

Andhra Pradesh State Council of Higher Education

Notations :

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

Question Paper Name :

Computer Science and Engineering 06th
May 2025 Shift 1

Subject Name :

Computer Science and Engineering

Creation Date :

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180

Total Marks :

200

Display Marks:

No

Share Answer Key With Delivery Engine :

Yes

Change Font Color :

No

Change Background Color :

No

Change Theme :

No

Help Button :

No

Show Reports :

No

Show Progress Bar :

No

Computer Science and Engineering

Group Number :

1

Group Id :

89040173

Group Maximum Duration :

0

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180

Show Attended Group? :

No

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No

Break time :

0

Group Marks :

200

Mathematics

Section Id :

890401283

Section Number :

1

Section type :

Online

Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	890401307
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 89040114413 Question Type : MCQ Option Shuffling : No
 Display Question Number : Yes
 Correct Marks : 1 Wrong Marks : 0

If the matrix $A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$, then which of the following is true?

Options :

1. ✖ *The matrix is invertible*
2. ✔ *The matrix is singular*
3. ✖ *The matrix is diagonalizable*
4. ✖ *The matrix is symmetric.*

Question Number : 2 Question Id : 89040114414 Question Type : MCQ Option Shuffling : No
 Display Question Number : Yes
 Correct Marks : 1 Wrong Marks : 0

If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, and the determinant of A is 5, then determinant of the matrix $2A$ is

Options :

1. ✖ 10
2. ✔ 20
3. ✖ 5

4. ✖ 25

Question Number : 3 Question Id : 89040114415 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the matrix A is of order 3x3 and the system of equations $AX = B$ has a unique solution, what can be concluded about the determinant of A?

Options :

1. ✖ The determinant of A is zero
2. ✔ The determinant of A is non-zero
3. ✖ The determinant of A must be 1 only
4. ✖ The determinant of A cannot be negative

Question Number : 4 Question Id : 89040114416 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $A = \begin{bmatrix} x & 3 \\ 2 & 4 \end{bmatrix}$ and $A^{-1} = \begin{bmatrix} -2 & 1.5 \\ 1 & -0.5 \end{bmatrix}$ then the value of x is

Options :

1. ✖ -2
2. ✔ 1
3. ✖ 1.5
4. ✖ -0.5

Question Number : 5 Question Id : 89040114417 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 \\ 1 & 0 \end{bmatrix}$, then $(AB)^T =$

Options :

1. ✖ $\begin{bmatrix} 0 & 0 \\ 3 & 4 \end{bmatrix}$

2. ✖ $\begin{bmatrix} 0 & 0 \\ 3 & 7 \end{bmatrix}$

3. ✔ $\begin{bmatrix} 3 & 7 \\ 0 & 0 \end{bmatrix}$

4. ✖ $\begin{bmatrix} 3 & 6 \\ 0 & 0 \end{bmatrix}$

Question Number : 6 Question Id : 89040114418 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\frac{2x+5}{(x-1)(x+3)} = \frac{A}{(x-1)} + \frac{B}{(x+3)}$ then $A+B =$

Options :

1. ✖ -2

2. ✔ 2

3. ✖ 1

4. ✖ -1

Question Number : 7 Question Id : 89040114419 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\frac{3x-1}{(x-1)(x-2)(x-3)} = \frac{A}{(x-1)} + \frac{B}{(x-2)} + \frac{C}{(x-3)}$ then the values of (A, B, C) are

Options :

1. ✓ (1, -5, 4)

2. ✗ (1, 5, 4)

3. ✗ (4, 5, 1)

4. ✗ (1, 4, 5)

Question Number : 8 Question Id : 89040114420 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\sin \theta = \frac{3}{5}$, then $\cos \theta =$

Options :

1. ✗ $\frac{4}{5}$ but not $-\frac{4}{5}$

2. ✓ $-\frac{4}{5}$ or $\frac{4}{5}$

3. ✗ $-\frac{4}{5}$ but not $\frac{4}{5}$

4. ✗ $\frac{3}{5}$ but not $-\frac{3}{5}$

Question Number : 9 Question Id : 89040114421 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\cos \theta \operatorname{cosec} \theta = -1$ and θ lies in the second quadrant then $\cos \theta =$

