reactive FM Modulator

Question Number : 138 Question Id : 80089419783 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A broad cast radio transmitter radiates 20 KW, when the modulation Percentage is 60. The carrier power will be

Options :

1. ✖ 1.2 KW

2. ✖ 1.45 KW

3. ✔ 16.94 KW

4. ✖ 20 KW

Question Number : 139 Question Id : 80089419784 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

De-emphasis is related to

Options :

1. ✖ PM Receivers

2. ✖ Automatic Voltage Control

3. ✖ AM Receivers

4. ✔ FM Receivers

Question Number : 140 Question Id : 80089419785 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Propagation by means of Space wave occurs in

Options :

1. ✖ HF range

2. ✖ LF range

3. ✖ VLF range

4. ✔ UHF range

Question Number : 141 Question Id : 80089419786 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In ionospheric region when N is the maximum electron density in per cubic metre, then Critical Frequency f_c is

Options :

1. ✖ $9\,N$

2. ✖ $9\,N^3/2$

3. ✔ $9\,\sqrt{N}$

4. ✖ $9/\sqrt{N}$

Question Number : 142 Question Id : 80089419787 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The expression for bandwidth BW of a PCM system, where v is the number of bits per sample and f_m is the modulating frequency, is given by

Options :

1. ✖ $BW \leq vf_m$

2. ✔ $BW \geq vf_m$

3. ✖ $BW \geq 2\,vf_m$

4. ✖ $BW \geq 1/2\,vf_m$

Question Number : 143 Question Id : 80089419788 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In delta modulation, the slope overload distortion can be reduced by

Options :

1. ✖ Decreasing the Step size

2. ✖ Decreasing the Granular noise

3. ✖ Decreasing the Sampling rate

4. ✔ Increasing the Step size

Question Number : 144 Question Id : 80089419789 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Amplitude Shift keying is also called

Options :

1. ✔ On -Off Keying

2. ✖ Amplitude keying

3. ✖ Amplitude modulation

4. ✖ Phase Shift Keying

Question Number : 145 Question Id : 80089419790 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When calculating the maximum number of users, a limiting factor in FDM is:

Options :

1. ✖ type of media used

2. ✖ length of the channel

3. ✔ bandwidth of each signal

4. ✖ voltage of each signal

Question Number : 146 Question Id : 80089419791 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The horizontal radiation pattern of a dipole antenna is

Options :

1. ✖ Narrow beam

2. ✔ Figure of Eight

3. ✖ Clover leaf

4. ✖ Circle

Question Number : 147 Question Id : 80089419792 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The gain of an isotropic antenna is _____dB

Options :

1. ✖ 1

2. ✔ 0

3. ✖ 10

4. ✖ 100

Question Number : 148 Question Id : 80089419793 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The relationship between antenna gain G and effective area A_e is

Options :

1. ✔ $G = \frac{4\pi}{\lambda^2} A_e \quad (\lambda \ is \ wave \ length)$

2. ✖ $G = cA_e \quad (c \ is \ free \ space \ light \ velocity)$

3. ✖ $G = \eta A_e \quad (\eta \ is \ efficiency)$

4. ✖ $G = \frac{4\pi}{f^2} A_e \quad (f \ is \ carrier \ frequency)$

Question Number : 149 Question Id : 80089419794 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

An air filled rectangular waveguide of inside dimensions 5cmx2.5cm operates at the dominant mode. Find guide wavelength at f = 5GHz?

Options :

1. ✔ 0.075 m

2. ✖ 0.06 m

3. ✖ 0.625 m

4. ✖ 0.125 m

Question Number : 150 Question Id : 80089419795 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

In a magnetron, oscillations are produced due to the bunching of electrons under

Options :

1. ✖ Only radial electric field without any magnetic field

2. ✖ Axial electric field and radial magnetic field

3. ✔ Radial electric field and axial magnetic field

4. ✖ Axial electric field without the need of magnetic field

Question Number : 151 Question Id : 80089419796 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The principle of operation of klystron is

Options :

1. ✖ Frequency modulation

2. ✖ Phase modulation

3. ✔ Velocity modulation

4. ✖ Density modulation

Question Number : 152 Question Id : 80089419797 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The range beyond which targets appear as second-time-around echoes is called

Options :

1. ✖ Maximum ambiguous range

2. ✔ Maximum unambiguous range

3. ✖ Pulse repetition frequency

4. ✖

Near field region

Question Number : 153 Question Id : 80089419798 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A delay-line canceller in MTI radar introduces a time delay of

Options :

1. ✖ One fourth of echo time

2. ✖ Half of the backward time

3. ✖ Twice the forward time

4. ✔ Equal to pulse repetition time

Question Number : 154 Question Id : 80089419799 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A circular orbit around the equator with a 24-Hr period is called____ orbit.

