

Andhra Pradesh State Council of Higher Education

Notations :

- Options shown in green color and with ✓ icon are correct.
- Options shown in red color and with ✗ icon are incorrect.

Question Paper Name :	Computer Science and Engineering 08th May 2024 Shift 1
Duration :	180
Total Marks :	200
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No

Show Progress Bar :	No
Is this Group for Examiner? :	No
Examiner permission :	Can't View
Show Progress Bar? :	No

Mathematics

Section Id :	210688162
Section Number :	1
Mandatory or Optional :	Mandatory
Number of Questions :	50
Section Marks :	50
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 1 Question Id : 2106888207 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If each element of a row or column of a determinant is multiplied by a constant K then the value of the determinant is

Options :

1.  Added by k
2.  Multiplied by k
3.  Subtracted by k

4. ✖ Divided by k.

Question Number : 2 Question Id : 2106888208 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $A = \begin{bmatrix} 1 & 2 & 3 \\ -2 & 1 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 3 & 1 \\ 5 & 4 & 2 \\ 1 & 5 & 3 \end{bmatrix}$ then $AB =$

Options :

1. ✖ $\begin{bmatrix} 15 & 26 & 4 \end{bmatrix}$

2. ✔ $\begin{bmatrix} 15 & 26 & 14 \\ 5 & 18 & 12 \end{bmatrix}$

3. ✖ $\begin{bmatrix} 15 & 5 \\ 26 & 18 \\ 14 & 12 \end{bmatrix}$

4. ✖ BA

Question Number : 3 Question Id : 2106888209 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The elements on the main diagonal of a skew symmetric matrix are all

Options :

1. ✓ zeros

2. ✗ One's

3. ✗ Unequal

4. ✗ >1

Question Number : 4 Question Id : 2106888210 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If ω is one of the imaginary cube roots of unity, find the value of the determinant

$$\begin{vmatrix} 1 & \omega & \omega^2 \\ \omega & \omega^2 & 1 \\ \omega^2 & 1 & \omega \end{vmatrix} =$$

Options :

1. ✓ zero

2. ✗ one

3. ✗ ω^2

4. ✗ ω

Question Number : 5 Question Id : 2106888211 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Every square matrix can be written as the sum of

Options :

- 1. ✖ Diagonal matrix & square matrix
- 2. ✖ Two rectangular matrices
- 3. ✖ Square and non-square matrices
- 4. ✔ Symmetric and skew symmetric matrix

Question Number : 6 Question Id : 2106888212 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

An improper fraction can be reduced to proper fraction by

Options :

- 1. ✖ Multiplication
- 2. ✔ Division

3. ✖ subtraction

4. ✖ Addition

Question Number : 7 Question Id : 2106888213 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\frac{x}{(x+2)(x-3)} =$$

Options :

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

2. ✖ $\frac{2}{5(x+2)} - \frac{3}{5(x-3)}$

3. ✔ $\frac{2}{5(x+2)} + \frac{3}{5(x-3)}$

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

Question Number : 8 Question Id : 2106888214 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $\sin 210^\circ$

Options :

1. ✖ $\frac{1}{2}$

2. ✔ $-\frac{1}{2}$

3. ✖ $\frac{1}{\sqrt{2}}$

4. ✖ $-\frac{1}{\sqrt{2}}$

Question Number : 9 Question Id : 2106888215 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$\cos 2n\pi =$

Options :

1. ✖ -1

2. ✖ $-n$

3. ✔ $(-1)^n$

4. ✖ $(n)^{-1}$

Question Number : 10 Question Id : 2106888216 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$a \neq 0 \neq b, \sin x + \sin y = a, \cos x + \cos y = b$ then $\tan \frac{x+y}{2} =$

Options :

1. ✖ $\frac{b}{a}$

2. ✔ $\frac{a}{b}$

3. ✖ $\frac{a+b}{2}$

4. ✖ $\frac{a-b}{2}$

Question Number : 11 Question Id : 2106888217 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$f(x)$ is a periodic function of period k then the period of periodic function $f(ax+b)$ is

Options :

1. ✖ $\frac{k}{a}, a \neq 0$

2. ✖ $\frac{ak}{|a|}, b \neq 0$

3. ✖ $\frac{k+b}{a}, a \neq 0$

4. ✔ $\frac{k}{|a|}, a \neq 0$

Question Number : 12 Question Id : 2106888218 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $7\sin^2\theta + 3\cos^2\theta = 4$, then $\theta =$

Options :

1. ✖ $\pm \frac{\pi}{3}$

2. ✔ $\pm \frac{\pi}{6}$

3. ✖ $\pm \frac{\pi}{4}$

4. ✖ $\pm \frac{\pi}{2}$

Question Number : 13 Question Id : 2106888219 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The range of $\cos^{-1}x$ is

Options :

1. ✓ $[0, \pi]$

2. ✗ $[-\pi, \pi]$

3. ✗ $[0, -\pi]$

4. ✗ $(0, \pi)$

Question Number : 14 Question Id : 2106888220 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Assume $x > 0, y > 0$. Then which one of the following is true ?

Options :

1. ✓ If $xy < 1$ then $\tan^{-1}x + \tan^{-1}y = \tan^{-1}\left(\frac{x+y}{1-xy}\right)$

2. ✗ If $xy > 1$ then $\tan^{-1}x + \tan^{-1}y = \tan^{-1}\left(\frac{x+y}{1-xy}\right)$

3. ✖ If $xy=1$ then $\tan^{-1}x + \tan^{-1}y = \tan^{-1}\left(\frac{x+y}{1-xy}\right)$

4. ✖ If $xy=1$ then $\tan^{-1}x - \tan^{-1}y = \tan^{-1}\left(\frac{x+y}{1-xy}\right)$

Question Number : 15 Question Id : 2106888221 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In $\triangle ABC$ $(a+b+c)(b+c-a)=3bc$, then angle $A =$

Options :

1. ✖ 90°

2. ✖ 120°

3. ✔ 60°

4. ✖ 45°

Question Number : 16 Question Id : 2106888222 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In $\triangle ABC$, $\tan \frac{A}{2} = \frac{5}{6}$, $\tan \frac{C}{2} = \frac{2}{3}$ then a,b,c are in

Options :

1. ✖ Geometric progression

2. ✔ Arithmetic progression

3. ✖ Harmonic progression

4. ✖ Arithmetico – Geometric progression

Question Number : 17 Question Id : 2106888223 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In any ΔABC , $\tan \frac{B-C}{2} =$

Options :

1. ✖ $b \pm c \cot \frac{A}{2}$

2. ✔ $\frac{b-c}{b+c} \cot \frac{A}{2}$

3. ✖ $(b-c) \tan \frac{A}{2}$

4. ✖ $\tan \frac{C}{2}$

Question Number : 18 Question Id : 2106888224 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Conjugate of $\frac{1-i}{1+i}$ is

Options :

1. ✖ $-3i$

2. ✖ $-i$

3. ✔ i

4. ✖ $6i$

Question Number : 19 Question Id : 2106888225 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Standard form of $(-1 + 2i) + \left(\frac{1}{2} - i\right)$ is

Options :

1. ✖ $\frac{1}{2} - i$

2. ✔ $-\frac{1}{2} + i$

3. ✖ $-\frac{1}{2} - i$

4. ✖ $\frac{1}{2} \pm i$

Question Number : 20 Question Id : 2106888226 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the circle is $x^2 + y^2 + 6x - 8y + c = 0$ has radius 6 units, Then value of c is