Options :

1. ✗

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

2. ✖ $\frac{\sqrt{2}}{2}$

3. ✔ $-\frac{\sqrt{2}}{2}$

4. ✖ $-\sqrt{2}$

Question Number : 10 Question Id : 89040114422 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $5 \sin \theta = 4$ then the value of $\frac{\operatorname{Cosec} \theta - \cot \theta}{\operatorname{Cosec} \theta + \cot \theta}$ is

Options :

1. ✖ $-1/4$

2. ✖ $-1/2$

3. ✖ $1/2$

4. ✔ $1/4$

Question Number : 11 Question Id : 89040114423 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For real x and if $x + \frac{1}{x} = 2 \cos \theta$ then $\cos \theta$ is

Options :

1. ✔ ± 1

2. ✖ $1/2$

3. ✖ 1

4. ✖ $\pm \frac{1}{2}$

Question Number : 12 Question Id : 89040114424 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$\sin^6 \theta + \cos^6 \theta + 3\sin^2 \theta \cos^2 \theta =$$

Options :

1. ✖ 0

2. ✔ 1

3. ✖ 2

4. ✖ -1

Question Number : 13 Question Id : 89040114425 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The maximum value of $3 \cos \theta + 4 \sin \theta$ is

Options :

1. ✖ 2

2. ✖ 4

3. ✔ 5

4. ✖ 1

Question Number : 14 Question Id : 89040114426 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If $\sin 5x + \sin 3x + \sin x = 0$ then the value of x other than zero lying between $0 \leq x \leq \frac{\pi}{2}$ is

Options :

1. ✖ $\frac{\pi}{6}$

2. ✔ $\frac{\pi}{3}$

3. ✖ $\frac{\pi}{12}$

4. ✖ $\frac{\pi}{4}$

Question Number : 15 Question Id : 89040114427 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The general solution of the equation $\tan^2 x = 1$ is

Options :

1. ✖ $n\pi + \frac{\pi}{4}$ only

2. ✔ $n\pi \pm \frac{\pi}{4}$

3. ✖ $2n\pi \pm \frac{\pi}{4}$

4. ✖ $n\pi - \frac{\pi}{4}$ only

Question Number : 16 Question Id : 89040114428 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The value of $\cos \frac{5\pi}{17} + \cos \frac{7\pi}{17} + 2\cos \frac{11\pi}{17} \cos \frac{\pi}{17}$ is

Options :

- 1. ✓ 0
- 2. ✗ 1
- 3. ✗ -1
- 4. ✗ $1/2$

Question Number : 17 Question Id : 89040114429 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\sin \theta - \cos \theta = 4/5$ then the value of $\sin \theta + \cos \theta =$

Options :

- 1. ✗ $\frac{5}{\sqrt{34}}$
- 2. ✗ $-\frac{5}{\sqrt{34}}$
- 3. ✗ $-\frac{\sqrt{34}}{25}$
- 4. ✓ $\frac{\sqrt{34}}{5}$

Question Number : 18 Question Id : 89040114430 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The real part of $\frac{1+2i}{(2-i)^2}$ is

Options :

1. ✓ $-\frac{1}{5}$

2. ✗ $\frac{1}{5}$

3. ✗ $-\frac{2}{5}$

4. ✗ $\frac{2}{5}$

Question Number : 19 Question Id : 89040114431 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Modulus of the complex number $\frac{(1+i)^{10}}{(2i-4)^4}$ is equal to

Options :

1. ✓ $\frac{2}{25}$

2. ✗ $-\frac{2}{25}$

3. ✗ $\frac{1}{25}$

4. ✗ $-\frac{1}{25}$

Question Number : 20 Question Id : 89040114432 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a circle with center O, a 6cm long chord is at a distance 4 cm from the center.

