

Question Paper Preview

Question Paper Name:

Electronics and Communication Engineering

Subject Name:

Electronics and Communication Engineering

Number of Questions:
Display Number Panel:
Group All Questions:

Mathematics

50

Yes

No

Question Number : 1 Question Id : 67809417824 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$$\text{If } A = \begin{pmatrix} 2 & -1 & 0 \\ 3 & 4 & 7 \end{pmatrix} \text{ and } B = \begin{pmatrix} 5 & 2 & -3 \\ 1 & 0 & -2 \end{pmatrix} \text{ then } 2A+3B =$$

Options :

1. $\begin{pmatrix} 19 & 4 & -9 \\ 9 & 8 & 8 \end{pmatrix}$

2. $\begin{pmatrix} -19 & -4 & 9 \\ 9 & 8 & -8 \end{pmatrix}$

3. $\begin{pmatrix} 18 & 4 & -9 \\ 9 & 8 & 8 \end{pmatrix}$

4. $\begin{pmatrix} 17 & 5 & -9 \\ 8 & 8 & 9 \end{pmatrix}$

Question Number : 2 Question Id : 67809417825 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$$\text{If } A = \begin{pmatrix} 2 & -3 & 0 \\ 1 & 4 & -1 \end{pmatrix} \text{ and } B = \begin{pmatrix} 6 & 1 \\ 3 & 0 \\ 5 & 2 \end{pmatrix} \text{ then } (AB)^T =$$

Options :

1. $A^T B^T$

2. $B^T A^T$

3. $(BA)^T$

4. AB^T

Question Number : 3 Question Id : 67809417826 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If two rows or two columns of a determinant are identical then the value of the determinant is

Options :

1. 2

2. -1

3. 0

4. -2

Question Number : 4 Question Id : 67809417827 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\begin{vmatrix} 265 & 240 & 219 \\ 240 & 225 & 198 \\ 219 & 198 & 181 \end{vmatrix}$ is

Options :

1. -1

2. 0

3. 1

4. 2

Question Number : 5 Question Id : 67809417828 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The adjoint of the square matrix $A = \begin{pmatrix} 2 & 5 & 1 \\ 3 & 1 & 2 \\ 4 & 3 & 1 \end{pmatrix}$ is

Options :

$$1. \begin{pmatrix} -5 & -2 & 9 \\ 5 & -2 & -1 \\ 5 & 14 & -13 \end{pmatrix}$$

$$2. \begin{pmatrix} 5 & 2 & 9 \\ 5 & -2 & -1 \\ 5 & 14 & -13 \end{pmatrix}$$

$$3. \begin{pmatrix} -5 & -2 & 9 \\ -5 & -2 & -1 \\ -5 & 14 & -13 \end{pmatrix}$$

$$4. \begin{pmatrix} -5 & -2 & -9 \\ 5 & 2 & 1 \\ 5 & 14 & -13 \end{pmatrix}$$

Question Number : 6 Question Id : 67809417829 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Resolve into partial fractions: $\frac{5}{(2x-1)(3x-1)} =$

Options :

$$1. \frac{8}{2x-1} + \frac{5}{3x-1}$$

$$2. \frac{10}{2x-1} - \frac{15}{3x-1}$$

$$3. \frac{11}{3x-1} + \frac{7}{2x-1}$$

$$4. \frac{1}{2x-1} + \frac{2}{3x-1}$$

Question Number : 7 Question Id : 67809417830 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Resolve into partial fractions: $\frac{3x-1}{(x-1)(x-2)(x-3)} =$

Options :

$$1. \frac{2}{x-1} + \frac{5}{x-2} - \frac{4}{x-3}$$

2. $\frac{-1}{x-1} + \frac{5}{x-2} - \frac{4}{x-3}$

3. $\frac{1}{x-1} + \frac{5}{x-2} + \frac{4}{x-3}$

4. $\frac{1}{x-1} - \frac{5}{x-2} + \frac{4}{x-3}$

Question Number : 8 Question Id : 67809417831 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\tan A = \frac{1}{2}$ and $\tan B = \frac{1}{3}$ then $\tan(A - B) =$

Options :

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

2. $\frac{-1}{7}$

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

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

Question Number : 9 Question Id : 67809417832 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\cot 2A + \tan A =$

Options :

1. $\sin 2A$

2. $\cos 2A$

3. $\sec 2A$

4. $\operatorname{cosec} 2A$

Question Number : 10 Question Id : 67809417833 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\frac{1-\cos 2A+\sin 2A}{1+\cos 2A+\sin 2A} =$

Options :

1. $\sin A$
2. $\cos A$
3. $\tan A$
4. $\cot A$

Question Number : 11 Question Id : 67809417834 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\sin \frac{\pi}{5} \sin \frac{2\pi}{5} \sin \frac{3\pi}{5} \sin \frac{4\pi}{5} =$

Options :

1. $\frac{4}{15}$
2. $\frac{5}{16}$
3. $\frac{-5}{16}$
4. $\frac{7}{15}$

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Question Number : 12 Question Id : 67809417835 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\cos 20^{\circ} + \cos 100^{\circ} + \cos 140^{\circ} =$

Options :

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

Question Number : 13 Question Id : 67809417836 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\sum a(b^2 + c^2)\cos A$ is

Options :

1. $2abc$
2. $4abc$
3. $3abc$
4. $5abc$

Question Number : 14 Question Id : 67809417837 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $(a - b)^2 \cos^2 \left(\frac{C}{2}\right) + (a + b)^2 \sin^2 \left(\frac{C}{2}\right)$ is

Options :

1. c^3
2. c
3. c^5
4. c^2

Question Number : 15 Question Id : 67809417838 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $2\tan^{-1} \left(\frac{1}{3}\right) + \tan^{-1} \left(\frac{1}{7}\right)$ is

Options :

1. $\pi/4$
2. $\pi/2$
3. $\pi/6$
4. $\pi/3$

Question Number : 16 Question Id : 67809417839 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of $4\cos^2x - 3 = 0$ is

Options :

1. $2n\pi \pm \frac{\pi}{6}$

2. $2n\pi \pm \frac{7\pi}{6}$

3. $3n\pi \pm \frac{5\pi}{6}$

4. $2n\pi \pm \frac{11\pi}{6}$

Question Number : 17 Question Id : 67809417840 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\tan^{-1}x + \tan^{-1}y + \tan^{-1}z = \frac{\pi}{2}$, then the value of $xy + yz + zx$ is

Options :

1. -1

2. 3

3. 5

4. 1

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Question Number : 18 Question Id : 67809417841 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The modulus of a complex number $\sqrt{3} + i$ is

Options :

1. -2

2. 3

3. 2

4. 5

Question Number : 19 Question Id : 67809417842 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $x + \frac{1}{x} = 2 \cos \theta$ then the value of $x^n + \frac{1}{x^n}$ is

Options :

1. $2 \cos n\theta$
2. $-2 \cos n\theta$
3. $3 \cos \theta$
4. $2 \sin n\theta$

Question Number : 20 Question Id : 67809417843 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The centre of the circle: $x^2 + y^2 - 2x + 6y - 6 = 0$ is

Options :

1. (1,3)
2. (2,3)
3. (1,-3)
4. (-1,3)

Question Number : 21 Question Id : 67809417844 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The radius of the circle: $5x^2 + 5y^2 - 6x + 8y - 75 = 0$ is

Options :

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

Question Number : 22 Question Id : 67809417845 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation of the parabola with vertex (2, -1) and focus (2, -3) is

Options :