Options :

1. ✔ -11

2. ✖ 11

3. ✖ 25

4. ✖ 6

Question Number : 21 Question Id : 2106888227 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The equation of the parabola whose focus is (8,0) and the vertex is (0,0) is

Options :

1. ✖ $y^2 = 12x$

2. ✖ $y^2 = x$

3. ✔ $y^2 = 32x$

4. ✖ $y^2 = 16x$

Question Number : 22 Question Id : 2106888228 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The eccentricity of the ellipse $x^2 + 2y^2 = 3$ is

Options :

1. ✖ $e = \frac{3}{\sqrt{2}}$

2. ✖ $e = \frac{1}{\sqrt{3}}$

3. ✖ $e = -\frac{1}{\sqrt{2}}$

4. ✔ $e = \frac{1}{\sqrt{2}}$

Question Number : 23 Question Id : 2106888229 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the Ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1, a > b$ the length of the latus rectum is _____

Options :

1. ✖ $\frac{2a^2}{b}$

2. ✔ $\frac{2b^2}{a}$

3. ✖ $\frac{2a^3}{b^2}$

4. ✖ $2ab$

Question Number : 24 Question Id : 2106888230 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The equation of the Hyperbola with foci $(\pm 2, 0)$ and eccentricity $3/2$ is

Options :

1. ✖ $\frac{9x^2}{16^2} + \frac{9y^2}{10^2} = 1$

2. ✔

$$\frac{x^2}{16/9} - \frac{y^2}{20/9} = 1$$

3. $\frac{x^2}{16^2} - \frac{y^2}{20^2} = 1$

4. $\frac{x^2}{2^2} - \frac{y^2}{20^2} = 1$

Question Number : 25 Question Id : 2106888231 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the coordinates at one end of a diameter of the circle $x^2 + y^2 - 8x - 4y + c = 0$ are $(-3, 2)$ then the coordinates at the other end are

Options :

1. $(5, 11)$

2. $(6, 2)$

3. $(2, 11)$

4. $(11, 2)$

Question Number : 26 Question Id : 2106888232 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

If $n > 0$, then $\lim_{x \rightarrow 0} \frac{a^x - 1}{x} =$

Options :

1. ✖ $\log x$

2. ✖ 1

3. ✔ $\log a$

4. ✖ $\log \left(\frac{a}{x} \right)$

Question Number : 27 Question Id : 2106888233 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Differentiation of $\sin x^n$ with respect to x .

Options :

1. ✔ $nx^{n-1} \cos x^n$

2. ✖ $x^{n-1} \cos x^n$

3. ✖ $\cos x^n$

4. ✖

$$H\cos X^H$$

Question Number : 28 Question Id : 2106888234 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\frac{d}{dx} \left(\sin^{-1} \frac{x}{a} \right) =$$

Options :

1. ✓ $\frac{1}{\sqrt{a^2 - x^2}}$

2. ✗ $\frac{1}{\sqrt{a^2 + x^2}}$

3. ✗ $\frac{1}{\sqrt{x^2 - a^2}}$

4. ✗ $\frac{-1}{\sqrt{a^2 - x^2}}$

Question Number : 29 Question Id : 2106888235 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\frac{d}{dx} (e^{3 \log x}) =$$

Options :

1. ✖ $3x$

2. ✖ $3\log x$

3. ✖ $\log 3$

4. ✔ $3x^{-2}$

Question Number : 30 Question Id : 2106888236 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\frac{d}{dx} [\log|x|] =$$

Options :

1. ✖ $\frac{1}{|x|}$

2. ✔ $\frac{1}{x}$

3. ✖ $|x|$

4. ✖ x

Question Number : 31 Question Id : 2106888237 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$y = \cos x$ then $\frac{d^2y}{dx^2}$ is

Options :

1. ✖ $\cos x$

2. ✖ $\sin x$

3. ✔ $\cos x$

4. ✖ $-\sin x$

Question Number : 32 Question Id : 2106888238 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The angle between the curves $x^2 + 4y = 0, xy = 2$ is

Options :

1. ✔ $\tan^{-1} 3$

2. ✖ $\cot^{-1} 1$

3. ✖ $\tan^{-1} 4$

4. ✖ $\cot^{-1} 3$

Question Number : 33 Question Id : 2106888239 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The slope of the tangent to the curve $y = \frac{x-1}{x+1}$ at (0,1)

Options :

1. ✖ 4

2. ✖ -2

3. ✖ 5

4. ✔ 2

Question Number : 34 Question Id : 2106888240 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $z = x^2 + y^2$ then $x \frac{\partial z}{\partial y} - y \frac{\partial z}{\partial x} =$

Options :

1. ✖ $2y-2x$

2. ✖ $2x+2y$

3. ✔ 0

4. ✖ $4xy$

Question Number : 35 Question Id : 2106888241 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$z = \frac{x^2+y^2}{x+y}$, is a homogeneous function of degree _____

Options :

1. ✔ 2

2. ✖ 3

3. ✖ 0

4. ✖ 1

Question Number : 36 Question Id : 2106888242 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\int (x^{2/3} + 1) dx =$$

Options :

1. ✓ $\frac{3}{5}x^{5/3} + x + c$

2. ✗ $\frac{5}{3}x^{3/5} + x + c$

3. ✗ $\frac{3}{5}x^{5/3} + c$

4. ✗ $\frac{3}{5}x^{5/3} + x + c$

Question Number : 37 Question Id : 2106888243 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\int \frac{dx}{x^2-16} =$$

Options :

1. ✗ $\frac{1}{16} \log \left| \frac{x-8}{x+4} \right| + c$

2. ✗ $\frac{1}{4} \log \left| \frac{x-4}{x+4} \right| + c$

3. ✓ $\frac{1}{9} \log \left| \frac{x-4}{x+4} \right| + c$

4. ✗ $\frac{1}{16} \log \left| \frac{x-4}{x+4} \right| + c$

Question Number : 38 Question Id : 2106888244 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\int \frac{\sin(\tan^{-1}x)dx}{1+x^2} =$$

Options :

1. ✗ $-\cos x + c$

2. ✓ $-\cos(\tan^{-1}x) + c$

3. ✗ $\sin(\tan^{-1}x) + c$

4. ✗ $(\tan^{-1}x) + c$

Question Number : 39 Question Id : 2106888245 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\int \cos \frac{x}{2} dx =$$

Options :

1. ✖ $2 \cos \frac{x}{2} + c$

2. ✔ $2 \sin \frac{x}{2} + c$

3. ✖ $2 \sin 2x + c$

4. ✖ $-2 \sin \frac{x}{2} + c$

Question Number : 40 Question Id : 2106888246 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$$\int e^x \cos x dx =$$

Options :

1. ✔ $\frac{1}{2} e^x (\cos x + \sin x) + c$

2. ✖ $\frac{1}{2} e^x (\cos x - \sin x) + c$

3. ✖ $\frac{1}{2} e^x \sin x + c$

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

Question Number : 41 Question Id : 2106888247 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The area of the region bounded by the curve $y = f(x)$, x -axis and the lines $x = a$ and $x = b$ ($b > a$) is given by

Options :

1. ✖ $\int_b^a y dx$

2. ✖ $-\int_a^b y dx$

3. ✖ $\int_a^b x dy$

4. ✔ $\int_a^b y dx$

Question Number : 42 Question Id : 2106888248 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $f(x)$ is an even function, then $\int_{-a}^a f(x) dx =$