Then the length of diameter is

Options :

1. ✖ 5 cm

2. ✔ 10 cm

3. ✖ 15 cm

4. ✖ 8 cm

Question Number : 21 Question Id : 89040114433 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The length of the tangent from the point $(5, 1)$ to the circle $x^2 + y^2 + 6x - 4y - 3 = 0$ is

Options :

1. ✖ 81

2. ✔ 7

3. ✖ 29

4. ✖ 21

Question Number : 22 Question Id : 89040114434 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

If length of the tangent is 8 cm and the distance between the center of the circle and the external point is 11 cm, then the area of the circle is

Options :

1. ✖ 100 cm

2. ✖ 197.14 cm

3. ✓ 179.14 cm

4. ✗ 110.14 cm

Question Number : 23 Question Id : 89040114435 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The equation of the parabola with focus (2, 0) and vertex (1, 0) is

Options :

1. ✗ $y^2 = 4x$

2. ✓ $y^2 = 4x - 4$

3. ✗ $y^2 = 4(x + 1)$

4. ✗ $y^2 = -4(x - 1)$

Question Number : 24 Question Id : 89040114436 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If (2, 0) is the vertex and y-axis is the directrix of a parabola then its focus is

Options :

1. ✗ (2, 0)

2. ✗ (-2, 0)

3. ✓ (4, 0)

4. ✗ (-4, 0)

Question Number : 25 Question Id : 89040114437 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The *eccentricity* of the ellipse $16x^2 + 7y^2 = 112$ is

Options :

1. ✖ $\frac{4}{3}$

2. ✖ $\frac{7}{16}$

3. ✖ $\frac{3}{\sqrt{7}}$

4. ✔ $\frac{3}{4}$

Question Number : 26 Question Id : 89040114438 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The value of $\lim_{n \rightarrow \infty} \frac{4x^3 - x + 1}{x^2 - 4x(1 - x^2)} =$

Options :

1. ✖ 0

2. ✔ 1

3. ✖ -1

4. ✖ ∞

Question Number : 27 Question Id : 89040114439 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0
2. ✖ 1
3. ✔ 3
4. ✖ Limit does not exist

Question Number : 28 Question Id : 89040114440 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The derivative of x^x with respect to x is

Options :

1. ✖ $x^x(x + \log x)$
2. ✖ $x^x(x - \log x)$
3. ✖ $x^x(1 - \log x)$
4. ✔ $x^x(1 + \log x)$

Question Number : 29 Question Id : 89040114441 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $\frac{a}{a^2-x^2}$

2. ✖ $\frac{1}{a^2+x^2}$

3. ✖ $\frac{1}{a^2-x^2}$

4. ✔ $\frac{a}{a^2+x^2}$

Question Number : 30 Question Id : 89040114442 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $y = \sqrt{\sin x + \sqrt{\sin x + \sqrt{\sin x + \dots \infty}}}$ then $\frac{dy}{dx} =$

Options :

1. ✖ $\frac{\cos x}{1-2y}$

2. ✖ $\frac{\sin x}{1-2y}$

3. ✖ $\frac{-\sin x}{1-2y}$

4. ✔ $\frac{-\cos x}{1-2y}$

Question Number : 31 Question Id : 89040114443 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Slope of the normal to the curve $x^{2/3} + y^{2/3} = 2$ at the point (1, 1) is

Options :

1. ✖ -1

2. ✔ 1

3. ✖ $1/2$

4. ✖ $-1/2$

Question Number : 32 Question Id : 89040114444 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The equation of the tangent to the curve $y = x^3$ at $(1, 1)$ is

Options :

1. ✖ $3x - y + 2 = 0$

2. ✖ $x - 10y - 50 = 0$

3. ✔ $3x - y - 2 = 0$

4. ✖ $x - 10y + 50 = 0$

Question Number : 33 Question Id : 89040114445 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For what value of x , the function $2x^3 + 3x^2 - 36x + 10$ has minimum

Options :