1. $x^2 - 4x + 8y + 12 = 0$

2. $x^2 - 4x - 8y - 12 = 0$

3. $x^2 + 4x - 8y - 12 = 0$

4. $x^2 + 5x - 8y - 11 = 0$

Question Number : 23 Question Id : 67809417846 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The centre of the ellipse: $9x^2 + 25y^2 - 18x + 100y - 116 = 0$ is

Options :

1. $(2, -1)$

2. $(-1, -2)$

3. $(1, -2)$

4. $(1, 2)$

Question Number : 24 Question Id : 67809417847 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The focus of the hyperbola: $\frac{x^2}{25} - \frac{y^2}{144} = 1$ is

Options :

1. $(-13, 0)$

2. $(13, 0)$

3. $(13, -1)$

4. $(13, 1)$

Question Number : 25 Question Id : 67809417848 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The length of the major axis of the ellipse: $4x^2 + 3y^2 = 48$ is

Options :

1. 10

2. 11

3. 8

4. 13

Question Number : 26 Question Id : 67809417849 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\lim_{x \rightarrow 1} \frac{x^3 - 1}{x - 1}$ is

Options :

1. 3

2. -3

3. 2

4. 1

Question Number : 27 Question Id : 67809417850 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $y = \frac{a+bx}{b-ax}$ then the derivative of y with respect to x is

Options :

1. $\frac{a^2+b^2}{(b-ax)^2}$

2. $\frac{a^2+b^2}{(b+ax)^2}$

3. $\frac{a^2-b^2}{(b-ax)^2}$

4. $\frac{a+b}{(b-ax)^2}$

Question Number : 28 Question Id : 67809417851 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $y = x^3 e^x$ then $\frac{dy}{dx}$ is

Options :

1. $(x - 3)x^2 e^x$

2. $(x - 2)x^3 e^x$

3. $(x + 3)x^2 e^x$

4. $(x - 1)x^3 e^x$

Question Number : 29 Question Id : 67809417852 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $y = \sec x + \tan x$ then $\frac{dy}{dx}$ is

Options :

1. $y \cos x$

2. $y \sec x$

3. $-y \sin x$

4. $y \tan x$

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Question Number : 30 Question Id : 67809417853 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $y = \frac{2+3 \sinh x}{3+2 \sinh x}$ then the derivative of y with respect to x is

Options :

1. $\frac{5 \cosh x}{(3+2 \sinh x)^2}$

2. $\frac{5 \sinh x}{(3+2 \sinh x)^2}$

3. $\frac{5 \sin x}{(3-2 \cosh x)^2}$

4. $\frac{\sinh^2 x}{(2-3\sinh x)^2}$

Question Number : 31 Question Id : 67809417854 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $y = \sqrt{\frac{1-\cos x}{1+\cos x}}$ then $\frac{dy}{dx}$ is

Options :

1. $\sec^2\left(\frac{x}{2}\right)$

2. $\cos^2\left(\frac{x}{2}\right)$

3. $\frac{1}{2}\cos^2\left(\frac{x}{2}\right)$

4. $\frac{1}{2}\sec^2\left(\frac{x}{2}\right)$

Question Number : 32 Question Id : 67809417855 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The angle between the curves $y = x^2 + 3x - 7$ and $y^2 = 2x + 5$ at $(2,3)$ is

Options :

1. $\tan \theta = 2$

2. $\sec \theta = 2$

3. $\cos \theta = 1$

4. $\sin \theta = 3$

Question Number : 33 Question Id : 67809417856 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The range of x for which the function $x^3 - 3x^2 - 45x + 2$ is increasing with x is

Options :

1. $(3, -5)$

2. $(-3, -5)$

3. $(3, 5)$

4. $(-3, 5)$

Question Number : 34 Question Id : 67809417857 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The maximum value of the function $2x^3 - 12x^2 + 18x + 5$ is

Options :

1. 13

2. 12

3. 10

4. 15

Question Number : 35 Question Id : 67809417858 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If u is a homogeneous function of x and y with degree n then $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} =$

Options :

1. $-nu$

2. n^2u

3. nu

4. $nu^2 + u$

Question Number : 36 Question Id : 67809417859 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\int \frac{\cos \sqrt{x}}{\sqrt{x}} dx$ is

Options :

1. $2 \sin \sqrt{x} + c$

2. $3 \sin \sqrt{x} + c$

3. $2 \sin x + c$

4. $\sin \sqrt{x} + c$

Question Number : 37 Question Id : 67809417860 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\int \frac{dx}{\sqrt{a^2-x^2}}$ is

Options :

1. $\cos^{-1}\left(\frac{x}{a}\right) + c$

2. $\sin^{-1}\left(\frac{x}{a}\right) + c$

3. $\sinh^{-1}\left(\frac{x}{a}\right) + c$

4. $\sin^{-1}\left(\frac{a}{x}\right) + c$

Question Number : 38 Question Id : 67809417861 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\int \frac{dx}{4x^2+4x+17}$ is

Options :

1. $\frac{1}{8} \tan^{-1}\left(\frac{2x+1}{4}\right) + c$

2. $\frac{1}{4} \cot^{-1}\left(\frac{2x+1}{4}\right) + c$

3. $\frac{1}{8} \sin^{-1}\left(\frac{2x+1}{4}\right) + c$

4. $\frac{1}{3} \tan^{-1}\left(\frac{2x+1}{4}\right) + c$

The value of $\int \log x \, dx$ is

Options :

1. $x \log x + x + c$
2. $x^2 \log x - x + c$
3. $x \log x - x + c$
4. $x \log x - \frac{x^2}{2} + c$

Question Number : 40 Question Id : 67809417863 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\int_1^4 \left(\sqrt{x} + \frac{1}{\sqrt{x}} \right) dx$ is

Options :

1. $\frac{20}{3}$
2. $-\frac{20}{3}$
3. $\frac{10}{3}$
4. $\frac{15}{3}$

Question Number : 41 Question Id : 67809417864 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\int_0^{\pi/2} \sin^2 x \, dx$ is

Options :

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

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3. $\frac{\pi}{6}$

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

Question Number : 42 Question Id : 67809417865 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The area enclosed between the curve $y^2 = 4ax$ and the line $x = 2y$ is

Options :

1. $\frac{64}{5}$ sq. units

2. $\frac{64}{3}$ sq. units

3. $\frac{65}{4}$ sq. units

4. $\frac{63}{4}$ sq. units

Question Number : 43 Question Id : 67809417866 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\lim_{n \rightarrow \infty} \left[\frac{1}{n+1} + \frac{1}{n+2} + \dots + \frac{1}{n+n} \right]$ is

Options :

1. $\log 2$

2. $\log 3$

3. $-\log 2$

4. $\log n$

Question Number : 44 Question Id : 67809417867 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Form the differential equation by eliminating the arbitrary constant a from $ay^2 = x^3$

Options :

1. $\frac{dy}{dx} = \frac{3y}{2x}$

2. $\frac{dy}{dx} = \frac{2x}{3y}$

3. $\frac{dy}{dx} = \frac{x}{y}$

4. $\frac{dy}{dx} = \frac{2y}{x}$

Question Number : 45 Question Id : 67809417868 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The solution of $\sqrt{1-y^2}dx + \sqrt{1-x^2}dy = 0$ is

Options :

1. $\cos^{-1}x + \cos^{-1}y = c$

2. $\sinh^{-1}x + \cosh^{-1}y = c$

3. $\cos^{-1}x + \sec^{-1}x = c$

4. $\sin^{-1}x + \sin^{-1}y = c$

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Question Number : 46 Question Id : 67809417869 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The solution of $\frac{dy}{dx} = (4x + y + 1)^2$ is

