

Question Paper Preview

Question Paper Name:	Electronics and Communication Engineering 11th May 2019 Shift 1
Subject Name:	Electronics and Communication Engineering
Duration:	180
Total Marks:	200
Display Marks:	No
Share Answer Key With Delivery Engine:	Yes
Actual Answer Key:	Yes

	Mathematics
Number of Questions:	50
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 1 Question Id : 8946582605 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let $M = (a_{ij})$ be a 10×10 matrix such that $a_{ij} = \begin{cases} 1, & \text{if } i+j=11 \\ 0, & \text{otherwise} \end{cases}$. Then, the determinant of M is _____.

Options :

1. 0
2. 1
3. -1
4. 11

Question Number : 2 Question Id : 8946582606 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let A and B be two square matrices of order n . If $AB = A$, $BA = B$ then $A^2 + B^2 = \underline{\hspace{2cm}}$.

Options :

1. AB
2. $A - B$
3. 0
4. $A + B$

Question Number : 3 Question Id : 8946582607 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Consider the system of linear equations $x + y + z = 3, x - y - z = 4, x - 5y + \alpha z = 6$. Then, the value of α for which this system has an infinite number of solutions is _____.

Options :

1. -5
2. 5
3. 3
4. 1

Question Number : 4 Question Id : 8946582608 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $A(\alpha, \beta) = \begin{pmatrix} \cos \alpha & \sin \alpha & 0 \\ -\sin \alpha & \cos \alpha & 0 \\ 0 & 0 & e^\beta \end{pmatrix}$, then the inverse of the matrix $A(\alpha, \beta)$ is _____.

Options :

1. $A(\alpha, \beta)$
2. $A(\alpha, -\beta)$

3. $A(-\alpha, -\beta)$

4. $A(-\alpha, \beta)$

Question Number : 5 Question Id : 8946582609 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The rational fraction $\frac{x^2 + 1}{(x^2 + 4)(x - 2)}$ is equal to _____

Options :

1. $\frac{3x + 6}{8(x^2 + 4)} + \frac{5}{4(x - 2)}$

2. $\frac{3x + 6}{4(x^2 + 4)} + \frac{5}{8(x - 2)}$

3. $\frac{3x + 6}{8(x^2 + 4)} + \frac{5}{8(x - 2)}$

4. $\frac{3x + 6}{(x^2 + 4)} + \frac{5}{(x - 2)}$

Question Number : 6 Question Id : 8946582610 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $\log_2 3 = a, \log_3 5 = b, \log_7 2 = c$, then $\log_{140} 63 =$ _____.

Options :

1. $\frac{1 - 2ac}{2c + abc + 1}$

2. $\frac{1 - 2ac}{2c - abc - 1}$

$$3. \frac{1+2ac}{2c-abc-1}$$

$$4. \frac{1+2ac}{2c+abc+1}$$

Question Number : 7 Question Id : 8946582611 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

$$\cos \frac{2\pi}{7} + \cos \frac{4\pi}{7} + \cos \frac{6\pi}{7} = \underline{\hspace{2cm}}.$$

Options :

$$1. 1$$

$$2. \frac{1}{2}$$

$$3. \frac{-1}{2}$$

$$4. 0$$

Question Number : 8 Question Id : 8946582612 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the angles A, B and C of a triangle are in an arithmetic progression and if a, b and c denote the lengths of the sides opposite to A, B and C respectively, then the value of the

expression $\frac{a}{c} \sin 2C + \frac{c}{a} \sin 2A$ is $\underline{\hspace{2cm}}$.

Options :

$$1. \sqrt{3}$$

$$2. \frac{\sqrt{3}}{2}$$

3. 1

4. $\frac{1}{2}$

Question Number : 9 Question Id : 8946582613 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $\sin x + \sin y = \frac{1}{4}$ and $\cos x + \cos y = \frac{1}{3}$, then $\cot(x + y) =$ _____.

Options :

1. $\frac{7}{24}$

2. $\frac{24}{7}$

3. $\frac{3}{4}$

4. 1

Question Number : 10 Question Id : 8946582614 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $\sin(x^\circ + 28^\circ) = \cos(3x^\circ - 78^\circ)$ and $0^\circ < x^\circ < 90^\circ$, then, which of the following is the value of x° ?

Options :

1. 50°

2. 30°

3. 16°

4. 8°

Question Number : 11 Question Id : 8946582615 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $x = \tan\left(\operatorname{Cosec}^{-1}\frac{65}{63}\right)$ and $y = \sec^2\left(\operatorname{Cot}^{-1}\frac{1}{2}\right) + \operatorname{cosec}^2\left(\operatorname{Tan}^{-1}\frac{1}{3}\right)$, then $(x, y) = \underline{\hspace{2cm}}$.

Options :

1. $\left(\frac{63}{16}, 15\right)$

2. $\left(\frac{16}{63}, 15\right)$

3. $\left(\frac{63}{16}, 5\right)$

4. $\left(\frac{16}{63}, 5\right)$

Question Number : 12 Question Id : 8946582616 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The equation $\operatorname{Tan}^{-1}\left(\frac{x+1}{x-1}\right) + \operatorname{Tan}^{-1}\left(\frac{x-1}{x}\right) = \operatorname{Tan}^{-1}(-7)$ has $\underline{\hspace{2cm}}$.

Options :

1. unique solution $x = 2$

2. two solutions $x = 1, 2$

3. no solution

4. infinite number of solutions

Question Number : 13 Question Id : 8946582617 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In a triangle ABC , let a, b and c denote the lengths of the sides opposite to

A, B and C respectively. If $\frac{1}{a+c} + \frac{1}{b+c} = \frac{3}{a+b+c}$, then the angle C is _____.

Options :

1. 30°
2. 90°
3. 60°
4. 45°

Question Number : 14 Question Id : 8946582618 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $\sin hx = 3$ then $x =$ _____.

Options :

1. $\log(3 + \sqrt{10})$
2. $\log(3 - \sqrt{10})$
3. $\log(6 + \sqrt{10})$
4. 1

Question Number : 15 Question Id : 8946582619 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is NOT true for the complex numbers z_1 and z_2 ?

Options :

1. $\frac{z_1}{z_2} = \frac{z_1 \bar{z}_2}{|z_2|^2}$

2. $|z_1 + z_2| \leq |z_1| + |z_2|$

3. $|z_1 + z_2| \leq ||z_1| - |z_2||$

4. $|z_1 + z_2|^2 + |z_1 - z_2|^2 = 2|z_1|^2 + 2|z_2|^2$

Question Number : 16 Question Id : 8946582620 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If a complex number $z = \frac{\sqrt{3}}{2} + i\frac{1}{2}$, then z^4 is _____.

Options :

1. $2\sqrt{2} + 2i$

2. $\frac{-1}{2} + i\frac{\sqrt{3}}{2}$

3. $\frac{\sqrt{3}}{2} - i\frac{1}{2}$

4. $\frac{\sqrt{3}}{8} - i\frac{1}{8}$

Question Number : 17 Question Id : 8946582621 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The equation of the straight line which makes intercepts r and s on the coordinate axes

such that $r + s = 5$ and $rs = 6$ is $ax + by + c = 0$, then $a + b + c = \text{---}$.