Options :

1. ✖ Polar

2. ✖ Elliptical

3. ✖ Transfer

4. ✔ Geostationary

Question Number : 155 Question Id : 80089419800 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The following is one of the uplink/downlink frequencies for satellite communication:

Options :

1. ✖ 4/6 GHz

2. ✔ 6/4 GHz

3. ✖ 3/2 GHz

4. ✖ 13/16 GHz

Question Number : 156 Question Id : 80089419801 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

For the binary number 110011100 the equivalent octal number is

Options :

1. ✖ 559

2. ✖ 654

3. ✖ 364

4. ✔ 634

Question Number : 157 Question Id : 80089419802 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For the identity AB+ A'C +BC= AB+A'C the dual form is

Options :

1. ✖ (A+B)(A' +C)(B+C)= (A' +B)(A+C)

2. ✖ (A' +B) (A' +C)(B+C)= A' +B(A+C)

3. ✔ (A+B) (A' +C)(B+C)=(A+B)(A' +C)

4. ✖ A' B+A' C+BC=AB+A' C

Question Number : 158 Question Id : 80089419803 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which code is used for labeling the cells of K-map?

Options :

1. ✖ Binary

2. ✖ BCD

3. ✔ Gray

4. ✖ ASCII

Question Number : 159 Question Id : 80089419804 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A full- adder can be implemented with half-adders and OR gates. A 4- bit parallel full adder without any initial carry requires

Options :

1. ✖ 8 Half- adders, 4- OR gates

2. ✖ 8 Half- adders, 3-OR gates

3. ✖ 7 Half- adders, 4-OR gates

4. ✔ 7 Half-adders, 3-OR gates

Question Number : 160 Question Id : 80089419805 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If the number of input lines 'n' is equal to 2^m, then it requires _____ select lines.

Options :

1. ✔ m

2. ✖ 2^m

3. ✖

$2^{n/m}$

4. ✖ 2^n

Question Number : 161 Question Id : 80089419806 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Decoder with enable input can be used as

Options :

1. ✔ Demultiplexer

2. ✖ XOR

3. ✖ Encoder

4. ✖ Multiplexer

Question Number : 162 Question Id : 80089419807 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of unused states in a 4-bit John son counter is

Options :

1. ✖ 2

2. ✖ 4

3. ✔ 8

4. ✖ 12

Question Number : 163 Question Id : 80089419808 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

For a ring counter, the number of output states are always equal to number of _____

Options :

1. ✖ input states

2. ✖ clock pulses

3. ✖ double the clock pulses

4. ✔ flip flops

Question Number : 164 Question Id : 80089419809 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

An 'n' bit D/A converter, gives a maximum output of ' $V_{max.}$' The resolution is

Options :

1. ✔ $V_{max} / 2^n - 1$

2. ✖ $V_{max} / 2^n$

3. ✖ $V_{max} \times 2^n$

4. ✖ $V_{max} - 1 / 2^n$

Question Number : 165 Question Id : 80089419810 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Minimum Number of Comparators required to build an 8 bit Flash ADC

Options :

1. ✖ 4

2. ✔ 255

3. ✖ 8

4. ✖ 256

Question Number : 166 Question Id : 80089419811 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In 8051 microcontroller after reset, Stack Pointer(SP) register is initialized to_____address.

Options :

1. ✖ 8H

2. ✖ 9H

3. ✔ 7H

4. ✖ 6H

Question Number : 167 Question Id : 80089419812 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In 8085 the data is stored in the stack on

Options :

1. ✖ first in first out basis

2. ✔ last in first out basis

3. ✖ first in last out basis

4. ✖ last in last out basis

Question Number : 168 Question Id : 80089419813 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

MOV A,@ R1 will indicate

Options :

1. ✖ Copy the contents of R1 to Accumulator

2. ✖ Copy the contents of accumulator to R1

3. ✔ Copy the contents of memory whose address is in R1 to the accumulator

4. ✖ Copy the contents of the accumulator to memory whose address is in R1

Question Number : 169 Question Id : 80089419814 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

8051 Microcontroller has a RAM of

Options :

1. ✔ 128 bytes

2. ✖ 256 bytes

3. ✖ 64 bytes

4. ✖ 512 bytes

Question Number : 170 Question Id : 80089419815 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of bit addressable memory present in 8051 microcontroller is ___ bytes.