Options :

1. $-\int_{-a}^a f(x) dx$

2. $2 \int_{-a}^a f(x) dx$

3. $2 \int_0^a f(x) dx$

4. $\int_0^a f(x) dx$

Question Number : 43 Question Id : 2106888249 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Find maxima (or) minima for the curve $y = 2x^4 - x^2$

Options :

1. 'y' is minimum at $x = -\frac{1}{2}$

2. 'y' is maximum for $x = -\frac{1}{4}$

3. ✖ 'y' is maximum for $x = \frac{1}{2}$

4. ✖ 'y' is maximum for $x = 1\frac{1}{4}$

Question Number : 44 Question Id : 2106888250 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Order of the differential equation $\left[\frac{d^2y}{dx^2} + \left(\frac{dy}{dx} \right)^3 \right]^{6/5} = 6y$ is

Options :

1. ✖ 3

2. ✔ 2

3. ✖ 5

4. ✖ 1

Question Number : 45 Question Id : 2106888251 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The general solution of the differential equation $\frac{dy}{dx} = \frac{1+y^2}{1+x^2}$ is

Options :

$$\tan^{-1}y - \tan^{-1}x - c$$

1. ✓

$$\tan^{-1}y + \tan^{-1}x - c$$

2. ✗

$$\tan^{-1}y - c$$

3. ✗

$$\tan^{-1}y/x - c$$

4. ✗

Question Number : 46 Question Id : 2106888252 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The differential equation representing the family of curves $y = mx$ where, m is arbitrary Constant is

Options :

$$\frac{dy}{dx} - y = 0$$

1. ✗

$$\frac{dy}{dx} + y = 0$$

2. ✗

$$x \frac{dy}{dx} - y = 0$$

3. ✓

$$x dx - y dy = y$$

4. ✖

Question Number : 47 Question Id : 2106888253 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which one of the statement is true?

Options :

Order of differential equation is the order of the lowest order derivative occurring in the differential equation.

1. ✖

A function which satisfies the given differential equation is not its solution .

2. ✖

An equation involving derivatives of the dependent variable with respect to dependent variable is known as a differential equation.

3. ✖

Degree of a differential equation is defined if it is a polynomial equation in its Derivatives.

4. ✔

Question Number : 48 Question Id : 2106888254 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Integrating factor of the differential equation $x \frac{dy}{dx} + 2y = x^2 (x \neq 0)$ is

Options :

1. ✖ x

2. ✖ $\log x$

3. ✖ $x \log x$

4. ✔ x^2

Question Number : 49 Question Id : 2106888255 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The linear form of $x \log x \frac{dy}{dx} + y = 2 \log x$ is

Options :

1. ✖ $\frac{dy}{dx} + \frac{y}{x \log x} = \frac{1}{x}$

2. ✔ $\frac{dy}{dx} + \frac{y}{x \log x} = \frac{2}{x}$

3. ✖ $\frac{dy}{dx} + \frac{y}{x \log x} = \frac{1}{x}$

4. ✖ $\frac{dy}{dx} + \frac{y}{x \log x} = 1$

Question Number : 50 Question Id : 2106888256 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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

Options :

1. ✖ $\frac{1}{4} e^{2x}$

2. ✖ $\frac{1}{4x} e^{2x}$

3. ✔ $\frac{1}{4} x e^{2x}$

4. ✖ 0

Physics

Section Number :	2
Mandatory or Optional :	Mandatory
Number of Questions :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 51 Question Id : 2106888257 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

N Kg^{-1} is the unit of

Options :

1. ✖ Velocity
2. ✔ Acceleration
3. ✖ Force
4. ✖ Momentum

Question Number : 52 Question Id : 2106888258 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A system has basic dimensions as density ' D ', velocity ' V ' and area ' A '. The dimensional representation of force in this system is

Options :

1. ✓ $A V^2 D$

2. ✗ $A V D^2$

3. ✗ $A^2 V D$

4. ✗ $A^6 V^2 D$

Question Number : 53 Question Id : 2106888259 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If The magnitude of vectors **A**, **B** and **C** are 5, 4 and 3 units respectively and $A = B + C$, then the angle between vectors **A** and **C** is

Options :

1. ✗ $\cos^{-1}(4/5)$

2. ✗ π

3. ✓ $\cos^{-1}(3/5)$

4. ✗ $\sin^{-1}(3/4)$

Question Number : 54 Question Id : 2106888260 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the sum of two unit vectors is also a unit vector, then the magnitude of their difference is

Options :

1. ✖ 1

2. ✖ $1/2$

3. ✖ $1/\sqrt{2}$

4. ✔ $\sqrt{3}$

Question Number : 55 Question Id : 2106888261 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A particle starting from rest moves in a straight line with uniform acceleration a . The average velocity of the particle in first ' s ' distance is

Options :

1. ✔ $\sqrt{\frac{as}{2}}$

2. ✖ $\sqrt{\frac{3as}{2}}$

3. ✖ $\sqrt{2as}$

4. ✖

Question Number : 56 Question Id : 2106888262 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A projectile is thrown with speed u making angle θ with the horizontal at $t = 0$. It just crosses two points of equal height at time $t = 1s$ and $t = 3s$ respectively. The maximum height attained by the projectile is (take $g = 10 \text{ ms}^{-2}$)

Options :

1. ✖ 10m

2. ✔ 20m

3. ✖ 15m

4. ✖ 22m

Question Number : 57 Question Id : 2106888263 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A body is falling from height 'H' takes time 'T' seconds to reach the ground. The time taken to cover the first half of height is

Options :

1. ✔

$$\frac{T}{\sqrt{2}}$$

2. ✖ $\sqrt{2} T$

3. ✖ $\sqrt{3} T$

4. ✖ $\frac{T}{\sqrt{3}}$

Question Number : 58 Question Id : 2106888264 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A body sliding on ice with a velocity 8 ms^{-1} comes to rest after travelling 40 m. The coefficient of friction between the body and ice is ($g = 10 \text{ ms}^{-2}$)

Options :

1. ✖ 0.02

2. ✖ 0.05

3. ✔ 0.08

4. ✖ 0.2

Question Number : 59 Question Id : 2106888265 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If a body placed on a rough inclined plane of gradient 1 in 4, just begins to slide, then coefficient of friction between the plane and body is

Options :

1. ✖ $\frac{2}{\sqrt{15}}$

2. ✖ $\frac{1}{\sqrt{2}}$

3. ✖ $\frac{1}{\sqrt{3}}$

4. ✔ $\frac{2}{\sqrt{15}}$

Question Number : 60 Question Id : 2106888266 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A cube of 10 N weight rests on a rough inclined plane of slope 3 in 4. If the coefficient of friction between plane and cube is 0.6, then minimum force required to start the cube moving up the plane is

Options :

1. ✖ 2N

2. ✖

1. ✖ 6N

2. ✔ 10.8N

4. ✖ 4.5N

Question Number : 61 Question Id : 2106888267 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A pump can take out 7200 Kg of water per hour from a 100 m deep well. If the efficiency of the pump is 50% then power of the pump is ($g = 10 \text{ ms}^{-2}$)

Options :

1. ✖ 2 KW

2. ✔ 4 KW

3. ✖ 7.2 KW

4. ✖ 3.6 KW

Question Number : 62 Question Id : 2106888268 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When a force $\vec{F} = i + 2j + 3k$ acts on a body to move it from $r_1 = i + j + k$ to $r_2 = i + j + 2k$, then the work done by the force is