Options :

1. 11

2. 5

3. -7

4. -1

Question Number : 18 Question Id : 8946582622 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If a straight line $ax + by + \sqrt{5} = 0$ touches the circle $x^2 + y^2 = 5$, then which of the following is TRUE?

Options :

1. $5(a^2 + b^2) = 1$

2. $a^2 + b^2 = \sqrt{5}$

3. $a^2 + b^2 = 1$

4. $\sqrt{a^2 + b^2} = 5$

Question Number : 19 Question Id : 8946582623 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If a chord of length 12 cm is at a distance of $4\sqrt{10}$ cm from the centre of the circle, then the radius of the circle is _____.

Options :

1. 14 cm

2. $\sqrt{304}$ cm

3. 4 cm

4. $\sqrt{124}$ cm

Question Number : 20 Question Id : 8946582624 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The 2019th derivative of the function $(x-1)e^{-x}$ is _____

Options :

1. $\frac{x-2019}{e^x}$

2. $\frac{2019-x}{e^x}$

3. $\frac{x-2020}{e^x}$

4. $\frac{2020-x}{e^x}$

Question Number : 21 Question Id : 8946582625 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $z = f(x+ct) + \varphi(x-ct)$, then $\frac{\partial^2 z}{\partial t^2} =$ _____.

Options :

1. $c^2 \frac{\partial^2 z}{\partial x^2}$

2. $-c^2 \frac{\partial^2 z}{\partial x^2}$

3. $\frac{1}{c^2} \frac{\partial^2 z}{\partial x^2}$

4. $-\frac{1}{c^2} \frac{\partial^2 z}{\partial x^2}$

Question Number : 22 Question Id : 8946582626 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $x = r \cos \theta$, $y = r \sin \theta$ and $U = \frac{f(\theta)}{r}$ then $x \frac{\partial U}{\partial x} + y \frac{\partial U}{\partial y} =$ _____.

Options :

1. 0
2. U
3. $-U$
4. $2U$

Question Number : 23 Question Id : 8946582627 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let $f(x+y) = f(x)f(y)$, $\forall x, y$ and $f'(0) = 5$, $f(2019) = 15$. Then the value of $f'(2019)$ is _____.

Options :

1. 3
2. 75
3. $\frac{1}{3}$
4. $\frac{1}{75}$

Question Number : 24 Question Id : 8946582628 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The set of values of x for which the function $f(x) = 2x^3 - 9x^2 + 12x + 4$ is increasing is _____.

Options :

1. $1 < x < 2$

2. all $x \in \mathbb{R}$

3. $\mathbb{R} - [1, 2]$

4. $x \geq 2$

Question Number : 25 Question Id : 8946582629 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

$$\lim_{x \rightarrow \infty} x \left(\log \left(1 + \frac{x}{2} \right) - \log \left(\frac{x}{2} \right) \right) = \underline{\hspace{2cm}}.$$

Options :

1. e^2

2. ∞

3. 1

4. 2

Question Number : 26 Question Id : 8946582630 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $f(x, y, z) = x^3 + xz^2 + y^3 + xyz$, $x = e^t$, $y = \cos t$, $z = t^3$ then $\frac{df}{dt}$ at $t = 0$ is $\underline{\hspace{2cm}}$.

Options :

1. 2

2. 4

3. e

4. 3

Question Number : 27 Question Id : 8946582631 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is the value of $5050 \times \frac{\int_0^1 (1 - (1-x)^{50})^{100} x^{49} dx}{\int_0^1 (1-x^{50})^{101} x^{49} dx}$?

Options :

1. 5100

2. 1

3. 5050

4. $\frac{1}{2}$

Question Number : 28 Question Id : 8946582632 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

$$\int_0^1 \max \left\{ x, \frac{1}{2} - x \right\} dx = \underline{\hspace{2cm}}$$

Options :

1. 0

2. $\frac{1}{2}$

3. $\frac{9}{16}$

4. $\frac{9}{8}$

Question Number : 29 Question Id : 8946582633 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

$$\lim_{n \rightarrow \infty} \frac{1}{n^6} \sum_{k=1}^n k^5 = \underline{\hspace{2cm}}$$

Options :

1. $\frac{1}{6}$

2. $\frac{1}{5}$

3. 1

4. 6

Question Number : 30 Question Id : 8946582634 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

$$\int_{-1}^1 \frac{x^{15}(1-x^2)^{12}}{(1+x^2)^8} dx = \underline{\hspace{2cm}}.$$

Options :

1. 0

2. $\frac{22}{7} - \pi$

3. $\frac{2}{105}$

4. $\frac{71}{15} - \frac{3\pi}{4}$

Question Number : 31 Question Id : 8946582635 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The area of the region bounded by the curves $y = 2 - x^2$ and $y = -x$ is _____.

Options :

1. 1

2. $\frac{8}{19}$

3. $\frac{35}{4}$

4. $\frac{27}{6}$

Question Number : 32 Question Id : 8946582636 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The volume of the solid obtained by revolving the region bounded by the curves $y = x^3$, $y = 8$ and $x = 0$ about the y -axis is _____

Options :

1. $\frac{96}{5}$

2. $\frac{96\pi}{5}$

3. $\frac{32\pi}{5}$

4. $\frac{32}{5}$

Question Number : 33 Question Id : 8946582637 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The value of $\int_0^{\pi} \theta \sin^2 \theta \cos^4 \theta d\theta$ is _____.

Options :

1. $\frac{\pi^2}{32}$

2. $\frac{\pi}{32}$

3. $\frac{\pi^2}{16}$

4. $\frac{\pi}{16}$

Question Number : 34 Question Id : 8946582638 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The average value of the function $f(x) = 4 - x^2$ over the interval $[-1, 3]$ is _____.

Options :

1. 5

2. $\frac{20}{3}$

3. $\frac{5}{3}$

4. 1

Question Number : 35 Question Id : 8946582639 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The differential equation $x \frac{dy}{dx} = y + x^2$, $x > 0$ satisfying $y(0) = 0$ has _____.

Options :

1. infinitely many solutions

2. no solution

3. a unique solution

4. exactly two solutions

Question Number : 36 Question Id : 8946582640 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The differential equation $(axy^3 + y \cos x)dx + (x^2y^2 + b \sin x)dy = 0$ is an exact differential equation for _____.

Options :

1. $a = 1, b = \frac{3}{2}$

2. $a = \frac{3}{2}, b = 1$

3. $a = \frac{2}{3}, b = 1$

4. $a = 1, b = \frac{2}{3}$

Question Number : 37 Question Id : 8946582641 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $\sin x$ is a solution of the differential equation $\frac{d^4 y}{dx^4} + 2\frac{d^3 y}{dx^3} + 6\frac{d^2 y}{dx^2} + 2\frac{dy}{dx} + 5y = 0$,

then the general solution is _____.