Options :

1. $\frac{1}{2} \tan^{-1} \left(\frac{4x+y+1}{2} \right) = x + c$

2. $\frac{1}{2} \cot^{-1} \left(\frac{4x+y+1}{2} \right) = x + c$

3. $-\frac{1}{2} \tan^{-1} \left(\frac{4x+y+1}{2} \right) = x + c$

4. $\frac{1}{2} \tan^{-1} \left(\frac{4x-y-1}{2} \right) = x + c$

Question Number : 47 Question Id : 67809417870 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The solution of exact differential equation $2xy dx + x^2 dy = 0$ is

Options :

1. $x^2 y^2 = c$

2. $x^2 y = c$

3. $x^3 y = c$

4. $x^2 y^3 = c$

Question Number : 48 Question Id : 67809417871 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The solution of $\frac{dy}{dx} + y = e^{-x}$ is

Options :

1. $(x + c)e^{-x}$

2. $(x - c)e^x$

3. $(x + c)e^x$

4. $(x + c)e^{-2x}$

Question Number : 49 Question Id : 67809417872 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The particular integral of $(D^2 + 5D + 6)y = e^x$ is

Options :

1. $\frac{-e^{-x}}{12}$

2. $\frac{e^{2x}}{12}$

3. $\frac{e^x}{12}$

4. $\frac{e^x}{6}$

Question Number : 50 Question Id : 67809417873 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The complementary function of $(D^2 + 3D + 2)y = 8\sin 5x$ is

Options :

1. $c_1 e^{-x} + c_2 e^{-2x}$

2. $c_1 e^x + c_2 e^{2x}$

3. $c_1 e^{-x} + c_2 e^{2x}$

4. $c_1 e^{2x} + c_2 e^{3x}$

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Physics

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

Question Number : 51 Question Id : 67809417874 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not the unit of energy?

Options :

1. watt second

2. Pascal metre

3. Newton metre

4. Kilowatt hour

Question Number : 52 Question Id : 67809417875 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The height of Mercury barometer is 76 cm and density of Mercury is 13.6 g/cc. The corresponding height of water barometer in SI system is

Options :

- 1. 10.336 m
- 2. 103.36 m
- 3. 3.6m
- 4. 1.0336 m

Question Number : 53 Question Id : 67809417876 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Angle made by the vector $(\sqrt{3} \bar{i} + \bar{j})$ with the X-axis is

Options :

- 1. $\pi/2$
- 2. $\pi/4$
- 3. $\pi/3$
- 4. $\pi/6$

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Question Number : 54 Question Id : 67809417877 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The minimum number of unequal forces in a plane that can keep a particle in equilibrium is

Options :

- 1. 4

2. 2

3. 3

4. 6

Question Number : 55 Question Id : 67809417878 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A body is thrown with a velocity of $(4\bar{i} + 3\bar{j})$ m/s. The maximum height attained by the body is ($g=10 \text{ ms}^{-2}$)

Options :

1. 2.5 m

2. 4.5 m

3. 0.8 m

4. 0.45 m

Question Number : 56 Question Id : 67809417879 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A person in a lift, which ascends up with acceleration 10ms^{-2} , drops a stone from a height of 10m. The time of descent is ($g=10 \text{ ms}^{-2}$)

Options :

1. 0.5 s

2. 1 s

3. 1.5 s

4. 2 s

Question Number : 57 Question Id : 67809417880 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a projectile, the ratio of maximum height reached to the square of time of flight is

Options :

1. 5:4

2. 5:2

3. 5:1

4. 10:1

Question Number : 58 Question Id : 67809417881 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ratio of distances travelled by a body, starting from rest and travelling with uniform acceleration, in successive intervals of time of equal duration will be

Options :

1. 1:2:3

2. 1:4:9

3. 1:3:5

4. 1:9:16

Question Number : 59 Question Id : 67809417882 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A force of 12 N acts on a body of mass 4 kg placed on a rough surface. The coefficient of friction between body and surface is 0.2 and take $g = 10 \text{ ms}^{-2}$. The acceleration of the body in

ms^{-2} is

Options :

1. 1

2. 0.5

3. 0.25

4. Zero

Question Number : 60 Question Id : 67809417883 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Brakes stop a train in a certain distance d . When the braking force is made one fourth, the

brakes will stop the train in a distance which is

Options :

1. $d/2$
2. $4d$
3. $2d$
4. d

Question Number : 61 Question Id : 67809417884 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The product of linear momentum and velocity of a body represents

Options :

1. Kinetic energy of the body
2. Potential energy of the body
3. Half the Kinetic energy of the body
4. Twice the kinetic energy of the body

Question Number : 62 Question Id : 67809417885 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A man weighing 60 kg eats plum cake whose energy content is 9800 calories. If all this energy could be utilised by him, he can ascend to a height of

Options :

1. 17 m
2. 100 m
3. 70 m
4. 60m

Question Number : 63 Question Id : 67809417886 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A crane can lift up 10,000 kg of coal in 1 hour from a mine of depth 180m. If the efficiency of the crane is 80%, its input power must be ($g=10 \text{ ms}^{-2}$)

Options :

1. 62.5 kW
2. 6.25 kW
3. 50 kW
4. 5 kW

Question Number : 64 Question Id : 67809417887 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The graph of acceleration as a function of displacement in the case of a body executing simple harmonic motion is

Options :

1. Parabola
2. Hyperbola
3. Straight line with positive slope
4. Straight line with negative slope

Question Number : 65 Question Id : 67809417888 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The pendulum of length 'L' swings from mean position to mean position 'n' times in one second. The value of acceleration due to gravity is

Options :

1. $\pi^2 n^2 L$
2. $2\pi^2 n^2 L$

3. $(\pi^2 n^2 L)/2$

4. $4\pi^2 n^2 L$

Question Number : 66 Question Id : 67809417889 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When a source of sound is in motion towards a stationary observer, the effect observed is

Options :

1. Decrease in velocity of sound
2. Increase in velocity of sound
3. increase in frequency of sound
4. decrease in frequency of sound

Question Number : 67 Question Id : 67809417890 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The voice of a male person is different from that of a female person because

Options :

1. Two sounds have different phases
2. Two persons are of different size
3. Two sounds travel with different velocities
4. Two sounds have different pitch

Question Number : 68 Question Id : 67809417891 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the sound absorption of a hall is changed by 2%, then the percentage change in the reverberation time is

Options :

1. 2%

2. 4%

3. 1%

4. No change

Question Number : 69 Question Id : 67809417892 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In which of the following process, the internal energy of the system remains constant?

Options :

1. Adiabatic

2. Isothermal

3. Isobaric

4. Isochoric

Question Number : 70 Question Id : 67809417893 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Heat required to raise the temperature of one gram of water through 1 K is

Options :

1. 1.0 Kcal

2. 0.1 Kcal

3. 0.01 Kcal

4. 0.001 Kcal

Question Number : 71 Question Id : 67809417894 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The specific heat of a gas in an isothermal process is

Options :

1. infinity

2. Zero

3. Finite positive

4. Finite negative

Question Number : 72 Question Id : 67809417895 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Specific heat of aluminium is $0.25 \text{ cal/g/}^\circ\text{C}$. The water equivalent of an aluminium vessel of mass one kilogram is

Options :

1. $40 \text{ cal/}^\circ\text{C}$

2. $400 \text{ cal/}^\circ\text{C}$

3. $250 \text{ cal/}^\circ\text{C}$

4. $25 \text{ cal/}^\circ\text{C}$

Question Number : 73 Question Id : 67809417896 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What should be the percentage increase in the pressure so that the volume of a gas may decrease by 5% at constant temperature?