Options :

1. ✖ -3 J

2. ✔ -1 J

3. ✖ 2 J

4. ✖ 3 J

Question Number : 63 Question Id : 2106888269 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The K.E. of a body moving with a speed of 10 m/s is 30 J . If its speed becomes 30 m/s , then its K.E. will be

Options :

1. ✖ 10 J

2. ✖ 90 J

3. ✖ 180 J

4. ✔ 270 J

Question Number : 64 Question Id : 2106888270 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The maximum speed of a particle executing SHM is 1 m/s and maximum acceleration is 1.57 m/s^2 . Its time period is

Options :

1. ✓ 4 sec

2. ✗ 1.57 sec

3. ✗ 2 sec

4. ✗ $\frac{1}{1.57}$

Question Number : 65 Question Id : 2106888271 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A girl is swinging on a swing in the sitting position. If the girl stands up, the time period of the string will

Options :

1. ✗ Increase

2. ✓

Decrease

3. ✖ Remains same

4. ✖ Becomes erratic

Question Number : 66 Question Id : 2106888272 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A light spring supports 200 gm weight at its lower end; it oscillates with a period of 1 sec.

How much weight must be removed from the lower end to reduce the period to 0.5 sec?

Options :

1. ✖ 100 gm.

2. ✖ 50 gm.

3. ✔ 150 gm.

4. ✖ 200 gm.

Question Number : 67 Question Id : 2106888273 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The velocity of sound in any medium depends upon

Options :

- 1. ✖ Intensity and elasticity
- 2. ✖ Amplitude and density
- 3. ✔ elasticity and density
- 4. ✖ Amplitude and elasticity

Question Number : 68 Question Id : 2106888274 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The beat frequency produced by the vibrations of $x_1 = A \sin(520\pi t)$ and $x_2 = A \sin(526\pi t)$ is

Options :

- 1. ✖ 6
- 2. ✖ 4
- 3. ✖ 2
- 4. ✔ 3

Question Number : 69 Question Id : 2106888275 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Boyle's law is stated by $PV = C$, C depends on

Options :

- 1. ✖ Nature of gas
- 2. ✖ Atomic weight of gas
- 3. ✖ Temperature of gas
- 4. ✔ Quantity and temperature of gas

Question Number : 70 Question Id : 2106888276 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The equation of state for $5\frac{1}{2}$ of oxygen(O_2) at pressure P and temperature T , when occupying a volume V , will be (R is universal gas constant)

Options :

- 1. ✖ $PV = 5RT$
- 2. ✖ $PV = \frac{5}{2} RT$
- 3. ✖

$$PV = \frac{5}{16} RT$$

4. ✓ $PV = \frac{5}{32} RT$

Question Number : 71 Question Id : 2106888277 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The volume of a gas at constant pressure of 10^3 Nm^{-2} expands by 0.25 m^3 . The work done in this process is

Options :

1. ✗ 2.5J

2. ✗ 50J

3. ✓ 250J

4. ✗ 5J

Question Number : 72 Question Id : 2106888278 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For an adiabatic expansion of a perfect gas the value of $\frac{\Delta P}{P}$ is equal to

Options :

1. ✗

$$\frac{\Delta V}{V}$$

2. ✖ $\gamma \frac{\Delta V}{V}$

3. ✔ $-\gamma \frac{\Delta V}{V}$

4. ✖ $\gamma \frac{\Delta V}{V}$

Question Number : 73 Question Id : 2106888279 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

First law of Thermodynamics is a special case of

Options :

1. ✖ Boyle's law

2. ✖ Charles law

3. ✖ Law of conservation of mass

4. ✔ Law of conservation of energy

Question Number : 74 Question Id : 2106888280 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the critical angle for total internal reflection from a medium to vacuum is 30° , the velocity of light in the medium is

Options :

1. ✖ $3 \times 10^8 \text{ m/s}$

2. ✔ $1.5 \times 10^8 \text{ m/s}$

3. ✖ $\sqrt{3} \times 10^8 \text{ m/s}$

4. ✖ $2 \times 10^8 \text{ m/s}$

Question Number : 75 Question Id : 2106888281 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Light rays of wave length $4.36 \times 10^{-7} \text{ m}$ incident on a metal surface of work function 1.24 eV . The stopping potential required to stop the emission of photoelectrons is

Options :

1. ✔ 1.6 eV

2. ✖ 1.24 eV

3. ✖ 3.2 eV

4. ✖ 4.8 eV

Chemistry

Section Id :	210688164
Section Number :	3
Mandatory or Optional :	Mandatory
Number of Questions :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 76 Question Id : 2106888282 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

According to Bohr's theory of hydrogen atom, the angular momentum of electron in fourth orbit of H-atom is equal to

Options :

$$\frac{h}{2\pi}$$

1. ✖

2. ✓ $\frac{2h}{\pi}$

3. ✗ $\frac{3h}{2\pi}$

4. ✗ $\frac{4h}{\pi}$

Question Number : 77 Question Id : 2106888283 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The quantum number which describes the shape of an atomic orbital is

Options :

1. ✓ Azimuthal Quantum Number

2. ✗ Principal Quantum Number

3. ✗ Spin Quantum Number

4. ✗ Magnetic Quantum Number

Question Number : 78 Question Id : 2106888284 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the element in which the ratio of s-electrons to p-electrons is 3:5

Options :

1. ✖ P

2. ✖ Al

3. ✔ S

4. ✖ K

Question Number : 79 Question Id : 2106888285 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The pair of molecules in which the central atom has octet of electrons is

Options :

1. ✖ $\text{BeCl}_2, \text{BF}_3$

2. ✖ $\text{H}_2\text{O}, \text{BeCl}_2$

3. ✓ $\text{H}_2\text{O}, \text{NH}_3$

4. ✗ NH_3, BF_3

Question Number : 80 Question Id : 2106888286 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The electronic configuration of an element M is $[\text{Ne}]3\text{S}^1$ and that of element X is $[\text{He}]2\text{S}^22\text{P}^5$. The type of bond present between M and X is

Options :

1. ✗ Covalent Bond

2. ✓ Electrovalent Bond

3. ✗ Co-ordinate Covalent Bond

4. ✗ Hydrogen Bond

Question Number : 81 Question Id : 2106888287 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The absolute weight of one molecule of water (in g) is ($N_A=6 \times 10^{23} \text{ mol}^{-1}$)

Options :

1. ✖ 1.5×10^{-23}

2. ✔ 3.0×10^{-23}

3. ✖ 4.5×10^{-23}

4. ✖ 2.0×10^{-23}

Question Number : 82 Question Id : 2106888288 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The weight of sodium sulphate (molar mass 142 g mol^{-1}) required to prepare 500 ml of 0.03 M solution is

Options :

1. ✔ 2.13 g

2. ✖ 4.26 g

3. ✖ 1.065 g

4. ✖ 3.195 g

Question Number : 83 Question Id : 2106888289 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The number of H^+ ions present in 100 ml of 0.05 M H_2SO_4 solution is ($N_A = 6 \times 10^{23} \text{ mol}^{-1}$)

Options :

1. ✖ 6.0×10^{24}

2. ✖ 6.0×10^{22}

3. ✔ 6.0×10^{21}

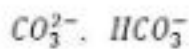
4. ✖ 3.0×10^{23}

Question Number : 84 Question Id : 2106888290 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

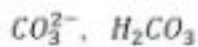
The conjugate acid and conjugate base of HCO_3^- are respectively

Options :

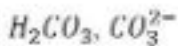
1. ✖



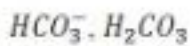
2. ✖



3. ✔



4. ✖



Question Number : 85 Question Id : 2106888291 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The pH of 0.005 M H_2SO_4 solution will be;

Options :

1. ✖

5

2. ✔

2

3. ✖

3

4. ✖

4

Question Number : 86 Question Id : 2106888292 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In an electrochemical cell, the electrons flow from

Options :

Cathode to Anode

1. ✖

Anode to Cathode

2. ✔

Anode to Solution

3. ✖

Solution to Cathode

4. ✖

Question Number : 87 Question Id : 2106888293 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How many faradays are required to reduce 1 mole of MnO_4^- ions to Mn^{2+} ions?