Options :

1. $y = c_1 \sin x + c_2 \cos x + e^{-x}(c_3 \sin 2x + c_4 \cos 2x)$

2. $y = c_1 \sin x + c_2 \cos x + c_3 \sin 2x + c_4 \cos 2x$

3. $y = c_1 \sin x + c_2 \cos x + c_3 e^{-3x} + c_4 e^{-2x}$

4. $y = c_1 \sin x + c_2 \cos x + c_3 e^{3x} + c_4 e^{2x}$

Question Number : 38 Question Id : 8946582642 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $D \equiv \frac{d}{dx}$, then $\frac{1}{D^2 - 4D + 13}(6e^{2x} \sin 3x)$ is _____.

Options :

1. $-xe^{2x} \cos 3x$

2. $x e^{2x} \cos 3x$

3. $-x e^{2x} \sin 3x$

4. $x e^{2x} \sin 3x$

Question Number : 39 Question Id : 8946582643 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The general solution of $\left(\frac{e^{-2\sqrt{x}}}{\sqrt{x}} - \frac{y}{\sqrt{x}}\right) \frac{dx}{dy} = 1$ is _____.

Options :

1. $y = e^{2\sqrt{x}} (2\sqrt{x} + c)$

2. $y = 2\sqrt{x} e^{2\sqrt{x}} + c$

3. $y = 2\sqrt{x} e^{-2\sqrt{x}} + c$

4. $y = e^{-2\sqrt{x}} (2\sqrt{x} + c)$

Question Number : 40 Question Id : 8946582644 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let y be the solution of the differential equation $\frac{dy}{dx} + y = x$, $x \in \mathbb{R}$ and $y(-1) = 0$.

Then, $y(1)$ is equal to _____.

Options :

1. $\frac{2}{e} - \frac{2}{e^2}$

2. $2e^{-2}$

3. $2 - \frac{2}{e}$

4. $2 - 2e$

Question Number : 41 Question Id : 8946582645 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the substitution $x = X + h$, $y = Y + k$ transforms the differential equation $(y - x + 1)dy - (y + x + 2)dx = 0$ into a homogeneous equation, then the value of (h, k) is _____.

Options :

1. $\left(\frac{1}{2}, \frac{3}{2}\right)$

2. $\left(\frac{-1}{2}, \frac{-3}{2}\right)$

3. $\left(\frac{3}{2}, \frac{1}{2}\right)$

4. $\left(\frac{-3}{2}, \frac{-1}{2}\right)$

Question Number : 42 Question Id : 8946582646 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The general solution of $\frac{dy}{dx} - y = y^2(\sin x + \cos x)$ is _____.

Options :

1. $y = \frac{1}{ce^x - \sin x}$

2. $y = ce^{-x} - e^x \sin x$

3. $y = ce^{-x} - \sin x$

4. $y = \frac{1}{ce^{-x} - \sin x}$

Question Number : 43 Question Id : 8946582647 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Laplace transform of the function $f(t) = \begin{cases} \sin t, & \text{for } 0 \leq t \leq \pi \\ 0, & \text{for } t > \pi \end{cases}$

is _____.

Options :

1. $\frac{1}{(1+s^2)}$ for all $s > 0$

2. $\frac{1}{(1+s^2)}$ for all $s < \pi$

3. $\frac{(1+e^{-\pi s})}{(1+s^2)}$ for all $s > 0$

4. $\frac{e^{-\pi s}}{(1+s^2)}$ for all $s > 0$

Question Number : 44 Question Id : 8946582648 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The inverse Laplace transform of $\frac{5}{s} - \frac{3e^{-3s}}{s} - \frac{2e^{-7s}}{s}$ is _____.

Options :

1. $f(x) = \begin{cases} 5, & 0 < x < 3 \\ 0, & 3 < x < 7 \\ 2, & x > 7 \end{cases}$

2.
$$f(x) = \begin{cases} 5, & 0 < x < 7 \\ 2, & x > 7 \end{cases}$$

3.
$$f(x) = \begin{cases} 5, & 0 < x < 3 \\ 2, & 3 < x < 7 \\ 0, & x > 7 \end{cases}$$

4.
$$f(x) = \begin{cases} 5, & 0 < x < 7 \\ 0, & x > 7 \end{cases}$$

Question Number : 45 Question Id : 8946582649 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Laplace transform of a function $f(x)$ is $F(s) = \frac{1}{s^3 + 2s^2 + 2s}$ Then, $\lim_{x \rightarrow 0} f(x) =$

_____.

Options :

1. 0

2. 3

3. ∞

4. $\frac{1}{2}$

Question Number : 46 Question Id : 8946582650 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Laplace transform of the solution of the differential equation $\frac{dy}{dx} - 2y = e^{5x}$ with the

initial condition $y(0) = 3$ is _____.

Options :

1. $\frac{1}{3(s-2)} + \frac{1}{3(s-5)}$

2. $\frac{8}{3(s-2)} + \frac{1}{s-5}$

3. $\frac{8}{3(s-2)} + \frac{1}{3(s-5)}$

4. $\frac{8}{s-2} + \frac{1}{3(s-5)}$

Question Number : 47 Question Id : 8946582651 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $L(y(x)) = Y(s)$ and $y(x) = x^3 + \int_0^x \sin(x-t)y(t)dt$ then $\frac{1}{6}Y(s) = \underline{\hspace{2cm}}$.

Options :

1. $\left(\frac{1}{s^4} + \frac{1}{s^6}\right)$

2. $\left(\frac{1}{s^3} + \frac{1}{s^5}\right)$

3. $\left(\frac{1}{s^3} + \frac{1}{s^7}\right)$

4. $\left(\frac{1}{s} + \frac{1}{s^3}\right)$

Question Number : 48 Question Id : 8946582652 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

For $x > 0$, $\int_0^\infty \frac{\sin xt}{t} dt$ is $\underline{\hspace{2cm}}$.

Options :

1. 0
2. $\frac{\pi}{2x}$
3. $\frac{1}{x}$
4. $\frac{\pi}{2}$

Question Number : 49 Question Id : 8946582653 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $f(x) = \frac{1}{2}a_0 + \sum_{n=1}^{\infty} (a_n \cos nx + b_n \sin nx)$ is the Fourier series of the function

$$f(x) = \begin{cases} 0, & -\pi \leq x < 0 \\ \pi, & 0 \leq x \leq \pi \end{cases} \text{ then, which of the following is TRUE?}$$

Options :

1. $a_n = 0$, for all $n \geq 0$
2. $a_0 = \frac{\pi}{2}$ and $a_n = 0$, for all $n \geq 1$
3. $b_n \neq 0$, for all $n \geq 1$
4. $a_0 = \pi$ and $a_n = 0$, for all $n \geq 1$

Question Number : 50 Question Id : 8946582654 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A function $f(x)$ is such that $f(x + 2\pi) = f(x)$ and $f(x) = x$, $-\pi \leq x \leq \pi$. The Fourier series of $f(x)$ is _____.