Options :

1. 5%

2. 5.26%

3. 10%

4. 4.26%

Question Number : 74 Question Id : 67809417897 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the maximum kinetic energy of emitted photo electrons from a metal is 0.9 eV and work

function is 2.2 eV, then the wavelength of incident radiation is

Options :

1. 4000Å
2. 8000Å
3. 3000Å
4. 2000Å

Question Number : 75 Question Id : 67809417898 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the angle of incidence of a ray is greater than the critical angle at the core – cladding interface in an optical fiber, then the ray travels

Options :

1. in the core
2. in the cladding
3. in the buffer
4. along the interface

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Chemistry

Number of Questions:
Display Number Panel:
Group All Questions:

25
Yes
No

Question Number : 76 Question Id : 67809417899 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pauli's Exclusion principle states that two electrons in same orbital have

Options :

1. same spins
2. different spins
3. opposite spins
4. vertical spins

Question Number : 77 Question Id : 67809417900 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Orbits in which electrons move according to Bohr are

Options :

1. elliptical
2. cylindrical
3. circular
4. oval

Question Number : 78 Question Id : 67809417901 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Phosphorus has an atomic number of 15. A stable phosphorus atom has an electronic configuration of

Options :

1. $1s^2 2s^2 2p^6 3p^5$
2. $1s^2 2s^2 2p^6 3s^2 3p^3$
3. $1s^2 2s^2 2p^6 3s^2 3p^1 4s^2$
4. $1s^2 1p^6 1d^7$

Question Number : 79 Question Id : 67809417902 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

NaCl is classified as having what kind of bonds in the solid phase?

Options :

1. Covalent
2. Ionic
3. Polar
4. vander Waals

Question Number : 80 Question Id : 67809417903 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Bond formed due to sharing of electrons is

Options :

1. Ionic bond
2. Metallic bond
3. Polar bond
4. Covalent bond

Question Number : 81 Question Id : 67809417904 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The normality of solution obtained by dissolving 5.3 grams of Na_2CO_3 in 1 litre solution is

Options :

1. 1N
2. 0.1N
3. 0.05N
4. 0.5N

Question Number : 82 Question Id : 67809417905 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The following solution has same molarity and normality

Options :

1. Na_2CO_3
2. NaCl
3. H_2SO_4
4. $\text{K}_2\text{Cr}_2\text{O}_7$

Question Number : 83 Question Id : 67809417906 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

5 moles of a solute is dissolved in 10 litres of solution. What is its molarity?

Options :

1. 5 M
2. 2M
3. 0.5M
4. 0.2M

Question Number : 84 Question Id : 67809417907 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Process in which acids (H^+) and bases (OH^-) react to form salts and water is called

Options :

1. Neutralization
2. Halogenation
3. Hydrogenation
4. Hydrolysis

Question Number : 85 Question Id : 67809417908 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A substance that donates a pair of electrons to form coordinate covalent bond is called

Options :

1. Lewis acid
2. Lewis base
3. Bronsted-Lowry acid
4. Bronsted-Lowry base

Question Number : 86 Question Id : 67809417909 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One Faraday is equal to

Options :

1. 99650 C
2. 93100 C
3. 96500 C
4. 94500 C

Question Number : 87 Question Id : 67809417910 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The cell reaction of a cell is $\text{Mg(s)} + 2 \text{H}^+(\text{aq}) \rightarrow \text{Mg}^{2+}(\text{aq}) + \text{H}_2(\text{g})$. If the standard reduction potential of Zn is -2.372 V , then the emf of the cell is

Options :

1. $+2.372 \text{ V}$
2. -2.372 V
3. 0.00 V
4. -1.372 V

Question Number : 88 Question Id : 67809417911 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Galvanic cells are the cells which convert

Options :

1. Electrical energy to chemical energy
2. Chemical energy to electrical energy
3. Chemical energy to free energy
4. Potential energy to kinetic energy

Question Number : 89 Question Id : 67809417912 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Mass of substance produced at electrode is directly proportional to the quantity of electricity passed. This is known as

Options :

1. Faraday's second law
2. Faraday's first law
3. Newton's third law
4. Newton's first law

Question Number : 90 Question Id : 67809417913 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Hardness of water is expressed in terms of equivalent of

Options :

1. Na_2CO_3
2. K_2CO_3
3. MgCO_3
4. CaCO_3

Temporary hardness is caused by

Options :

1. Carbonates of calcium and magnesium
2. Chlorides of calcium and magnesium
3. Sulphates of calcium and magnesium
4. Nitrates of Calcium

Question Number : 92 Question Id : 67809417915 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The exhausted zeolite bed can be regenerated by washing with

Options :

1. NaCl
2. dil. NaOH
3. dil. HCl
4. Distilled water

Question Number : 93 Question Id : 67809417916 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Corrosion is an example of

Options :

1. Oxidation
2. Reduction
3. Electrolysis
4. Halogenation

The composition of rust is

Options :

1. $\text{Fe}(\text{OH})_3$
2. FeCl_3
3. FeO
4. $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$

Question Number : 95 Question Id : 67809417918 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following statement is not true?

Options :

1. Natural rubber has the trans-configuration at every double bond
2. Buna-S is a copolymer of butadiene and styrene
3. Natural rubber is a 1, 4-polymer of isoprene

In vulcanization, the formation of sulphur bridges between different chains makes rubber harder and stronger

4.

Question Number : 96 Question Id : 67809417919 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The monomers of Buna-S rubber are

Options :

1. Styrene and butadiene
2. Styrene and 2-propene
3. Isoprene and butadiene

4. Styrene and sulphur

Question Number : 97 Question Id : 67809417920 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The plastics which soften when heat is applied with or without pressure, but require cooling to set them to shape are called as

Options :

1. Thermosofting materials
2. Thermosetting materials
3. Thermoplastic materials
4. Thermostatting materials

Question Number : 98 Question Id : 67809417921 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following statement is not true about ideal fuel?

Options :

1. High calorific value
2. High moisture content
3. Low cost
4. Moderate ignition temperature

Question Number : 99 Question Id : 67809417922 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Environmental pollution affects

Options :

1. Humans only
2. Plants only

3. Biotic components

4. Both abiotic and biotic components

Question Number : 100 Question Id : 67809417923 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Layer of atmosphere in which ozone layer lies is

Options :

1. Troposphere

2. Stratosphere

3. Exosphere

4. Mesosphere

Electronics and Communication Engineering

Number of Questions: 100

Display Number Panel: Yes

Group All Questions: No

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Question Number : 101 Question Id : 67809417924 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One eV of energy is equal to

Options :

1. 1.6×10^{-18} J

2. 1.6×10^{-19} J

3. 9×10^9 J

4. 9×10^{-19} J

In a semiconductor diode, the barrier potential offers

Options :

1. Opposition to minority carriers in N-region and majority carriers in P-region
2. Opposition to majority carriers in both regions
3. Opposition to minority carriers in both regions
4. Opposition to minority carriers in P-region and majority carriers in N-region

Question Number : 103 Question Id : 67809417926 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Hall effect is used to measure

Options :

1. Magnetic field intensity
2. Barrier concentration
3. Carrier concentration
4. Electrostatic field intensity

Question Number : 104 Question Id : 67809417927 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The regulation of an ideal rectifier should be

Options :

1. negative
2. infinity
3. 100%

4. zero

Question Number : 105 Question Id : 67809417928 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The source terminal of a FET is analogous to _____ of BJT

Options :

1. Substrate
2. Collector
3. Base
4. Emitter

Question Number : 106 Question Id : 67809417929 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The base in a BJT is

Options :

1. Thin and heavily doped
2. Thick and heavily doped
3. Thin and lightly doped
4. Thick and lightly doped

Question Number : 107 Question Id : 67809417930 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When compared to the BJT, the JFET has much less

Options :

1. Voltage gain
2. Bandwidth

3. Input resistance

4. Voltage supply

Question Number : 108 Question Id : 67809417931 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The maximum efficiency of Class B amplifier is

Options :

1. 85 %

2. 78.5 %

3. 66 %

4. 21 %

Question Number : 109 Question Id : 67809417932 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following amplifiers is called Emitter follower?