Options :

1. ✔ 5

2. ✖

2

3. ✖ 4

4. ✖ 3

Question Number : 88 Question Id : 2106888294 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

At 298 K, the emf of the cell, $M/M^{2+}(1M) || Cu^{2+}(1M) | Cu$ is 'x' V. If $E_{Cu^{2+}/Cu}^0 = +0.34V$,

then $E_{M^{2+}/M}^0$ (in V) is

Options :

1. ✖ $(x - 0.34)$

2. ✔ $(0.34 - x)$

3. ✖ $(0.34 + x)$

4. ✖ $\frac{0.34}{x}$

Question Number : 89 Question Id : 2106888295 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the strongest reducing agent from the following;

Options :

1. ✓ $E_{K^+/K}^0 = -2.93 \text{ V}$

2. ✗ $E_{Al^{3+}/Al}^0 = -1.66 \text{ V}$

3. ✗ $E_{Zn^{2+}/Zn}^0 = -0.76 \text{ V}$

4. ✗ $E_{Ag^+/Ag}^0 = +0.34 \text{ V}$

Question Number : 90 Question Id : 2106888296 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The formula of Zeolite can be represented as Na_2Z . The metal atom present in Z is

Options :

1. ✗ Zn

2. ✗ Ca

Mg

3. ✖

Al

4. ✔

Question Number : 91 Question Id : 2106888297 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following salts causes maximum hardness to water sample, when they are in equal amounts?

Options :

MgSO₄ (Molecular Weight = 120u)

1. ✖

MgCl₂ (Molecular Weight = 95u)

2. ✔

CaCl₂ (Molecular Weight = 111u)

3. ✖

Ca(HCO₃)₂ (Molecular Weight = 162u)

4. ✖

Question Number : 92 Question Id : 2106888298 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Permanent hardness of water cannot be removed by

Options :

1. ✓ Boiling the hard water
2. ✗ Treatment with washing soda
3. ✗ Passing through Zeolite
4. ✗ Passing through ion exchange resins

Question Number : 93 Question Id : 2106888299 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following statements is not correct about stress cells?

Options :

1. ✗ They are formed between different parts of the same metal
2. ✓ Stressed part of the metal acts as cathode
3. ✗ Stressed part of the metal acts as anode

Anodic part undergoes corrosion

4. ✖

Question Number : 94 Question Id : 2106888300 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Tarnishing of silver is due to the formation of

Options :

1. ✖ AgCl

2. ✖ Ag_2CO_3

3. ✖ Ag_2O

4. ✔ Ag_2S

Question Number : 95 Question Id : 2106888301 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not a natural polymer?

Options :

1. ✖ Wool

2. ✖ Cellulose

3. ✖ Strach

4. ✔ Rayon

Question Number : 96 Question Id : 2106888302 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Neoprene is an example of

Options :

1. ✔ Elastomer

2. ✖ Thermoplastic Polymer

3. ✖ Thermosetting Polymer

4. ✖ Co-Polymer

Question Number : 97 Question Id : 2106888303 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

The element that is added to raw rubber vulcanization is

Options :

1. ✓ S

2. ✗ Se

3. ✗ C

4. ✗ B

Question Number : 98 Question Id : 2106888304 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The major components of water gas are

Options :

1. ✓ H_2 , CO

2. ✗ H_2 , CO_2

3. ✗ CO, N_2

CO₂, N₂

4. ✖

Question Number : 99 Question Id : 2106888305 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not a greenhouse gas?

Options :

1. ✖ O₃

2. ✖ CO₂

3. ✖ CH₄

4. ✔ N₂

Question Number : 100 Question Id : 2106888306 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The acid that is believed to be mainly responsible for the damage of Taj mahal is

Options :

1. ✔ H₂SO₄

III

2. ✖

H₃PO₄

3. ✖

HCl

4. ✖

Computer Science and Engineering

Section Id :	210688165
Section Number :	4
Mandatory or Optional :	Mandatory
Number of Questions :	100
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 101 Question Id : 2106888307 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The table containing present state of output , next state of the output and the inputs is called

Options :

1.

- 1. ☐ Truth table
- 2. ☐ State table
- 3. ☒ Excitation table
- 4. ☐ Transition table

Question Number : 102 Question Id : 2106888308 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A sequential circuit with 10 states will have

Options :

- 1. ☐ 0 Flip-flops
- 2. ☐ 10 Flip-flops
- 3. ☒ 4 Flip-flops
- 4. ☐ 5 Flip-flops

Question Number : 103 Question Id : 2106888309 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A binary number can be multiplied by 2 or divided by 2 with help of

Options :

- 1. ✖ AND gate
- 2. ✖ sequential circuit
- 3. ✔ shift register
- 4. ✖ any combinational circuit

Question Number : 104 Question Id : 2106888310 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A five bit binary counter uses flip flops with propagation delay time of 10 ns each.
The maximum possible time required for change of state will be

Options :

- 1. ✖ 10 ns
- 2. ✖ 0.5ns
- 3. ✖ 2 ns
- 4. ✔ 50 ns

Question Number : 105 Question Id : 2106888311 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Boolean expression $(A+C)(AB'+AC)(A'C+B')$ can be simplified to

Options :

- 1. ✓ AB'
- 2. ✗ $AB+A'C$
- 3. ✗ $A'B+BC$
- 4. ✗ $AB+BC$

Question Number : 106 Question Id : 2106888312 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The 2's complement representation of the decimal value -15 is

Options :

- 1. ✗ 01111
- 2. ✗ 11111
- 3. ✗ 11110

4. ✓ 10001

Question Number : 107 Question Id : 2106888313 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let * be defined as $x*y = x' + y$, let $z = x*y$. Then the value of $z*x$ is

Options :

1. ✗ $x' + y$

2. ✓ x

3. ✗ 0

4. ✗ 1

Question Number : 108 Question Id : 2106888314 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

SR latch is made by cross coupling two NAND gates. if $S=R=0$, then it will result in

Options :

1. ✗ $Q=0, Q'=1$

2. ✗ $Q=1, Q'=0$

3. ✓ Q-1, Q'-1

4. ✗ indeterminate state

Question Number : 109 Question Id : 2106888315 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The attributes of good software among the following

(a)Development (b) Functionality (c) Maintainability (d) Correctness

Options :

1. ✗ a, b, c only

2. ✓ b, c, d only

3. ✗ a, b, d only

4. ✗ a, c, d only

Question Number : 110 Question Id : 2106888316 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does SDLC stands for?