Options :

1. $2(\sin x - \frac{1}{2} \sin 2x + \frac{1}{3} \sin 3x - \dots)$

2. $2(\sin x + \frac{1}{2} \sin 2x + \frac{1}{3} \sin 3x + \dots)$

3. $2(\cos x - \frac{1}{2} \cos 2x + \frac{1}{3} \cos 3x - \dots)$

4. $2(\cos x + \frac{1}{2} \cos 2x + \frac{1}{3} \cos 3x + \dots)$

Physics

Number of Questions:

25

Display Number Panel:

Yes

Group All Questions:

No

Question Number : 51 Question Id : 8946582655 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The dimensional formula for gravitational constant is _____.

Options :

1. $L^3T^{-2}M^{-1}$

2. $L^3T^2M^{-1}$

3. $L^2T^3M^{-2}$

4. $L^3T^1M^{-3}$

Question Number : 52 Question Id : 8946582656 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The dimensions of the quantities in one of the following pairs are same. Identify the pairs.

Options :

1. torque and work
2. angular momentum and work
3. energy and Young's modules
4. light year and wavelength

Question Number : 53 Question Id : 8946582657 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is not correct?

Options :

1. $\mathbf{j} \times \mathbf{i} = -\mathbf{k}$
2. $\mathbf{k} \times \mathbf{j} = -\mathbf{i}$
3. $\mathbf{i} \times \mathbf{k} = -\mathbf{j}$
4. $\mathbf{k} \times \mathbf{i} = -\mathbf{j}$

Question Number : 54 Question Id : 8946582658 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $0.5\mathbf{i} + 0.8\mathbf{j} + c\mathbf{k}$ is a unit vector then c is _____.

Options :

1. $\sqrt{0.89}$
2. 0.2
3. 0.3
4. $\sqrt{0.11}$

Question Number : 55 Question Id : 8946582659 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is correct?

Options :

1. $A.B \neq B.A$
2. $A.(B+C) = A.B + C.A$
3. $A.B = A.B - A.C$
4. $A.B = -B.A$

Question Number : 56 Question Id : 8946582660 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The acceleration due to gravity on the surface of the earth is given by _____

Options :

1. G
2. GM/R^2
3. GM/R
4. GM

Question Number : 57 Question Id : 8946582661 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The value of g is maximum at _____.

Options :

1. equator
2. Pole
3. higher altitudes

4. at the centre of the earth

Question Number : 58 Question Id : 8946582662 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

When the speed of rotation of earth increases your weight _____

Options :

1. increases
2. decreases
3. remains constant
4. becomes zero

Question Number : 59 Question Id : 8946582663 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The value of G is zero at _____

Options :

1. nowhere
2. the centre of the earth
3. surface of the earth
4. pole

Question Number : 60 Question Id : 8946582664 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the linear momentum is increased by 50%, the kinetic energy will be increased
by _____

Options :

1. 50%

2. 100%
3. 125%
4. 25%

Question Number : 61 Question Id : 8946582665 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A metallic block slides down a smooth inclined plane when released from the top, while the other falls freely from the same point, then _____

Options :

1. both will reach the ground with the same velocity
2. both will reach the ground together
3. both will reach the ground travelling with same acceleration
4. the block sliding down the plane will strike earlier

Question Number : 62 Question Id : 8946582666 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A long spring is stretched by 2 cm and its potential energy is u . If the spring is stretched by 10 cm, then the potential energy stored in it will be _____.

Options :

1. $u/24$
2. $u/5$
3. $5u$
4. $25u$

Question Number : 63 Question Id : 8946582667 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Two masses of 1 gm and 4 gm are moving with equal kinetic energies. The ratio of the magnitudes of their linear momentum is _____

Options :

1. 4:1
2. $\sqrt{2}:1$
3. 1:2
4. 1:16

Question Number : 64 Question Id : 8946582668 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A body is dropped from rest at height 0.5 m. What will be its velocity when it just strikes the ground?

Options :

1. 7 m/s
2. 9.8 m/s
3. 4.9 m/s
4. $\sqrt{9.8}$ m/s

Question Number : 65 Question Id : 8946582669 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A particle moves such that its acceleration a is given by $a = -bx$ where x is the displacement from equilibrium and b is a constant. The period of Oscillation is _____ .

Options :

1. $2\pi b$

2. $2\pi\sqrt{b}$

3. $2\pi/b$

4. $2\sqrt{\pi}/b$

Question Number : 66 Question Id : 8946582670 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A particle is vibrating in simple harmonic motion with amplitude of 4 cm. At what displacement from the equilibrium position is its energy half potential and half kinetic?

Options :

1. 1 cm

2. $\sqrt{2}$ cm

3. 2 cm

4. $2\sqrt{2}$ cm

Question Number : 67 Question Id : 8946582671 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

When a star approaches the earth, the waves are shifted towards _____

Options :

1. green colour

2. yellow colour

3. blue end

4. red end

Question Number : 68 Question Id : 8946582672 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If a tuning fork of frequency 90 is sounded and moved towards an observer with a velocity equal to one tenth the velocity of sound, then the note heard by the observer will have frequency_____.

Options :

1. 100
2. 90
3. 80
4. 900

Question Number : 69 Question Id : 8946582673 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the most important factor which helps to recognise a person by his/her voice alone_____

Options :

1. quality
2. pitch
3. intensity
4. quality, pitch and intensity

Question Number : 70 Question Id : 8946582674 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The quality of tone_____

Options :

1. decreases with loudness
2. varies inversely as amplitude

3. varies directly as pitch
4. depends on the overtones present

Question Number : 71 Question Id : 8946582675 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The conduction of heat from hot body to cold body is an example of _____.

Options :

1. reversible process
2. irreversible process
3. isothermal process
4. isobaric process

Question Number : 72 Question Id : 8946582676 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

From the isothermal drawn from Andrews experiment, it can be inferred that _____

Options :

1. CO₂ is a perfect gas
2. there is continuity of state
3. there is discontinuity of state
4. gases like CO₂ and H₂ cannot be liquefied

Question Number : 73 Question Id : 8946582677 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A diesel cycle works at _____

Options :

1. constant volume
2. constant pressure
3. constant temperature
4. both constant volume and constant temperature

Question Number : 74 Question Id : 8946582678 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The transition temperature of most low temperature superconducting elements is in the
range of _____

Options :

1. zero to 10 k
2. 10 k to 20 k
3. 20 k to 50 k
4. 50 k alone

Question Number : 75 Question Id : 8946582679 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Propagation of light through fiber core is due to _____

Options :

1. diffraction
2. interference
3. total internal reflection
4. reflection

Number of Questions:	25
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 76 Question Id : 8946582680 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following energy orders is correct?

Options :

1. $6s < 4f < 5d < 6p$
2. $4f < 5d < 6s < 6p$
3. $4f < 6s < 6p < 5d$
4. $6s < 6p < 5d < 4f$

Question Number : 77 Question Id : 8946582681 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

An element A of atomic number 11 combines with an element B of atomic number 17. The compound formed is _____.

Options :

1. Covalent AB
2. Ionic AB
3. Covalent AB₂
4. Ionic AB₂

Question Number : 78 Question Id : 8946582682 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The oxidation number of 'S' in S₈, S₂F₂, H₂S respectively are _____.