1. ✖ -2

2. ✖ -3

3. ✔

4. ✖ 1

Question Number : 34 Question Id : 89040114446 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $z = x^2 - y^2$ then $\frac{1}{x} \frac{\partial z}{\partial x} + \frac{1}{y} \frac{\partial z}{\partial y} =$

Options :

1. ✖ 1

2. ✖ $2x + 2y$

3. ✔ 0

4. ✖ $2x - 2y$

Question Number : 35 Question Id : 89040114447 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $u = e^{xy}$, then the value of $\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2}$ at $(1, 1)$ is

Options :

1. ✖ e 2. ✔ $2e$

3. ✖ 1

4. ✖ 0

Question Number : 36 Question Id : 89040114448 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The value of $\int (\log \sec x) \tan x \, dx$ is

Options :

1. ✖ $\sec x + c$

2. ✖ $\log \sec x + c$

3. ✔ $\frac{1}{2} (\log \sec x)^2 + c$

4. ✖ $\log (\log \sec x)$

Question Number : 37 Question Id : 89040114449 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$\int \sin^2 x \, dx =$$

Options :

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

2. ✖ $\frac{x}{2} - \frac{\cos 2x}{4} + c$

3. ✖ $\frac{x}{2} + \frac{\cos 2x}{4} + c$

4. ✔ $\frac{x}{2} - \frac{\sin 2x}{4} + c$

Question Number : 38 Question Id : 89040114450 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$\int \frac{dx}{25-x^2} =$$

Options :

1. ✖ $\frac{1}{5} \log \left| \frac{x-5}{x+5} \right| + c$

2. ✖ $\frac{1}{5} \log \left| \frac{x+5}{x-5} \right| + c$

3. ✔ $\frac{1}{10} \log \left| \frac{5+x}{5-x} \right| + c$

4. ✖ $\frac{1}{10} \log \left| \frac{5-x}{5+x} \right| + c$

Question Number : 39 Question Id : 89040114451 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The value of $\int_0^1 x(1-x)^9 dx$ is

Options :

1. ✔ $\frac{1}{110}$

2. ✖ $\frac{1}{120}$

3. ✖ $\frac{-1}{110}$

4. ✖ $\frac{-1}{120}$

Question Number : 40 Question Id : 89040114452 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$\int_{-a}^a |x| \, dx =$$

Options :

1. ✖ a

2. ✖ $2a$

3. ✖ 0

4. ✔ a^2

Question Number : 41 Question Id : 89040114453 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$\int_0^{\pi/2} \frac{\cos 2x}{\sin x + \cos x} \, dx =$$

Options :

1. ✖ -1

2. ✔ 0

3. ✖ 1

4. ✖ $\frac{\pi}{2}$

Question Number : 42 Question Id : 89040114454 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The area bounded by the curve $y = 4x^2$, the x-axis, the line $x=0$ and the line $x = 1$ is

Options :

1. ✖ 2

2. ✖ $\frac{2}{3}$

3. ✖ $\frac{1}{3}$

4. ✔ $\frac{4}{3}$

Question Number : 43 Question Id : 89040114455 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The RMS value of x^2 in $[0, 1]$ is

Options :

1. ✔ $\frac{1}{\sqrt{5}}$

2. ✖ $\frac{1}{5}$

3. ✖ $\frac{1}{\sqrt{3}}$

4. ✖ $\frac{1}{3}$

Question Number : 44 Question Id : 89040114456 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The degree of the differential equation $y' + y = \frac{5}{y'}$ is

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 45 Question Id : 89040114457 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The order of the differential equation whose general solution is $y = a \sin x + b \cos x$ is

(where a and b are arbitrary constants)

Options :

1. ✔ 2

2. ✖ 4

3. ✖ 1

4. ✖ 3

Question Number : 46 Question Id : 89040114458 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The differential equation $\frac{dy}{dx} = -\left(\frac{x+y}{1+x^2}\right)$ is

Options :