Options :

- 1. ☐ System Design Life Cycle
- 2. ☐ Software Design Life Cycle
- 3. ☒ Software Development Life Cycle
- 4. ☐ System Development Life cycle

Question Number : 111 Question Id : 2106888317 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

_____ is a software development life cycle model that is chosen if the development team has less experience on similar projects.

Options :

- 1. ☐ Iterative Enhancement Model
- 2. ☐ RAD
- 3. ☒ Spiral
- 4. ☐ Waterfall

Question Number : 112 Question Id : 2106888318 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which one of the following is not a software process quality?

Options :

- 1. ✖ Visibility
- 2. ✖ Timeliness
- 3. ✖ Productivity
- 4. ✔ Portability

Question Number : 113 Question Id : 2106888319 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following document contains the user system requirements?

Options :

- 1. ✖ SRD
- 2. ✖ DDD
- 3. ✖ SDD
- 4. ✔ SRS

Question Number : 114 Question Id : 2106888320 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following testing is also known as white-box testing?

Options :

- 1. ✓ structural testing
- 2. ✗ Error guessing technique
- 3. ✗ Design based testing
- 4. ✗ Integration testing

Question Number : 115 Question Id : 2106888321 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Cyclomatic complexity is

Options :

- 1. ✓ White-box testing
- 2. ✗ Black box testing
- 3. ✗ Grey box testing

4. ✖ Unit Testing

Question Number : 116 Question Id : 2106888322 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The spiral model was originally proposed by

Options :

1. ✔ Barry Boehm

2. ✖ Pressman

3. ✖ Royce

4. ✖ Jalote

Question Number : 117 Question Id : 2106888323 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In computers, subtraction is generally carried out by

Options :

1. ✖ 9's complement

2. ✖ 10's complement

3. ✖ 1's complement

4. ✔ 2's complement

Question Number : 118 Question Id : 2106888324 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Computers use addressing mode techniques for

- (a) giving programming versatility to the user by providing facilities as pointers to memory counters for loop control
- (b) to reduce no. of bits in the field of instruction
- (c) specifying rules for modifying or interpreting address field of the instruction

Options :

1. ✖ a only

2. ✖ a and b only

3. ✖ a and c only

4. ✔ a, b and c

Question Number : 119 Question Id : 2106888325 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Cache memory acts between

Options :

- 1. ✓ CPU and RAM
- 2. ✗ RAM and ROM
- 3. ✗ CPU and Hard Disk
- 4. ✗ RAM and Hard Disk

Question Number : 120 Question Id : 2106888326 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

An n-bit microprocessor has

Options :

- 1. ✗ n-bit program counter
- 2. ✗ n-bit address register
- 3. ✗ n-bit ALU
- 4. ✓ n-bit instruction register

Question Number : 121 Question Id : 2106888327 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In 8086 the over flow flag is set when

Options :

- 1. ✖ The sum is more than 16 bit
- 2. ✔ Signed numbers go out of their range after an arithmetic operation.
- 3. ✖ Carry & Sign flag are set.
- 4. ✖ Zero flag is set.

Question Number : 122 Question Id : 2106888328 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The part of the computer system that supervises the flow of information between Auxiliary Memory and Main Memory is called

Options :

- 1. ✖ Processor Management System
- 2. ✖ Data Management System

3. ✖ Address Management System

4. ✔ Memory Management System

Question Number : 123 Question Id : 2106888329 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Memory unit accessed by content is called

Options :

1. ✖ Read only memory

2. ✖ Programmable Memory

3. ✖ Virtual Memory

4. ✔ Associative Memory

Question Number : 124 Question Id : 2106888330 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A microprocessor retrieves instructions from

Options :

1. ✖ Control memory

- 2. ✖ Cache memory
- 3. ✔ Main memory
- 4. ✖ Virtual memory

Question Number : 125 Question Id : 2106888331 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The addressing mode used in an instruction of the form ADD X, Y is

Options :

- 1. ✖ Immediate
- 2. ✖ indirect
- 3. ✔ Direct
- 4. ✖ Index

Question Number : 126 Question Id : 2106888332 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which is used to store critical pieces of data during subroutines and interrupts ?

Options :

- 1. ✓ Stack
- 2. ✗ Queue
- 3. ✗ Accumulator
- 4. ✗ Data register

Question Number : 127 Question Id : 2106888333 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The size of each segment in 8086 is:

Options :

- 1. ✓ 64 KB
- 2. ✗ 24 KB
- 3. ✗ 50 KB
- 4. ✗ 16 KB

Question Number : 128 Question Id : 2106888334 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A block sequence consisting of a number of Memory words is transferred continuously while a DMA controller is master of Memory Bus. This is

Options :

- 1. ✖ Polling
- 2. ✖ Daisy Chaining
- 3. ✔ Burst transfer
- 4. ✖ Cycle Steal in

Question Number : 129 Question Id : 2106888335 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not derived data type in c?

Options :

- 1. ✖ structure
- 2. ✖ Pointer
- 3. ✔ Enumeration

4. ✖ Array

Question Number : 130 Question Id : 2106888336 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The declaration shown below refers to

```
struct list
{
    int info;
    struct list *prev, *next;
};
```

Options :

1. ✔ Doubly linked list

2. ✖ Circular linked list with head

3. ✖ Single linked list

4. ✖ Circular queue

Question Number : 131 Question Id : 2106888337 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The total number of elements in the array A [3][4][2] is

Options :

1. ✖ 9

2. ✔ 24

3. ✖ 12

4. ✖ 36

Question Number : 132 Question Id : 2106888338 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

To construct a unique binary search tree, which tree traversals are required ?

Options :

1. ✖ only post order

2. ✔ Postorder and Inorder

3. ✖ Preorder and Post order

4. ✖ only preorder

Question Number : 133 Question Id : 2106888339 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the infix expression for the following prefix expression?

$$-^{\wedge}AB+CD$$

Options :

1. ✓ $(A^{\wedge}B)-(C+D)$

2. ✗ $(A^{\wedge}B)+(C-D)$

3. ✗ $(A-B)^{\wedge}(C+D)$

4. ✗ $(A \div B)^{\wedge}(C-D)$

Question Number : 134 Question Id : 2106888340 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The number of swappings needed to sort the numbers { 7, 20, 6, 9, 30, 18, 4, 12} into ascending order using Bubble sort is

Options :

1. ✓ 14

2. ✗ 12

3. ✗ 13

4. ✖ 11

Question Number : 135 Question Id : 2106888341 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

To implement recursive technique for Quick Sort method, which basic data structure is required?

Options :

1. ✖ Queue

2. ✖ Tree

3. ✔ Stack

4. ✖ Linked List

Question Number : 136 Question Id : 2106888342 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What will be output of following C code?

```
#include<stdio.h>
#include<string.h>
void main()
{
    int register a;
    scanf("%d",&a);
    printf("%d",a);
    getch();
}
```

Options :

1. ✖ 25

2. ✖ Address

3. ✖ 0

4. ✔ Compilation error

Question Number : 137 Question Id : 2106888343 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following sorting technique is slowest?

Options :

1. ✖ Heap sort

2. ✖ Merge sort

3. ✔ Bubble Sort

4. ✖ Shell Sort

Question Number : 138 Question Id : 2106888344 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following sorting algorithms is best if a list is already sorted?