Options :

1. 0, +1 and -2

2. +2, +1 and -2
3. 0, +1 and +2
4. -2, +1 and -2

Question Number : 79 Question Id : 8946582683 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The elements A, B, C and D have the following electronic configurations:

A: $1S^2, 2S^2, 2P^1$

B: $1S^2, 2S^2, 2P^6, 3S^2, 3P^1$

C: $1S^2, 2S^2, 2P^6, 3S^2, 3P^3$

D: $1S^2, 2S^2, 2P^6, 3S^2, 3P^5$

The elements that belong to same group are _____.

Options :

1. A and C
2. C and D
3. A and D
4. A and B

Question Number : 80 Question Id : 8946582684 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

4.9 gm of H_2SO_4 is present in 2 lit of its solution. The molarity of the solution is

_____.

Options :

1. 0.1 M

2. 0.025 M
3. 0.25 M
4. 0.01 M

Question Number : 81 Question Id : 8946582685 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The molecular weight of H_3PO_4 is 98. The equivalent weight is _____ gram / equivalents.

Options :

1. 98
2. 49
3. 32.66
4. 24.5

Question Number : 82 Question Id : 8946582686 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is the Bronsted acid?

Options :

1. Cl^-
2. NH_2^-
3. CH_3COO^-
4. NH_4^+

Question Number : 83 Question Id : 8946582687 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The pH of 1 M KOH is _____.

Options :

1. 12
2. 11
3. 14
4. 13

Question Number : 84 Question Id : 8946582688 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Froth floatation process is used for the _____.

Options :

1. Oxide ores
2. Sulphide ores
3. Chloride ores
4. Oxide ores and Chloride ores

Question Number : 85 Question Id : 8946582689 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The composition of brass is _____.

Options :

1. Cu and Zn
2. Cu and Ni
3. Cu and Mn

4. Cu and Fe

Question Number : 86 Question Id : 8946582690 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following statements is correct?

Options :

1. Cathode is positive terminal in an electrolytic cell
2. Cathode is negative terminal in a galvanic cell
3. Reduction occurs at cathode in either of cells
4. Oxidation occurs at cathode in either of cells

Question Number : 87 Question Id : 8946582691 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In the electrolysis of CuCl_2 solution using copper electrode, if 2.5 gm of Cu is deposited at cathode, then at anode _____.

Options :

1. 890 mL of Cl_2 at STP is liberated
2. 445 mL of O_2 at STP is liberated
3. 2.5 gm of copper is deposited
4. a decrease of 2.5 gm of mass takes place

Question Number : 88 Question Id : 8946582692 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The unit of resistivity is _____.

Options :

1. Ω

2. $\Omega \text{ m}$

3. Ω / m

4. $\Omega \text{ m}^2$

Question Number : 89 Question Id : 8946582693 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following metals provide cathodic protection to iron?

Options :

1. Cu and Ni

2. Al and Zn

3. Al and Cu

4. Co and Ni

Question Number : 90 Question Id : 8946582694 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The chemical composition of rust is _____.

Options :

1. Fe_3O_4

2. Fe_3O_3

3. $\text{Fe}_2\text{O}_3 \cdot n\text{H}_2\text{O}$

4. $\text{Fe}_3\text{O}_3 \cdot x\text{H}_2\text{O}$

Question Number : 91 Question Id : 8946582695 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

1 ppm of hardness of water is equal to _____.

Options :

1. 1 part of CaCO_3 hardness in 10^6 parts of water
2. 1 part of CaCO_3 hardness in 10^8 parts of water
3. 1 part of CaCO_3 hardness in 10^7 parts of water
4. 1 part of CaCO_3 hardness in 10^5 parts of water

Question Number : 92 Question Id : 8946582696 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The temporary hardness of water is due to the presence of _____.

Options :

1. MgCl_2 and CaCl_2
2. $\text{Ca}(\text{NO}_3)_2$ and $\text{Mg}(\text{NO}_3)_2$
3. CaSO_4 and MgSO_4
4. $\text{Ca}(\text{HCO}_3)_2$ and $\text{Mg}(\text{HCO}_3)_2$

Question Number : 93 Question Id : 8946582697 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The basic buffer solution is a mixture of _____.

Options :

1. $\text{NH}_3 + \text{NH}_4\text{Cl}$
2. $\text{HCl} + \text{NH}_4\text{Cl}$
3. $\text{NaCl} + \text{NH}_4\text{Cl}$
4. $\text{KOH} + \text{NH}_4\text{Cl}$

Question Number : 94 Question Id : 8946582698 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following polymers has amide linkage?

Options :

1. Terylene
2. Bakelite
3. Nylon
4. PVC

Question Number : 95 Question Id : 8946582699 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The monomer of natural rubber is _____.

Options :

1. Butadiene
2. Chloroprene
3. 2-methyl 1,2 butadiene
4. 2-methyl 1,3 butadiene

Question Number : 96 Question Id : 8946582700 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is a thermo setting?

Options :

1. Bakelite
2. Polyethylene
3. Nylon-6
4. Natural rubber

Question Number : 97 Question Id : 8946582701 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The composition of water gas is _____.

Options :

1. CO and H₂ are combustible gases and CO₂ and N₂ are non-combustible gases
2. CO + CO₂ are combustible gases and H₂O and N₂ non-combustible gases
3. CO + N₂ are combustible gases and H₂O and H₂ are non-combustible gases
4. N₂+H₂ are combustible gases and CO + H₂O are non-combustible gases

Question Number : 98 Question Id : 8946582702 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Earth is protected from UV radiation by _____.

Options :

1. Nitrogen layer
2. Ozone layer
3. Carbon dioxide layer
4. Oxygen layer

Question Number : 99 Question Id : 8946582703 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of following statements is not correct?

Options :

1. CO is the main air pollutant
2. All pollutants are not wastes
3. Water is polluted by dissolved Oxygen

4. Lichens are pollution indicators

Question Number : 100 Question Id : 8946582704 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Minamata disease is caused due to the presence of _____.

Options :

1. Cd
2. Pb
3. As
4. Hg

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Number of Questions:	100
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 101 Question Id : 8946582705 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The capacitance of a reverse-biased PN-junction _____.

Options :

1. makes the PN junction more effective at high frequencies
2. increases as the reverse bias is decreased
3. depends mainly on the reverse saturation current
4. increases as the reverse bias is increased

Question Number : 102 Question Id : 8946582706 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The signal handling capacity of an amplifier is high if _____

Options :

1. the operating point is selected near the cut-off region
2. the operating point is selected in the middle of the active region
3. the operating point is selected near the saturation region
4. the operating point is on either end of the load line

Question Number : 103 Question Id : 8946582707 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The output voltage waveform in CE amplifier is _____ with input voltage
wave form.

Options :

1. in phase
2. out of phase by 180°
3. out of phase by 90°
4. out of phase by 270°

Question Number : 104 Question Id : 8946582708 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A radio-frequency signal contains three frequencies as 870 kHz,
875 kHz and 880 kHz. These signals need to be amplified. The
amplifier used should be _____.