Options :

1. ✖ 8

2. ✖ 32

3. ✖ 128

4. ✔ 16

Question Number : 171 Question Id : 80089419816 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The operating modes of 8255 A are called

Options :

1. ✖ mode 0 and mode 1

2. ✔ mode 0, mode 1 and mode 2

3. ✖ mode 0 and mode 2

4. ✖ mode 1 and mode 2

Question Number : 172 Question Id : 80089419817 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When 8051 Microcontroller is interfaced to LCD, which command of an LCD is used to shift the entire display to the right?

Options :

1. ✖ 0x05

2. ✖ 0x18

3. ✔ 0x1C

4. ✖ 0x07

Question Number : 173 Question Id : 80089419818 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The steps followed in programming the ADC0808 IC are

Options :

1. ✖ select the analog channel, start the conversion, monitor the conversion, display the digital results

2. ✖ select the analog channel, activate the ALE signal (H to L pulse), start the conversion, monitor the conversion, read the digital results

3. ✖ select the channel, start the conversion, end the conversion

4. ✔ select the analog channel, activate the ALE signal (L to H pulse), start the conversion, monitor the conversion, read the digital results.

Question Number : 174 Question Id : 80089419819 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which bit of TMOD will exactly configure timer / counter as a timer or counter?

i) TMOD.6 of C/T for timer 1

ii) TMOD.6 of C/T for timer 0

iii) TMOD.2 of C/T for timer 0

iv) TMOD.2 of C/T for timer 1

Options :

1. ✖ i, ii

2. ✔ i, iii

3. ✖ ii, iv

4. ✖ iii, iv

Question Number : 175 Question Id : 80089419820 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following encoding method is specified in the EIA-232 standard?

Options :

1. ✖ NRZ-I

2. ✔ NRZ-L

3. ✖ Manchester

4. ✖ Differential Manchester

Question Number : 176 Question Id : 80089419821 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of scan lines / field in the 625-B monochrome TV system is

Options :

1. ✔ 312.5

2. ✖ 625

3. ✖ 311.5

4. ✖ 300

Question Number : 177 Question Id : 80089419822 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The capability of the system to resolve maximum number of picture elements along the scanning line determines

Options :

1. ✖ Vertical Resolution

2. ✔ Horizontal Resolution

3. ✖ Scanning Period

4. ✖ Kell Factor

Question Number : 178 Question Id : 80089419823 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

VSB modulation is preferred in TV because

Options :

1. ✔ It reduces the bandwidth requirement to half

2. ✖ It results in better reception

3. ✖ It results in better transmission

4. ✖ It avoids phase distortion at low frequencies

Question Number : 179 Question Id : 80089419824 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Horizontal and Vertical sync information extracted from sync pulse train respectively by passing through

Options :

1. ✖ Low pass filter and High pass filter

2. ✖ Low pass filter and Low pass filter

3. ✔ High pass filter and Low pass filter

4. ✖

High pass filter and High pass filter

Question Number : 180 Question Id : 80089419825 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

In a NTSC color TV system , the phase difference between I and Q signals is

Options :

1. ✔ 90^0

2. ✖ 0^0

3. ✖ 180^0

4. ✖ 270^0

Question Number : 181 Question Id : 80089419826 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Match the following:

(i) Contrast	(a) amount of light intensity
(ii) Luminance	(b) difference in light intensity
(iii) Hue	(c) spectral purity of color
(iv) Saturation	(d) predominant spectral color

Options :

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

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

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

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

Question Number : 182 Question Id : 80089419827 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the NTSC system, the two colour difference signals are

Options :

1. ✔ Not Transmitted together

2. ✖ Transmitted together

3. ✖ Transmitted in quadrature

4. ✖ Transmitted in anti-phase

Question Number : 183 Question Id : 80089419828 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The color burst is placed at the back porch of each horizontal blanking pulse,

Options :

1. ✖ To extract horizontal sync pulse at the receiver

2. ✖ To extract vertical sync pulse at the receiver

3. ✔ Used to lock the subcarrier oscillator of receiver with that at the transmitting end

4. ✖ Used to separate the sound signal at the receiver

Question Number : 184 Question Id : 80089419829 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Scanning lines & frequency in HDTV are

Options :

1. ✔ 1125,50Hz

2. ✖ 625,50Hz

3. ✖ 819,60Hz

4. ✖ 625, 60Hz

Question Number : 185 Question Id : 80089419830 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a color TV receiver, Y I Q refers to

Options :

1. ✖ Composite video signal, in-phase video component, quadrature video color component

2. ✔ Luminance signal, in-phase color component, quadrature phase color component

3. ✖ Composite color signal, in-phase color component, quadrature phase color component

4. ✖ A method of demodulating stereo sound

Question Number : 186 Question Id : 80089419831 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following offers wider bandwidth?