1. ✖ of Variable separable form

2. ✔ First order Linear equation

3. ✖ Homogeneous

4. ✖ Exact differentia Equation

Question Number : 47 Question Id : 89040114459 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $y = \tan x + c$
2. ✔ $y = \tan (x + c)$
3. ✖ $y = \tan x$
4. ✖ $y = -\tan (x + c)$

Question Number : 48 Question Id : 89040114460 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation $\frac{dy}{dx} + \frac{y}{x} = x^2$ under the condition that $y(1) = 1$ is

Options :

1. ✖ $4xy = x^3 + 3$
2. ✔ $4xy = x^4 + 3$
3. ✖ $4xy = x^3 - 3$
4. ✖ $4xy = x^4 - 3$

Question Number : 49 Question Id : 89040114461 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation $\frac{d^3y}{dx^3} + 3\frac{d^2y}{dx^2} + 2\frac{dy}{dx} = 0$ is

Options :

1. ✓ $y = a + be^{-x} + ce^{-2x}$
2. ✗ $y = a + be^x + ce^{2x}$
3. ✗ $y = ae^{-x} + be^{-2x} + ce^x$
4. ✗ $y = a + be^{-2x} + ce^{-3x}$

Question Number : 50 Question Id : 89040114462 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The particular integral of $\frac{d^2y}{dx^2} + 3\frac{dy}{dx} + 2y = e^{-2x}$ is

Options :

1. ✓ $-xe^{-2x}$
2. ✗ xe^{-2x}
3. ✗ $-\frac{x}{2}e^{-2x}$
4. ✗ $\frac{x}{2}e^{-2x}$

Physics

Section Id :

890401284

Section Number :

2

Section type :

Online

Mandatory or Optional :

Mandatory

Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	890401308
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 89040114463 Question Type : MCQ Option Shuffling : No
 Display Question Number : Yes
 Correct Marks : 1 Wrong Marks : 0

If we choose velocity V , length L and force F as fundamental physical quantities then how would you express power in terms of V , L and F ?

Options :

1. ✓ $F^1 L^0 V^1$
2. ✗ $F^1 L^{-1} V^1$
3. ✗ $F^1 L^{-1} V^2$
4. ✗ $F^1 L^{-2} V^3$

Question Number : 52 Question Id : 89040114464 Question Type : MCQ Option Shuffling : No
 Display Question Number : Yes
 Correct Marks : 1 Wrong Marks : 0

Which pair of physical quantities have same dimensional formula

Options :

1. ✗ Torque and momentum
2. ✗ Surface tension and tension
3. ✓ Pressure and modulus of elasticity
4. ✗ Force constant and Planck's constant

Question Number : 53 Question Id : 89040114465 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $A + B = C$ and $A^2 + B^2 = C^2$ then the angle between vectors A and B is

Options :

1. ✖ 0°
2. ✖ 60°
3. ✔ 90°
4. ✖ 120°

Question Number : 54 Question Id : 89040114466 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The area of rectangle with sides as $A = 3i + 4j$ and $B = i + 3j$ is

Options :

1. ✔ $5\sqrt{10}$ units
2. ✖ 10 units
3. ✖ $2\sqrt{10}$ units
4. ✖ $10\sqrt{5}$ units

Question Number : 55 Question Id : 89040114467 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If a pebble is thrown vertically upwards from the top of a tower with velocity 5 m/s. It strikes the ground after 3 seconds. With what velocity the pebble strikes the ground? (take $g = 10 \text{ ms}^{-2}$)

Options :

- 1. ✗ 10 m/s
- 2. ✗ 20 m/s
- 3. ✓ 25 m/s
- 4. ✗ 30 m/s

Question Number : 56 Question Id : 89040114468 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If a body released from the top of a tower of height H meter takes T seconds to reach the ground , where is the body at time T/2 seconds from the ground ?