Options :

1. audio-frequency amplifier
2. wide-band amplifier
3. tuned voltage amplifier

4. push-pull amplifier

Question Number : 105 Question Id : 8946582709 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The voltage gain of an amplifier is 100. On applying negative feedback with $\beta = 0.03$, its gain will reduce to _____.

Options :

1. 3
2. 33.33
3. 99.97
4. 25

Question Number : 106 Question Id : 8946582710 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The relationship between sweep error (e_s), displacement error (e_d) and transmission error (e_t) in sweep circuit is _____.

Options :

1. $e_s = 2e_t = 8e_d$
2. $e_s = e_t = e_d$
3. $2e_s = 2e_t = 4e_d$
4. $2e_s = 2e_t = e_d$

Question Number : 107 Question Id : 8946582711 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The figure of merit for the diode clipper is _____.

Options :

1. R_f/R_r
2. R_r/R_f
3. $R_f + R_r$
4. $R_r - R_f$

Question Number : 108 Question Id : 8946582712 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The UJT is _____.

Options :

1. current controlled negative resistance device
2. voltage controlled negative resistance device
3. current controlled current source
4. voltage controlled current source

Question Number : 109 Question Id : 8946582713 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The unit for mobility of the electron is _____

Options :

1. Square meter per volt-second
2. Volt per meter-ohm
3. Ohm-meter per volt
4. Volt per ohm-meter

Question Number : 110 Question Id : 8946582714 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The main component responsible for the fall of gain of an RC-coupled amplifier in low-frequency range is _____.

Options :

1. stray shunt capacitance
2. the active device itself
3. coupling capacitor
4. load resistor

Question Number : 111 Question Id : 8946582715 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The network consisting of linear resistors and ideal voltage sources, if the value of resistors are doubled, then voltage across each resistor _____.

Options :

1. increases four times
2. remains unchanged
3. doubled
4. halved

Question Number : 112 Question Id : 8946582716 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Determine the current, if a 20 coulomb charge passes from a point in 0.25 seconds _____.

Options :

1. 10 A
2. 20 A
3. 2 A

4. 80 A

Question Number : 113 Question Id : 8946582717 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A network is said to be reciprocal, if it satisfies the condition _____

Options :

1. $Z_{11} = Z_{22}$

2. $Z_{12} = Z_{21}$

3. $Z_{11} = Z_{12} = 0$

4. $Y_{11} = Y_{22}$

Question Number : 114 Question Id : 8946582718 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Q factor of a coil in series resonance is _____.

Options :

1. $1/\omega_0 RL$

2. $\omega_0 R/L$

3. $\omega_0 RL$

4. $\omega_0 L/R$

Question Number : 115 Question Id : 8946582719 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If both roots of second order differential equation for a series RLC circuit are real and equal, then the oscillations are _____.

Options :

1. un damped

2. under damped

3. over damped
4. critically damped

Question Number : 116 Question Id : 8946582720 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The imaginary part of the complex frequency is called as a/an _____.

Options :

1. angular frequency
2. sampling frequency
3. neper frequency
4. radian frequency

Question Number : 117 Question Id : 8946582721 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The number of branches incident at the node of a graph is called as the _____.

Options :

1. degree of the node
2. order of the node
3. status of the node
4. number of the node

Question Number : 118 Question Id : 8946582722 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the resistors of star connected system are R_1, R_2, R_3 , then the resistance between 2 and 3 in delta connected system will be _____.

Options :

1. $(R_1R_2 + R_2R_3 + R_3R_1)/R_3$

2. $(R_1R_2 + R_2R_3 + R_3R_1)/R_2$
3. $(R_1R_2 + R_2R_3 + R_3R_1)/R_1$
4. $(R_1R_2 + R_2R_3 + R_3R_1)/(R_3 + R_2)$

Question Number : 119 Question Id : 8946582723 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

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 : 120 Question Id : 8946582724 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the range of phase variation for reflection coefficient in the transmission lines?

Options :

1. 0° to 90°
2. 90° to 150°
3. 0° to 180°
4. 90° to 360°

Question Number : 121 Question Id : 8946582725 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Resistances can be measured with the help of _____

Options :

1. voltmeters
2. wattmeters
3. ammeters
4. ohmmeters and resistance bridges

Question Number : 122 Question Id : 8946582726 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Digital voltmeters can be used to measure _____

Options :

1. voltage only
2. voltage, current and resistance
3. voltage and current
4. voltage and resistance

Question Number : 123 Question Id : 8946582727 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The SYNC control in CRO is used to _____

Options :

1. change the brightness of the beam
2. change the contrast of the beam CRO
3. lock the input signal being viewed
4. adjust the range of frequency

Question Number : 124 Question Id : 8946582728 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following units is used to express sensitivity of an analog voltmeter?

Options :

1. ohms
2. voltage
3. no unit
4. ohms per volt

Question Number : 125 Question Id : 8946582729 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Basic building blocks of digital multimeter are _____

Options :

1. Oscillator and amplifier
2. Diode and Op-Amp
3. Rectifier and Schmitt trigger
4. ADC, attenuator and counter

Question Number : 126 Question Id : 8946582730 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the effect of heat on the resistances in a Wheatstone bridge?

Options :

1. no effect
2. increases the voltage drop across the circuit
3. decreases the current flowing through the circuit
4. causes a permanent change in the resistance values

Question Number : 127 Question Id : 8946582731 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following measurement instruments does not have eddy current damping?

Options :

1. repulsion type instrument
2. true RMS volt meter
3. moving iron instrument
4. moving coil instrument

Question Number : 128 Question Id : 8946582732 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The error of an instrument is normally given as a percentage of _____.

Options :

1. full – scale value
2. measured value
3. mean value
4. RMS value

Question Number : 129 Question Id : 8946582733 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is not an LC oscillator?

Options :

1. Hartley Oscillator
2. Colpitts oscillator
3. Crystal oscillator

4. Clapp oscillator

Question Number : 130 Question Id : 8946582734 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A practical Q meter consists of _____

Options :

1. Wien bridge oscillator
2. AF oscillator
3. RF oscillator
4. Crystal oscillator

Question Number : 131 Question Id : 8946582735 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a basic data type in C language?

Options :

1. float
2. int
3. real
4. char

Question Number : 132 Question Id : 8946582736 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The program written by the programmer in high level language is called _____

Options :

1. object Program
2. source Program

3. assembled Program
4. compiled Program

Question Number : 133 Question Id : 8946582737 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of these values is not valid as an AUTO_INCREMENT value?

Options :

1. 0
2. 1
3. 2
4. 3

Question Number : 134 Question Id : 8946582738 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which function definition will run correctly?

Options :

1.

```
int sum(int a, int b)  
return (a+b)
```
2.

```
int sum(int a, int b)  
  
{return (a + b);}
```
3.

```
int sum(a, b)  
return (a + b);
```

```
int (real a, real b)
```

```
4. return (a + b);
```

Question Number : 135 Question Id : 8946582739 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The value obtained in the function is given back to main by using _____ keyword.