Options :

1. ✖ Un shielded twisted pair

2. ✖ Shielded twisted pair

3. ✖ Coaxial cable

4. ✔ Optical fibre

Question Number : 187 Question Id : 80089419832 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If 'B' is the Channel Bandwidth, 'S' is the signal power and' N' is the total noise with in the Channel Bandwidth,

then the Channel Capacity of a White Gaussian Band limited channel is

Options :

1. ✔ $B \log_2 (1+ S/N)$ bits /sec

2. ✖ B (S/N) bits/sec

3. ✖ $B \log_2 (1+ N/S)$ bits /sec

4. ✖ $B \log_2 (S/N)$ bits /sec

Question Number : 188 Question Id : 80089419833 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

According to Shannon Hartley theorem,

Options :

1. ✖ the channel capacity becomes infinite with infinite bandwidth

2. ✖ the channel capacity become zero with infinite bandwidth

3. ✔ has a tradeoff between bandwidth and Signal to noise ratio

4. ✖ the bandwidth is proportional to Signal to noise ratio

Question Number : 189 Question Id : 80089419834 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

State True or False for the following statements about single-mode and multi-mode fibers.

i) Multi-mode fiber can have either a step-index or a graded-index profile.

ii) Single-mode fiber is a high-quality fiber for wideband long haul transmission.

iii) The amount of dispersion introduced in single-mode fiber is greater than that introduced in the multi-mode fibers.

Options :

1. ✖ i-True, ii-False, iii-True

2. ✖ i-True, ii-True, iii-True

3. ✖ i-False, ii-True, iii-False

4. ✔ i-True, ii-True, iii-False

Question Number : 190 Question Id : 80089419835 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Datagram network is also called

Options :

1. ✖ Circuit Switched Network

2. ✖ Virtual circuit switched network

3. ✖ Connection oriented Network

4. ✔ Connection less Network

Question Number : 191 Question Id : 80089419836 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following Layer is closest to the transmission medium?

Options :

1. ✔ Physical Layer

2. ✖ Network layer

3. ✖ Transport layer

4. ✖ Application layer

Question Number : 192 Question Id : 80089419837 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ switched network supports pipelining effect

Options :

1. ✖ Circuit

2. ✖ Virtual circuit

3. ✖ Message

4. ✔ Packet

Question Number : 193 Question Id : 80089419838 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is class B network address?

Options :

1. ✔ 128.4.5.6

2. ✖ 127.4.5.0

3. ✖ 127.0.0.0

4. ✖ 127.8.0.0

Question Number : 194 Question Id : 80089419839 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____specifies a set of media access control (MAC) and physical layer specifications for implementing

WLANs?

Options :

1. ✖ IEEE 802.16

2. ✖ IEEE 802.3

3. ✔ IEEE 802.11

4. ✖ IEEE 802.15

Question Number : 195 Question Id : 80089419840 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Length of the Destination address in IPv4 is

Options :

1. ✖ 8 bytes

2. ✖ 32 bytes

3. ✔ 4 bytes

4. ✖ 16 bytes

Question Number : 196 Question Id : 80089419841 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the function of the Fire Wall.

Options :

1. ✔ Packet Filtering

2. ✖ Packet Expansion

3. ✖ Packet Compression

4. ✖ Packet Description

Question Number : 197 Question Id : 80089419842 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

HTTP client requests by establishing a _____ connection to a particular port on the server.

Options :

1. ✖ User datagram protocol

2. ✔ Transmission control protocol

3. ✖ Border gateway protocol

4. ✖ Domain host control protocol

Question Number : 198 Question Id : 80089419843 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The values GET, POST, HEAD etc are specified in ____ of HTTP message

Options :

1. ✔ Request line

2. ✖ Header line

3. ✖ Status line

4. ✖ Entity body

Question Number : 199 Question Id : 80089419844 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Number of Parallel TCP Connections used in FTP is

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 200 Question Id : 80089419845 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Output of Encryption process is called

Options :

1. ✖ Plain text

2. ✖ Message

3. ✔ Cipher text

4. ✖ Key