Options :

1. CC

2. CB

3. CE

4. JFET

Question Number : 110 Question Id : 67809417933 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Voltage shunt feedback amplifier is also called

Options :

1. Transresistance amplifier

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2. Transconductance amplifier

3. Voltage amplifier

4. Current amplifier

Question Number : 111 Question Id : 67809417934 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Negative feedback is also known as

Options :

1. Direct feedback

2. Regenerative feedback

3. Degenerative feedback

4. Reverse feedback

Question Number : 112 Question Id : 67809417935 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The output voltage of a CE amplifier is

Options :

1. 180° out of the phase with input

2. 90° out of the phase with input

3. same phase as that of the input

4. 270° out of the phase with input

Question Number : 113 Question Id : 67809417936 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Crossover distortion can be observed in

Options :

1. Class AB amplifier

2. Class A amplifier

3. Class B amplifier

4. Class C amplifier

Question Number : 114 Question Id : 67809417937 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One of the conditions of Barkhausen criterion is

Options :

1. $A\beta = 1$

2. $A\beta = 0$

3. $A\beta = 29$

4. $A\beta = 1/2$

Question Number : 115 Question Id : 67809417938 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following circuits works like an oscillator?

Options :

1. Schmitt Trigger

2. Monostable multivibrator

3. Bistable multivibrator

4. Astable multivibrator

Question Number : 116 Question Id : 67809417939 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The ratio of the resonant frequency to the bandwidth is called

Options :

1. Sensitivity

2. Selectivity

3. Quality factor

4. Susceptance

Question Number : 117 Question Id : 67809417940 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Any two terminal networks consisting of one or more generators can be represented with an EMF source in series with an impedance. This is the statement of

Options :

1. Norton's theorem

2. Reciprocity theorem

3. Thevenin's theorem

4. Compensation theorem

Question Number : 118 Question Id : 67809417941 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Superposition theorem can be applied to _____ circuits only

Options :

1. Linear

2. Non linear

3. AC

4. DC

Question Number : 119 Question Id : 67809417942 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For maximum transfer of power, the internal resistance of the source should be

Options :

1. greater than load resistance
2. lower than load resistance
3. equal to load resistance
4. zero

Question Number : 120 Question Id : 67809417943 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

High pass RC circuit acts as an

Options :

1. Differentiator when RC is small
2. Differentiator when RC is large
3. Integrator when RC is large
4. Integrator when RC is small

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Question Number : 121 Question Id : 67809417944 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A clamping circuit adds _____ component

Options :

1. AC
2. DC
3. both AC and DC
4. neither AC nor DC

In a transmission line, if the load is purely reactive, the value of SWR is equal to

Options :

1. infinity
2. zero
3. unity
4. 100

Question Number : 123 Question Id : 67809417946 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Loading of a transmission line is the process of

Options :

1. adding resistance to the line
2. adding capacitance to the line
3. adding conductance to the line
4. adding inductance to the line

Question Number : 124 Question Id : 67809417947 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Q meter works on the principle of

Options :

1. series resonance
2. parallel resonance
3. self inductance
4. mutual inductance

A VTVM has

Options :

1. high loading effect on purely resistive circuits
2. negligible loading effect on circuits due to its high input impedance
3. negligible loading effect on circuits due to its low input impedance
4. low loading effect on inductive circuits

Multimeters generally do not have facility for the measurement of

Options :

1. frequency
2. resistance
3. current
4. voltage

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_____ bridge is used for the precise measurement of inductances over a wide range

Options :

1. Wein's
2. Anderson

3. Hay's

4. Maxwell

Question Number : 128 Question Id : 67809417951 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Saw tooth voltage in CRO is produced using

Options :

1. sweep generator

2. Colpitts oscillator

3. Hartley oscillator

4. RC phase shift oscillator

Question Number : 129 Question Id : 67809417952 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A 10 MHz CRO has 10 MHz

Options :

1. sweep

2. supply frequency

3. vertical oscillator

4. horizontal oscillator

Question Number : 130 Question Id : 67809417953 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A thermocouple is a _____ type transducer

Options :

1. variable resistance

2. variable inductance

3. voltage generating

4. voltage divider

Question Number : 131 Question Id : 67809417954 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An LED causes emission of light due to

Options :

1. emission of electrons

2. generation of electromagnetic radiation

3. conversion of heat energy into light energy

4. photovoltaic effect

Question Number : 132 Question Id : 67809417955 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Once SCR starts conducting a forward current, its gate loses control over

Options :

1. anode circuit voltage only

2. anode circuit current only

3. anode circuit voltage and current

4. anode circuit voltage, current and time

Question Number : 133 Question Id : 67809417956 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An inverter is a circuit which

Options :

1. converts A.C power to D.C power

2. inverts the wave form of an A.C voltage

3. converts A.C power to D.C power and vice-versa

4. converts D.C power to A.C power

Question Number : 134 Question Id : 67809417957 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Cyclo converters require

Options :

1. forced commutation in step-up cyclo converters

2. forced commutation in both step-up and step-down cyclo converters

3. forced commutation in step-down cyclo converters

4. natural commutation in both step-up and step-down cyclo converters

Question Number : 135 Question Id : 67809417958 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a communications system, noise is most likely to affect the signal

Options :

1. at the transmitter

2. in the channel

3. in the information source

4. in the destination

Question Number : 136 Question Id : 67809417959 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the modulation index of an AM wave is changed from 0 to 1, the transmitted power is

Options :

1. unchanged
2. halved
3. increased by 50 percent
4. doubled

Question Number : 137 Question Id : 67809417960 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Balanced modulation produces

Options :

1. DSB
2. AM
3. VSB
4. SSB

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Question Number : 138 Question Id : 67809417961 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Options :

1. Varactor diode modulation
2. Armstrong modulation
3. Reactance BJT modulator

4. Reactive FM modulator

Question Number : 139 Question Id : 67809417962 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Modulation index in an FM signal

Options :

1. varies directly as frequency deviation and inversely as the modulation frequency
2. varies directly as the modulation frequency
3. varies inversely as the deviation
4. has no relation to frequency and modulation

Question Number : 140 Question Id : 67809417963 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A receiver producing an accurate reproduction of the modulating signal is said to have

Options :

1. wide bandwidth
2. good fidelity
3. high sensitivity
4. better selectivity

Question Number : 141 Question Id : 67809417964 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The frequency of microwaves is

Options :

1. more than 2000 MHz

2. 20 MHz to 50 MHz

3. 15 MHz

4. 15 KHz

Question Number : 142 Question Id : 67809417965 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Nyquist rate of a signal with maximum frequency f_m is