Options :

1. return
2. static
3. new
4. volatile

Question Number : 136 Question Id : 8946582740 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following concepts make extensive use of arrays?

Options :

1. binary trees
2. scheduling of processes
3. caching
4. spatial locality

Question Number : 137 Question Id : 8946582741 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In C, if you pass an array as an argument to a function, what does actually get passed?

Options :

1. value of elements in array

2. first element of the array
3. base address of the array
4. address of the last element of array

Question Number : 138 Question Id : 8946582742 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the cathode of an 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 : 139 Question Id : 8946582743 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In a power transistor, _____ is the controlled parameter.

Options :

1. V_{BE}
2. V_{CE}
3. I_B
4. I_C

Question Number : 140 Question Id : 8946582744 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The power rating of a BJT is determined by which of the following ?

Options :

1. collector base area
2. base width
3. heat sink
4. emitter base junction area

Question Number : 141 Question Id : 8946582745 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In single phase induction motor the net torque experienced by the rotor at starting is _____.

Options :

1. high
2. low
3. average
4. zero

Question Number : 142 Question Id : 8946582746 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What are the names of the windings used in the split phase starting?

Options :

1. main winding and running winding
2. auxiliary windings
3. main winding and starting winding
4. starting and auxiliary windings

Question Number : 143 Question Id : 8946582747 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In a transformer, which of the following windings has got more cross-sectional area?

Options :

1. copper winding
2. steel winding
3. aluminium winding
4. iron winding

Question Number : 144 Question Id : 8946582748 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The capability of convention relay systems for complex operations is _____ that of the PLCs.

Options :

1. poorer than
2. better than
3. as good as
4. unpredictable as

Question Number : 145 Question Id : 8946582749 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In the following statements which is not an advantage of an open loop system?

Options :

1. simplicity in construction and design
2. easy maintenance

3. rare problems of stability
4. recalibration from time to time

Question Number : 146 Question Id : 8946582750 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Find the efficiency η of ordinary AM for 50 percent modulation?

Options :

1. 33.3%
2. 12.5%
3. 22.2%
4. 66.6%

Question Number : 147 Question Id : 8946582751 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following antennas is used for TV transmission?

Options :

1. Helical antenna
2. Yagi-uda antenna
3. Turnstile antenna
4. Loop antenna

Question Number : 148 Question Id : 8946582752 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The product of rise time and 3-dB bandwidth of the low-pass RC filter is _____

Options :

1. 0.35

2. 0.707

3. 22.7

4. 1

Question Number : 149 Question Id : 8946582753 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Find the instantaneous frequency in hertz for the given signal $10 \cos\left(200\pi t + \frac{\pi}{3}\right)$?

Options :

1. 200 Hz

2. 200π Hz

3. 2000 Hz

4. 100 Hz

Question Number : 150 Question Id : 8946582754 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Consider an angle-modulated signal

$$S(t) = 10 \cos[(10^8)\pi t + 5 \sin 2\pi(10^3)t]$$

Find the maximum frequency deviation?

Options :

1. 10 kHz

2. 5 kHz

3. 50 MHz

4. 1 kHz

Question Number : 151 Question Id : 8946582755 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A carrier is frequency-modulated with a sinusoidal signal of 2 kHz, resulting in a maximum frequency deviation of 5 kHz. Find the bandwidth of the modulated signal?

Options :

1. 14 kHz
2. 10 kHz
3. 3 kHz
4. 7 kHz

Question Number : 152 Question Id : 8946582756 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Find the Nyquist sampling rate for the given signal $5 \cos(1000\pi t) \cos(4000\pi t)$?

Options :

1. 2 kHz
2. 500 Hz
3. 2.5 kHz
4. 5 kHz

Question Number : 153 Question Id : 8946582757 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Two analog signals $m_1(t)$ and $m_2(t)$ are to be transmitted over a common channel by means of time-division multiplexing. The highest frequency of $m_1(t)$ is 4 kHz and that of $m_2(t)$ is 4.5 kHz. What is the minimum value of the permissible sampling rate?

Options :

1. 4000 samples/s

2. 4500 samples/s
3. 8000 samples/s
4. 9000 samples/s

Question Number : 154 Question Id : 8946582758 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The function of the quartz delay line in an MTI radar is to _____

Options :

1. delay a sweep so that the next sweep can be subtracted from it
2. match the phase of the coho and the output oscillator
3. match the phase of the coho and the stalo
4. help in subtracting a complete scan from the previous scan

Question Number : 155 Question Id : 8946582759 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The IF bandwidth of a radar receiver is inversely proportional to the _____

Options :

1. pulse interval
2. square root of the peak transmitted power
3. pulse width
4. pulse repetition frequency

Question Number : 156 Question Id : 8946582760 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

To separate channels in an FDM receiver, it is necessary to use _____

Options :

1. differentiation
2. AND gate
3. integration
4. band pass filters

Question Number : 157 Question Id : 8946582761 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A super heterodyne receiver with an IF of 450 kHz is tuned to a signal at 1000 kHz. The image frequency is _____ .

Options :

1. 1000 kHz
2. 450 kHz
3. 1900 kHz
4. 1550 kHz

Question Number : 158 Question Id : 8946582762 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If an 8-level encoding scheme is used in a 10 kHz bandwidth system, then the channel capacity is _____ bits/s.

Options :

1. 60,000
2. 30,000
3. 80,000
4. 20,000

Question Number : 159 Question Id : 8946582763 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The most popular satellite frequency range is 4 to 6 GHz and is called the _____ band.

Options :

1. Ku
2. X
3. C
4. S

Question Number : 160 Question Id : 8946582764 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A circular orbit around the equator with a 24-h period is called as a/an _____.

Options :

1. elliptical orbit
2. geostationary orbit
3. polar orbit
4. transfer orbit

Question Number : 161 Question Id : 8946582765 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The acronym VCO means _____

Options :

1. variable crystal oscillator
2. variable capacitor oscillator
3. voltage constant oscillator

4. voltage controlled oscillator

Question Number : 162 Question Id : 8946582766 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Given the single-tone FM signal: $S(t) = 20 \cos[(2\pi 10^6 t) + 2 \sin(2\pi 10^4 t)]$.

What is the bandwidth using Carson's rule?

Options :

1. 20 kHz
2. 60 kHz
3. 40 kHz
4. 10 kHz

Question Number : 163 Question Id : 8946582767 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Given the angle-modulated signal: $10 \cos[\omega_c t + 2 \sin(2000\pi t)]$. Find the average transmitted power?