Options :

1. ✖ Heap sort

2. ✔ Insertion sort

3. ✖ Quick sort

4. ✖ Selection sort

Question Number : 139 Question Id : 2106888345 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Error detection at data link level is achieved by

Options :

- 1. ✖ Bit stuffing
- 2. ✔ Cyclic redundancy codes
- 3. ✖ Manchester encoding
- 4. ✖ Equalization

Question Number : 140 Question Id : 2106888346 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Start and stop bits are used in serial communication for

Options :

- 1. ✖ Error detection
- 2. ✖ Error correction
- 3. ✔ Synchronization
- 4. ✖ Slowing down the communication

Question Number : 141 Question Id : 2106888347 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A method of communication in which transmission occurs in both the directions, but only one direction at a time is called

Options :

- 1. ✖ four wires circuit
- 2. ✔ half duplex
- 3. ✖ simplex.
- 4. ✖ full duplex

Question Number : 142 Question Id : 2106888348 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A device that can covert digital signals to analog signals is

Options :

- 1. ✖ Decoder
- 2. ✔ Modem
- 3. ✖ Encoder

4. ✖ Router

Question Number : 143 Question Id : 2106888349 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A distributed network configuration in which all data/information pass through a central computer is

Options :

1. ✖ Bus Network

2. ✔ Star Network

3. ✖ Ring Network

4. ✖ Point to Point Network

Question Number : 144 Question Id : 2106888350 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which layer of OSI reference model is responsible for creating and recognizing frame boundaries?

Options :

1. ✖ Physical Layer

2. ✔

✓ Data link layer

3. ✗ Transport layer

4. ✗ Network Layer

Question Number : 145 Question Id : 2106888351 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following allows devices on one network to communicate with devices on another network?

Options :

1. ✗ Multiplexer

2. ✓ Gateway

3. ✗ Switch

4. ✗ modem

Question Number : 146 Question Id : 2106888352 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How is a single channel shared by multiple signals in a computer network?

Options :

1. ✓ multiplexing
2. ✗ phase modulation
3. ✗ Decoder
4. ✗ digital modulation

Question Number : 147 Question Id : 2106888353 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following devices forwards packets between networks by processing the routing information included in the packet?

Options :

1. ✗ firewall
2. ✗ bridge
3. ✗ hub
4. ✓ router

Question Number : 148 Question Id : 2106888354 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

From which layer of the OSI model, does the data link layer take packets from and encapsulate them into frames for transmission?

Options :

- 1. ✖ transport layer
- 2. ✖ application layer
- 3. ✔ network layer
- 4. ✖ physical layer

Question Number : 149 Question Id : 2106888355 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does each packet contain in a virtual circuit network?

Options :

- 1. ✖ only source address
- 2. ✖ only destination address
- 3. ✖ full source and destination address

4. ✓ a short VC number

Question Number : 150 Question Id : 2106888356 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In Transport layer of TCP/IP model, which address will be used ?

Options :

1. ✓ Port addresses

2. ✗ Specific addresses

3. ✗ Logical addresses

4. ✗ Physical addresses

Question Number : 151 Question Id : 2106888357 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Information about a process is maintained in a _____.

Options :

1. ✗ Stack

2. ✗ Translation Look aside Buffer

3. ✓ Process Control Block

4. ✗ Program Control Block

Question Number : 152 Question Id : 2106888358 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is crucial time while accessing data on the disk?

Options :

1. ✓ Seek time

2. ✗ Rotational time

3. ✗ Transmission time

4. ✗ Waiting time

Question Number : 153 Question Id : 2106888359 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of processes is _____

Options :

1. ✗ FCFS scheduling algorithm

- 2. ✖ Round robin scheduling algorithm
- 3. ✔ Shortest job - first scheduling algorithm
- 4. ✖ Priority scheduling algorithm

Question Number : 154 Question Id : 2106888360 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Virtual Memory is implemented using

Options :

- 1. ✖ Segmentation
- 2. ✖ Swapping
- 3. ✔ Demand Paging
- 4. ✖ Combining all physical memories

Question Number : 155 Question Id : 2106888361 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Inter process communication can be done through _____.

Options :

- 1. ✖ Mails
- 2. ✔ Message passing
- 3. ✖ System calls
- 4. ✖ Traps

Question Number : 156 Question Id : 2106888362 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The primary job of the operating system of a computer is to _____.

Options :

- 1. ✖ Command Resources
- 2. ✔ Manage Resources
- 3. ✖ Provide Utilities
- 4. ✖ Be user friendly

Question Number : 157 Question Id : 2106888363 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Paging _____

Options :

- 1. ✓ Solves the memory fragmentation problem
- 2. ✗ Allows modular programming
- 3. ✗ Allows structured programming
- 4. ✗ Avoids deadlock

Question Number : 158 Question Id : 2106888364 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Mutual exclusion

Options :

- 1. ✓ denotes that one process is in critical region when others are excluded
- 2. ✗ Prevents deadlock
- 3. ✗ Cannot be implemented using Semaphores
- 4. ✗

Is found only in the Windows NT operating system

Question Number : 159 Question Id : 2106888365 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Semaphore can be used for solving

Options :

- 1. ✖ Wait & signal
- 2. ✖ Deadlock
- 3. ✔ Synchronization
- 4. ✖ Priority

Question Number : 160 Question Id : 2106888366 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is a shell ?

Options :

- 1. ✖ It is a hardware component
- 2. ✔ It is a command interpreter

3. ✖ It is a part in compiler

4. ✖ It is a tool in CPU scheduling

Question Number : 161 Question Id : 2106888367 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A page fault occurs

Options :

1. ✔ When the page is not in the memory

2. ✖ When the page is in the memory

3. ✖ When the process enters the blocked state

4. ✖ When the process is in the ready state

Question Number : 162 Question Id : 2106888368 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A process said to be in _____ state if it was waiting for an event that will never occur.

Options :

- 1. ✖ Safe
- 2. ✖ Unsafe
- 3. ✖ Starvation
- 4. ✔ Dead lock

Question Number : 163 Question Id : 2106888369 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The database environment has all of the following components except

Options :

- 1. ✖ Users
- 2. ✔ separate files
- 3. ✖ database
- 4. ✖ database administration

Question Number : 164 Question Id : 2106888370 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Normalization of database is used to

Options :

- 1. ✓ Eliminate redundancy
- 2. ✗ Improve security
- 3. ✗ Improve efficiency
- 4. ✗ Minimize errors

Question Number : 165 Question Id : 2106888371 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

E-R modelling technique is a

Options :

- 1. ✗ Bottom up approach
- 2. ✓ Top down approach
- 3. ✗ Left Right approach
- 4. ✗ Right Left approach

Question Number : 166 Question Id : 2106888372 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which SQL keyword is used to sort the result?

Options :

- 1. ✓ ORDER BY
- 2. ✗ SORT-ORDER
- 3. ✗ SORT
- 4. ✗ ORDER

Question Number : 167 Question Id : 2106888373 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which normal form is adequate for normal relational database design

Options :

- 1. ✗ 1NF
- 2. ✗ 5NF
- 3. ✗ 4NF

4. ✓ 3NF

Question Number : 168 Question Id : 2106888374 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not a characteristics of a relational data base model?