Options :

1. f_m samples/sec

2. $1/f_m$ samples/sec

3. $1.5f_m$ samples/sec

4. $2f_m$ samples/sec

Question Number : 143 Question Id : 67809417966 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Quantization noise occurs in

Options :

1. FM

2. PPM

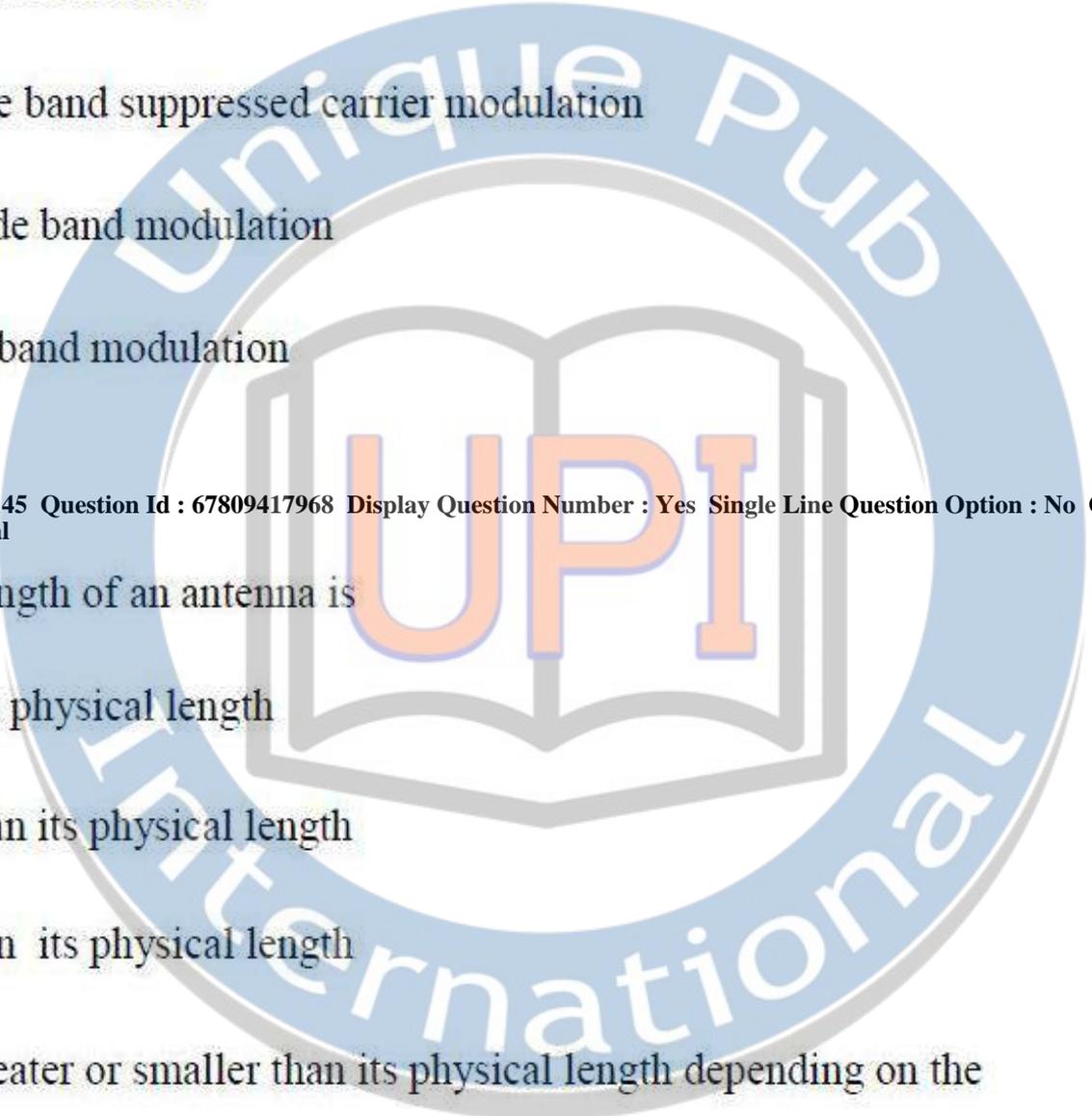
3. PCM

4. PWM

Question Number : 144 Question Id : 67809417967 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The modulation technique that uses the minimum channel bandwidth and transmitted power is

Options :

- 
1. Frequency Modulation
 2. Double side band suppressed carrier modulation
 3. vestigial side band modulation
 4. single side band modulation

Question Number : 145 Question Id : 67809417968 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Electrical length of an antenna is

Options :

1. Equal to its physical length
2. Smaller than its physical length
3. Greater than its physical length
4. May be greater or smaller than its physical length depending on the frequency of radiation

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Question Number : 146 Question Id : 67809417969 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The gain of an isotropic antenna in dB is

Options :

1. 0
2. 1
3. 10
4. 100

Question Number : 147 Question Id : 67809417970 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The dominant mode in circular wave guide is

Options :

1. TE_{11}
2. TE_{01}
3. TM_{01}
4. TM_{11}

Question Number : 148 Question Id : 67809417971 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The K band frequency range of radars is

Options :

1. 8 to 12 GHz
2. 12 to 18 GHz
3. 18 to 27 GHz
4. 25 to 44 GHz

Question Number : 149 Question Id : 67809417972 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The blind speed problem in radars can be solved by

Options :

1. using monopulse
2. varying the Pulse Repetition Frequency
3. using MTI
4. changing the doppler frequency

The communication path from a satellite to a ground station is called

Options :

1. cuff link
2. missing link
3. Uplink
4. Downlink

Question Number : 151 Question Id : 67809417974 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Cladding in optical fibres is used to

Options :

1. protect the fibre
2. guide the light back into the fibre
3. to absorb the light
4. to give strength to the fibre

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Question Number : 152 Question Id : 67809417975 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In single mode step index fibre, the light travels in

Options :

1. a curved path
2. a random zig zag path
3. by reflections from the cladding
4. a single path

The orbital period of a satellite is proportional to

Options :

1. r^2
2. $r^{3/2}$
3. r
4. \sqrt{r}

Question Number : 154 Question Id : 67809417977 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The first Indian communication satellite is

Options :

1. Aryabhata
2. Rohini
3. INSAT IA
4. APPLE

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Question Number : 155 Question Id : 67809417978 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Helical antenna is

Options :

1. Horizontally polarised
2. Vertically polarised
3. Circularly polarised
4. Elliptically polarised

The Doppler effect is used in

Options :

1. MTI
2. pulse radar
3. FM
4. Altimeter

Question Number : 157 Question Id : 67809417980 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following modulation techniques is used in AMPS?

Options :

1. AM
2. FM
3. PM
4. PCM

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Question Number : 158 Question Id : 67809417981 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is the expression for Poynting's theorem?

Options :

1. $E = P \times H$
2. $H = P \times E$
3. $P = H - E$
4. $P = E \times H$

The tracking technique that derives angle error information on the basis of a single pulse is known as

Options :

1. Lobe switching
2. Conical scan
3. Monopulse
4. Dual Pulse

Question Number : 160 Question Id : 67809417983 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The sum of the two octal numbers 64_8 and 165_8 is

Options :

1. 20_8
2. 251_8
3. 229_8
4. 240_8

Question Number : 161 Question Id : 67809417984 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The decimal equivalent of Excess- 3 number 10011010 is

Options :

1. 47
2. 67
3. 95

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Question Number : 162 Question Id : 67809417985 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is an universal gate?