Options :

1. 100 W
2. 20 W
3. 50 W
4. 10 W

Question Number : 164 Question Id : 8946582768 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The horizontal radiation pattern of a dipole is a _____

Options :

1. clover leaf
2. narrow beam
3. figure eight
4. circle

Question Number : 165 Question Id : 8946582769 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

During an eclipse, the satellite is powered by _____

Options :

1. batteries
2. solar panels
3. jet engine
4. motors

Question Number : 166 Question Id : 8946582770 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $(292)_{10} = (204)_b$, then the possible base b is _____

Options :

1. 8
2. 12
3. 14
4. 16

Question Number : 167 Question Id : 8946582771 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

De Morgan's theorem states that _____

Options :

1. $\overline{A + B} = \bar{A} . \bar{B}$ and $\overline{AB} = \bar{A} + \bar{B}$

2. $\overline{A + B} = \bar{A} + \bar{B}$ and $\overline{AB} = \bar{A} \bar{B}$

3. $\overline{A + B} = A+B$ and $\overline{AB} = AB$

4. $\overline{A + B} = \overline{AB}$ and $\overline{AB} = \overline{A \bar{B}}$

Question Number : 168 Question Id : 8946582772 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

How many full-adders are required to construct an N-bit parallel adder?

Options :

1. $N/2$

2. $N-1$

3. N

4. $N+1$

Question Number : 169 Question Id : 8946582773 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The number of 2-to-4 line decoders required to construct a 3-to-8 line decoder is _____.

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 170 Question Id : 8946582774 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the minimum number of NAND gates required to realize an XOR gate?

Options :

1. 3

2. 4

3. 5

4. 6

Question Number : 171 Question Id : 8946582775 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The race around condition occurs in a J-K flip-flop when _____.

Options :

1. both inputs are 0

2. the inputs are complementary

3. both inputs are 1

4. both inputs are high impedance

Question Number : 172 Question Id : 8946582776 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The minimum number of flip-flops required for a Mod-12 ripple counter is _____.

Options :

1. 3

2. 4
3. 6
4. 12

Question Number : 173 Question Id : 8946582777 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The logic family which consumes least power is _____

Options :

1. TTL
2. ECL
3. CMOS
4. IIL

Question Number : 174 Question Id : 8946582778 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The non-volatile memory is _____.

Options :

1. RAM
2. DRAM
3. Cache memory
4. ROM

Question Number : 175 Question Id : 8946582779 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The ADC used in digital voltmeters and multimeters is _____.

Options :

1. counter – type
2. flash type
3. successive–approximation type
4. dual-slope type

Question Number : 176 Question Id : 8946582780 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The addressing capacity of an 8085 microprocessor is _____.

Options :

1. 64 KB
2. 32 KB
3. 64 MB
4. 64 Bytes

Question Number : 177 Question Id : 8946582781 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Priority order of 8085 interrupts are _____.

Options :

1. RST 5.5, RST 6.5, RST 7.5
2. RST 7.5, RST6.5, RST5.5
3. RST6.5, RST 7.5, RST 5.5
4. RST 7.5,RST 5.5,RST6.5

Question Number : 178 Question Id : 8946582782 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If LXI H, 8054H

LXI B,1276H

DAD B

HLT

What is the result of execution of above piece of code?

Options :

1. HL = 92BA
2. BC = 92CA
3. HL = 9330
4. BC = 9330

Question Number : 179 Question Id : 8946582783 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The BSR mode control word of 8255 is used _____.

Options :

1. to set port C bits
2. to reset port C bits
3. to set and reset port C bits
4. to set or reset port A bit

Question Number : 180 Question Id : 8946582784 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

RS-232 standard is related to _____.

Options :

1. serial communication
2. parallel communication
3. interrupts
4. memory

Question Number : 181 Question Id : 8946582785 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The 8051 microcontroller Architecture is _____ .

Options :

1. Von Neumann
2. Princeton
3. Harvard
4. Super scalar

Question Number : 182 Question Id : 8946582786 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

One machine cycle of 8051 takes _____ .

Options :

1. 12 clock cycles
2. 6 clock cycles
3. 4 clock cycles
4. 20 clock cycles

Question Number : 183 Question Id : 8946582787 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

How many modes of operations are there for ports in 8255 PPI?

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 184 Question Id : 8946582788 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is used to program and control the operation of IC 8259?

Options :

1. WR
2. IMR
3. INT
4. RXD

Question Number : 185 Question Id : 8946582789 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

PIC 16F877 on chip program memory size is _____.

Options :

1. 8Kx14 flash type
2. 8Kx14 EPROM type
3. 8Kx8 Flash type
4. 8Kx8 EPROM

Question Number : 186 Question Id : 8946582790 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In the 625-B monochrome TV system, the number of scanning lines per field is _____.

Options :

1. 625
2. 312.5
3. 311.5
4. 300

Question Number : 187 Question Id : 8946582791 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In 525 American monochrome TV system, the duration of front porch is _____.

Options :

1. $1.27\mu\text{s}$
2. $4.7\mu\text{s}$
3. $5.7\mu\text{s}$
4. $2.0\mu\text{s}$

Question Number : 188 Question Id : 8946582792 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In NTSC color TV system, the I and Q signals differ in phase by _____.

Options :

1. 0°
2. 90°
3. 180°

4. 270°

Question Number : 189 Question Id : 8946582793 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In PAL color TV system, on modulation, the color difference signals are allowed with a bandwidth of _____.

Options :

1. 0.5 MHz
2. 1 MHz
3. 1.3 MHz
4. 1.6 MHz

Question Number : 190 Question Id : 8946582794 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In SECAM color TV system, which modulation is used to encode chrominance signal?

Options :

1. amplitude
2. angle
3. frequency
4. pulse

Question Number : 191 Question Id : 8946582795 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In asynchronous serial communication, the physical layer provides _____.

Options :

1. start and stop signalling

2. congestion control
3. error control
4. connection control

Question Number : 192 Question Id : 8946582796 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wireless transmission can be done via _____.

Options :

1. radio waves
2. coaxial cables
3. twister pair
4. optical fibre

Question Number : 193 Question Id : 8946582797 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Bluetooth is the wireless technology for _____.

Options :

1. local area network
2. personal area network
3. metropolitan area network
4. wide area network

Question Number : 194 Question Id : 8946582798 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following allows the client to update his/her DNS entry as his/her IP address changes?

Options :

1. dynamic DNS
2. mail transfer agent
3. authoritative name server
4. SMTP

Question Number : 195 Question Id : 8946582799 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?

Options :

1. CDMA
2. CSMA/CA
3. ALOHA
4. GSM

Question Number : 196 Question Id : 8946582800 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A proxy server keeps copies of responses to _____.

Options :

1. current requests
2. recent requests
3. pending requests
4. received requests

Question Number : 197 Question Id : 8946582801 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

How many OSI layers are covered in the X.25 standard?

Options :

1. three
2. four
3. Two
4. seven

Question Number : 198 Question Id : 8946582802 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Bank's ATM facility is an example of _____.

Options :

1. LAN
2. WAN
3. Mixed networking
4. Multipurpose networking

Question Number : 199 Question Id : 8946582803 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Frames from one LAN can be transmitted to another LAN via the device _____.

Options :

1. router
2. bridge
3. repeater

4. modem

Question Number : 200 Question Id : 8946582804 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

When a router cannot route a datagram, datagram is discarded and sends a message to source i.e., _____.

Options :

1. destination unreachable
2. destination unverified
3. destination unavailable
4. destination no-entry