Options :

1. ✗ tables

2. ✓ Treelike structure

3. ✗ complex Logical relationships

4. ✗ Records

Question Number : 169 Question Id : 2106888375 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Data items grouped together for storage purposes are called a

Options :

1. ✓ record

2. ✗ title list

3. ✖ list

4. ✖ string

Question Number : 170 Question Id : 2106888376 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The entity relationship model comes under

Options :

1. ✔ object based logical model

2. ✖ record based logical model

3. ✖ physical data model

4. ✖ Grid based logical model

Question Number : 171 Question Id : 2106888377 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A command that lets you change one or more fields in a record is

Options :

1. ✖ INSERT

2. ✓ MODIFY

3. ✗ LOOK UP

4. ✗ CHANGE

Question Number : 172 Question Id : 2106888378 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A file manipulation command that extracts some of the records from a file is called

Options :

1. ✓ SELECT

2. ✗ PROJECT

3. ✗ JOIN

4. ✗ INDEX

Question Number : 173 Question Id : 2106888379 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The programming language that has the ability to create new data types is called ____

Options :

- 1. ✖ Overloaded
- 2. ✖ Encapsulated
- 3. ✖ Reprehensible
- 4. ✔ Extensible

Question Number : 174 Question Id : 2106888380 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following statements is correct about the formal parameters in C++?

Options :

- 1. ✖ Parameters with which functions are called
- 2. ✔ Parameters which are used in the definition of the function
- 3. ✖ Variables other than passed parameters in a function
- 4. ✖ Variables that are never used in the function

Question Number : 175 Question Id : 2106888381 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Inheritance in C++ have default access specifier as

Options :

- 1. ✓ private
- 2. ✗ public
- 3. ✗ protected
- 4. ✗ default

Question Number : 176 Question Id : 2106888382 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What function initializes variables in a class?

Options :

- 1. ✓ Constructor
- 2. ✗ Destructor
- 3. ✗ static
- 4. ✗ friend

Question Number : 177 Question Id : 2106888383 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following statement is correct about Virtual Inheritance?

Options :

- 1. ✖ It is a technique to ensure that a private member of a base class can be accessed
- 2. ✖ It is a technique to optimize the multiple inheritances
- 3. ✖ It is a technique to avoid the multiple inheritances of the classes
- 4. ✔ It is a C++ technique to avoid multiple copies of the base class into the derived or child classes

Question Number : 178 Question Id : 2106888384 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not true about polymorphism?

Options :

- 1. ✖ Helps in redefining the same functionality
- 2. ✔ Increases overhead of function definition always

It is feature of OOP

3. ✖

Ease in readability of program

4. ✖

Question Number : 179 Question Id : 2106888385 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The object of the class can be created in any function when a constructor is defined with this access specifier

Options :

Any access specifier

1. ✖

Private

2. ✖

Public

3. ✔

Protected

4. ✖

Question Number : 180 Question Id : 2106888386 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which feature of OOP reduces the use of nested classes?

Options :

Inheritance

1. ✔

- 2. ✖ Binding
- 3. ✖ Abstraction
- 4. ✖ Encapsulation

Question Number : 181 Question Id : 2106888387 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which feature of OOP is exhibited by the function overriding?

Options :

- 1. ✔ Polymorphism
- 2. ✖ Encapsulation
- 3. ✖ Abstraction
- 4. ✖ Inheritance

Question Number : 182 Question Id : 2106888388 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How to access the private member function of a class?

Options :

- 1. ✖ Using class address
- 2. ✖ Using object of class
- 3. ✖ Using object pointer
- 4. ✔ Using address of member function

Question Number : 183 Question Id : 2106888389 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the environment variable that contains a list of directories where java looks for classes referenced in a program.

Options :

- 1. ✖ Path class
- 2. ✖ Search path
- 3. ✖ Path dir
- 4. ✔ Class path

Question Number : 184 Question Id : 2106888390 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The final block is executed in java

Options :

- 1. ✖ Only when a checked exception is thrown
- 2. ✖ Only when a unchecked exception is thrown
- 3. ✖ Only when a exception is thrown
- 4. ✔ Irrespective of whether an exception is thrown or not

Question Number : 185 Question Id : 2106888391 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The number of bytes needed to store a number which is a data type double is

Options :

- 1. ✔ 8
- 2. ✖ 4
- 3. ✖ 2

1 ✖

Question Number : 186 Question Id : 2106888392 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which component is used to compile, debug and execute the java programs?

Options :

1. ✖ JRE

2. ✖ JIT

3. ✔ JDK

4. ✖ JVM

Question Number : 187 Question Id : 2106888393 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is Truncation in Java?

Options :

1. ✖ Floating-point value assigned to a Floating type

2. ✔ Floating-point value assigned to an integer type

3. ✖ Integer value assigned to floating type

4. ✖ Integer value assigned to integer type

Question Number : 188 Question Id : 2106888394 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of these are selection statements in Java?

Options :

1. ✖ break

2. ✖ continue

3. ✖ for()

4. ✔ if()

Question Number : 189 Question Id : 2106888395 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of these packages contains the exception Stack Overflow in Java?

Options :

1. ✖ java.io

2. ✖ java.system

3. ✔ java.lang

4. ✖ java.util

Question Number : 190 Question Id : 2106888396 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following option leads to the portability and security of Java?

Options :

1. ✔ Bytecode is executed by JVM

2. ✖ The applet makes the Java code secure and portable

3. ✖ Use of exception handling

4. ✖ Dynamic binding between objects

Question Number : 191 Question Id : 2106888397 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the return type of the hashCode() method in the Object class?

Options :

- 1. ☐ Object
- 2. ☒ int
- 3. ☐ long
- 4. ☐ void

Question Number : 192 Question Id : 2106888398 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Evaluate the following Java expression, if $x=3$, $y=5$, and $z=10$: $++x + y - y + x + z++$

Options :

- 1. ☐ 24
- 2. ☐ 23
- 3. ☐ 20
- 4. ☒ 25

Question Number : 193 Question Id : 2106888399 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Which of the following is not an HTML tag?

Options :

1. ✖ < select >

2. ✖ < input >

3. ✖ < textarea >

4. ✔ < list >

Question Number : 194 Question Id : 2106888400 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does HTML stand for?

Options :

1. ✔ Hyper Text Markup Language

2. ✖ High Text Markup Language

3. ✖ Hyper Tabular Markup Language

4. ✖

Question Number : 195 Question Id : 2106888401 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is NOT true regarding JavaScript?

Options :

- 1. ✖ JavaScript is a loosely typed language
- 2. ✔ JavaScript cannot be used to develop games
- 3. ✖ JavaScript is not an object-based language
- 4. ✖ JavaScript can not run in standalone mode

Question Number : 196 Question Id : 2106888402 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which HTML tag is used to create a hyperlink?

Options :

- 1. ✖ <link>
- 2. ✖

<href>

3. ✓ <a>

4. ✗ <hyperlink>

Question Number : 197 Question Id : 2106888403 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which method of the Component class is used to set the position and size of a component in JSP?

Options :

1. ✗ setSize()

2. ✓ setBounds()

3. ✗ setPosition()

4. ✗ setPositionSize()

Question Number : 198 Question Id : 2106888404 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following programming languages is commonly used for server-side scripting in web development?

Options :

- 1. ✖ HTML
- 2. ✖ CSS
- 3. ✖ JavaScript
- 4. ✔ PHP

Question Number : 199 Question Id : 2106888405 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a popular front-end framework for building user interfaces in JavaScript?

Options :

- 1. ✖ Django
- 2. ✔ Angular
- 3. ✖ Flask
- 4. ✖ Node.js

Question Number : 200 Question Id : 2106888406 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the purpose of JavaScript in web development?

Options :

1. ✖ To define the structure and content of web pages

2. ✔ To add interactivity and behavior to web pages

3. ✖ To style and format web pages

4. ✖ To manage server-side data and databases