Options :

1. EX-OR gate
2. AND gate
3. NAND gate
4. OR gate

Question Number : 163 Question Id : 67809417986 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is the slowest logic family?

Options :

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

Question Number : 164 Question Id : 67809417987 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The full adder can be constructed using two half adders and one

Options :

1. AND gate
2. NAND gate
3. OR gate

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4. NOT gate

Question Number : 165 Question Id : 67809417988 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When both the J and K inputs of an edge triggered JK flip flop are 1, then the flip flop is in

Options :

1. Race around condition
2. Synchronous condition
3. Toggle condition
4. Reset condition

Question Number : 166 Question Id : 67809417989 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The minimum number of flip flops required to count up to 15 is

Options :

1. 5
2. 4
3. 6
4. 3

Question Number : 167 Question Id : 67809417990 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A flip flop is used to store

Options :

1. a word
2. a byte

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3. a bit

4. a nibble

Question Number : 168 Question Id : 67809417991 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One of the advantages of a dynamic RAM is

Options :

1. it needs to be refreshed periodically

2. it is small and occupies less space

3. it has a large access time

4. it makes use of MOSFETs

Question Number : 169 Question Id : 67809417992 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The time taken by a DAC to stabilize to within $\frac{1}{2}$ LSB of its final value is termed

Options :

1. cycle time

2. acquisition time

3. settling time

4. access time

Question Number : 170 Question Id : 67809417993 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In 8051 external interrupts are controlled by

Options :

1. SCON

2. ECON

3. IE

4. IP

Question Number : 171 Question Id : 67809417994 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Length of the program counter in 8051 is

Options :

1. 16 bits

2. 32 bits

3. 48 bits

4. 8 bits

Question Number : 172 Question Id : 67809417995 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

MOV A, 40H belongs to _____ addressing mode

Options :

1. immediate

2. indexed

3. register indirect

4. direct

Question Number : 173 Question Id : 67809417996 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

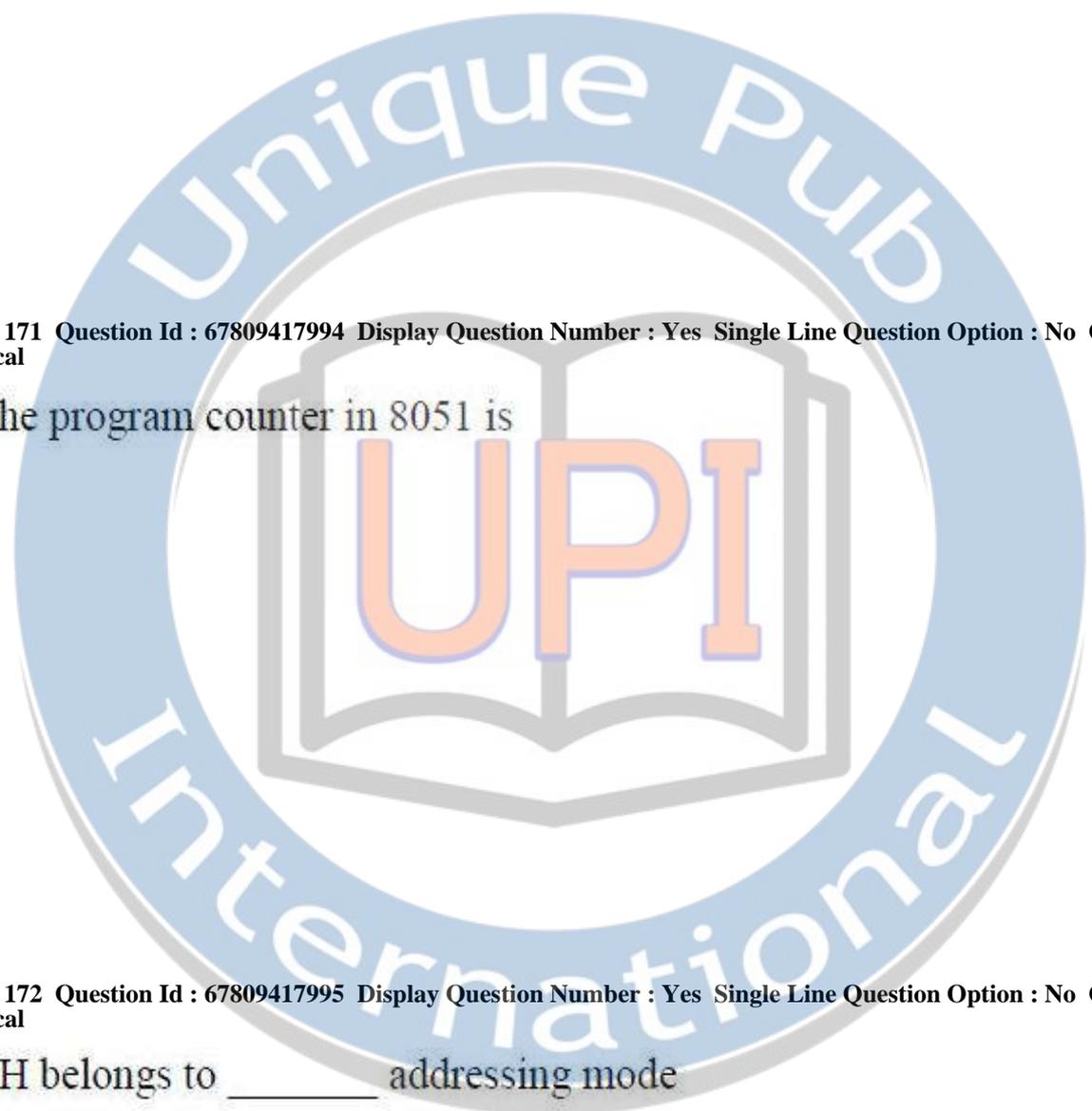
Number of addressing modes in 8051 is

Options :

1. 4

2. 5

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3. 12

4. 16

Question Number : 174 Question Id : 67809417997 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

PIC 8259 is a _____ pin chip

Options :

1. 28

2. 32

3. 36

4. 40

Question Number : 175 Question Id : 67809417998 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The register in the 8085A that is used to keep track of the memory address of the next op-code to be run in the program is the

Options :

1. stack pointer

2. instruction pointer

3. accumulator

4. program counter

Question Number : 176 Question Id : 67809417999 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The 8085(A) is a

Options :

1. 16 bit parallel CPU

2. 8 bit parallel CPU

3. 16 bit serial CPU

4. 8 bit serial CPU

Question Number : 177 Question Id : 67809418000 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The five flags in 8085 are designated as

Options :

1. D, Z, S, P and AC

2. Z, CY, S, P and AC

3. Z, C, S, P and AC

4. Z, CY, S, D and AC

Question Number : 178 Question Id : 67809418001 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A dedicated Intel keyboard/display controller is

Options :

1. 8251

2. 8259

3. 8279

4. 8237

Question Number : 179 Question Id : 67809418002 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

RS 232 standard is meant for

Options :

1. Serial Data Transfer

2. Parallel Data Transfer

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3. Random Data Transfer

4. Data Encryption

Question Number : 180 Question Id : 67809418003 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The three primary colors are

Options :

1. red, blue and green

2. red, orange and blue

3. red, green and yellow

4. red, yellow and blue

Question Number : 181 Question Id : 67809418004 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The aspect ratio in the TV system is

Options :

1. Ratio of raster height to the raster width

2. Ratio of raster width to the raster height

3. Ratio of raster diagonal to the raster width

4. Ratio of raster diagonal to the raster height

Question Number : 182 Question Id : 67809418005 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Flyback is the name given to _____ in a TV

Options :

1. Horizontal retrace

2. Vertical retrace

3. Diagonal retrace

4. Burst

Question Number : 183 Question Id : 67809418006 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a low level AM transmitter, the stage following the modulator is

Options :

1. Harmonic generator

2. Class C amplifier

3. Non linear amplifier

4. Linear amplifier

Question Number : 184 Question Id : 67809418007 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An MP3 file encoded at a lower bit rate will generally play back at

Options :

1. Higher quality

2. Lower quality

3. Same quality

4. No relation with quality

Question Number : 185 Question Id : 67809418008 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following topologies requires a multi point connection?

Options :

1. Star

2. Ring

3. Bus

4. Mesh

Question Number : 186 Question Id : 67809418009 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In OSI Model, the _____ layer lies between transport layer and the application

layer

Options :

1. Session layer

2. Network layer

3. Data link layer

4. Physical layer

Question Number : 187 Question Id : 67809418010 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The _____ address uniquely defines a host on the Internet.

Options :

1. physical

2. logical

3. MAC

4. IP

Question Number : 188 Question Id : 67809418011 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

IEEE _____ standard describes the token ring

Options :

1. 802.11

2. 802.5

3. 802.3

4. 802.1

Question Number : 189 Question Id : 67809418012 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

GPRS is an extension of _____ system.

Options :

1. GSM

2. CDMA

3. WCDMA

4. OFDM

Question Number : 190 Question Id : 67809418013 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The switching technique used in ATM is

Options :

1. Circuit switching

2. packet switching

3. Message switching

4. Virtual circuit switching

Question Number : 191 Question Id : 67809418014 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a language used for creating web pages?

Options :

1. VHDL
2. HTML
3. HTTP
4. MATLAB

Question Number : 192 Question Id : 67809418015 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is standardised as IEEE 1364?

Options :

1. C
2. C++
3. Java
4. Verilog

Question Number : 193 Question Id : 67809418016 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which level simulates the algorithms that are used within the embedded systems?

Options :

1. Gate level
2. Switch level
3. Algorithmic level
4. Circuit level

Question Number : 194 Question Id : 67809418017 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ consists of a central conductor and a shield

Options :

1. Twister Pair

2. Fibre Cable

3. Microwave component

4. Coaxial cable

Question Number : 195 Question Id : 67809418018 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which version of Verilog is known as System Verilog?

Options :

1. Verilog Version 1.0

2. Verilog Version 1.5

3. Verilog Version 2.0

4. Verilog Version 3.0

Question Number : 196 Question Id : 67809418019 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Verilog HDL originated at

Options :

1. Gateway Design Automation

2. AT&T Bell laboratories

3. Defense Advanced Research Projects Agency(DARPA)

4. Institute of Electrical and Electronics Engineers(IEEE)

Question Number : 197 Question Id : 67809418020 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In C, which of the following special symbols is allowed in a variable name?

Options :

1. _ (underscore)
2. - (hyphen)
3. | (pipeline)
4. * (asterisk)

Question Number : 198 Question Id : 67809418021 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In C, the following statement is a _____ statement

```
extern int i;
```

Options :

1. Definition
2. Declaration
3. Function
4. Error

Question Number : 199 Question Id : 67809418022 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

From what location are the 1st computer instructions available on boot up?

Options :

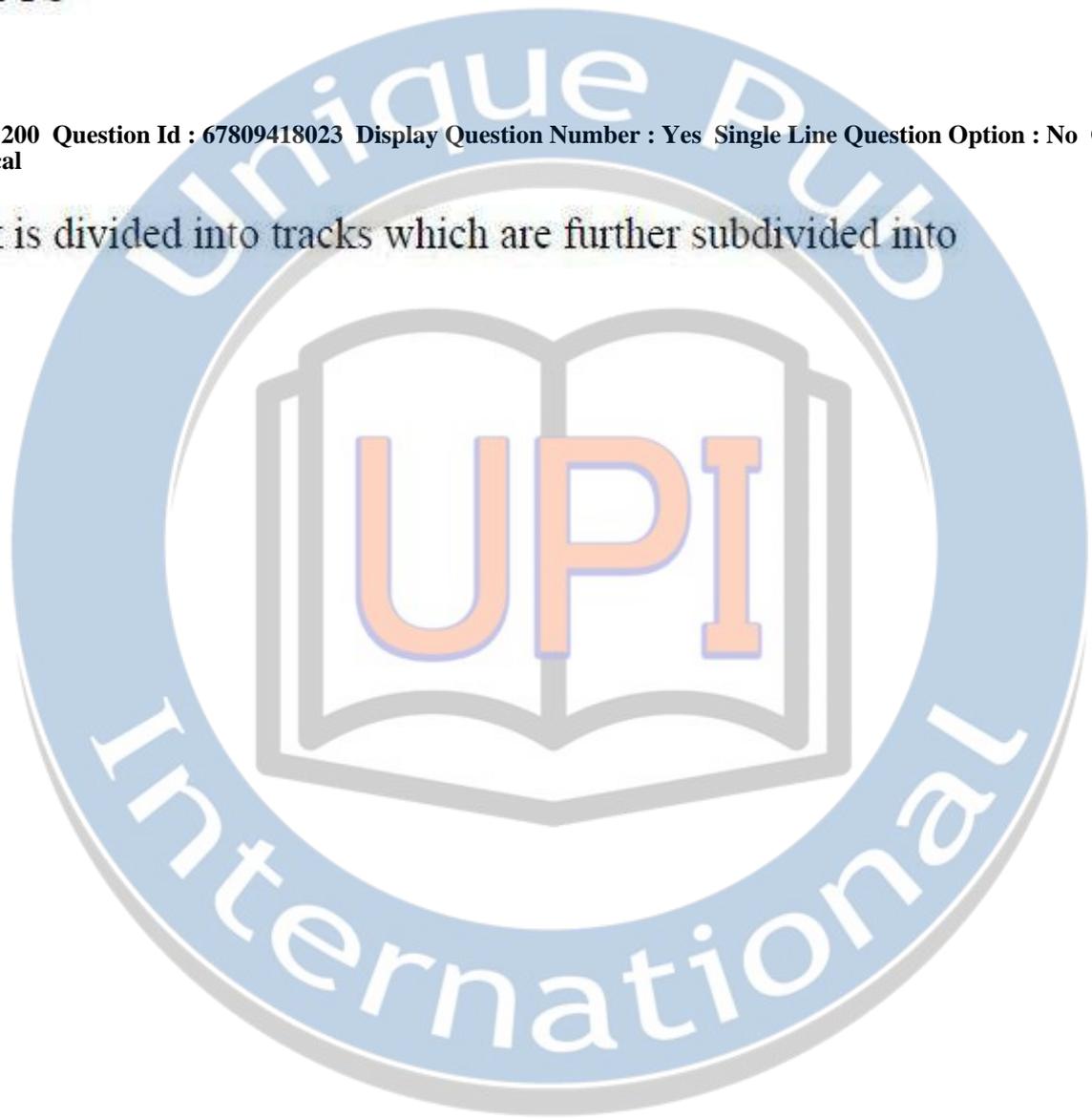
1. CPU
2. boot.ini
3. ROM BIOS

Question Number : 200 Question Id : 67809418023 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A hard disk is divided into tracks which are further subdivided into

Options :

1. clusters
2. heads
3. vectors
4. sectors



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