Options :

- 1. ✗ $\frac{H}{2}$
- 2. ✗ $\frac{H}{4}$
- 3. ✓ $\frac{3H}{4}$
- 4. ✗ $\frac{2H}{3}$

Question Number : 57 Question Id : 89040114469 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A body starts from rest and travels with uniform acceleration. If the distance covered in first 2 seconds is 'x' and next 2 seconds is 'y', then

Options :

1. ✖ $y = x$
2. ✖ $y = 2x$
3. ✔ $y = 3x$
4. ✖ $y = 4x$

Question Number : 58 Question Id : 89040114470 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A juggler throws ball into air. He throws one whenever the previous one is at its highest point. How high do the balls rise if he throws n balls each second ?

Options :

1. ✔ $\frac{g}{2n^2}$
2. ✖ $\frac{g}{n}$
3. ✖ $\frac{g}{2n}$
4. ✖ $\frac{n^2}{g}$

Question Number : 59 Question Id : 89040114471 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A block of mass m is lying on an inclined plane. The coefficient of friction between the plane and the block is μ . The force required to move the block up the inclined plane will be

Options :

1. ✖ $mg \sin \theta - \mu mg \cos \theta$
2. ✔ $mg \sin \theta + \mu mg \cos \theta$
3. ✖ $mg \cos \theta - \mu mg \sin \theta$
4. ✖ $mg \cos \theta + \mu mg \sin \theta$

Question Number : 60 Question Id : 89040114472 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The time taken by a body to slide down the smooth inclined plane is 4sec. The time taken by a body to slide $1/4^{\text{th}}$ of the length of the plane is

Options :

1. ✖ 1 sec
2. ✔ 2 sec
3. ✖ 3 sec
4. ✖ 0.5 sec.

Question Number : 61 Question Id : 89040114473 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A body of mass 2 Kg changes its velocity from $(3\mathbf{i} - 4\mathbf{j})$ m/s to $(6\mathbf{j} + 2\mathbf{k})$ m/s.

what is the change in kinetic energy of the body?

Options :

- 1. ✓ 15 J
- 2. ✗ 12 J
- 3. ✗ 18 J
- 4. ✗ 20 J

Question Number : 62 Question Id : 89040114474 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

At her maximum height a girl in a swing is 3m above the ground and at the lowest point she is 2m above the ground. Her maximum velocity is

Options :

- 1. ✗ $\sqrt{29.4}$ m/s
- 2. ✗ $\sqrt{9.8}$ m/s
- 3. ✓ $\sqrt{19.6}$ m/s
- 4. ✗ 9.8 m/s

Question Number : 63 Question Id : 89040114475 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An engine delivers 1000 watt of power with 80% efficiency. The input power is

Options :

1. ✖ 800 W
2. ✖ 1000 W
3. ✔ 1250 W
4. ✖ 1500 W

Question Number : 64 Question Id : 89040114476 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If a seconds pendulum on the earth is taken to a planet whose gravity is half of the gravity on earth, its time period on that planet is

Options :

1. ✖ 2 sec
2. ✖ 4 sec
3. ✖ $4\sqrt{2}$ sec
4. ✔ $2\sqrt{2}$ sec

Question Number : 65 Question Id : 89040114477 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The amplitude of a simple harmonic oscillator is A. When the velocity of particle is half of its maximum velocity, then its position is at

Options :

1. ✖ $\frac{A}{2}$
2. ✖

$$\frac{\sqrt{3} A}{4}$$

3. ✖ $\frac{A}{4}$

4. ✔ $\frac{\sqrt{3} A}{2}$

Question Number : 66 Question Id : 89040114478 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The displacement of a particle executing SHM is $x = 3 \sin 2t + 4 \cos 2t$.

The amplitude of particle is

Options :

1. ✖ 7

2. ✖ 3

3. ✖ 4

4. ✔ 5

Question Number : 67 Question Id : 89040114479 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The beats are produced by two sound sources of same amplitude and of nearly equal frequencies. The maximum intensity of beats will be _____ when compared to that of one source is

Options :

1. ✖ Same

2. ✖ Double

3. ✓ Four times

4. ✗ Eight times

Question Number : 68 Question Id : 89040114480 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A siren emitting sound of frequency 800 Hz is going away from a static listener with a speed of 30 m/s. Frequency of sound heard by the listener is
(Velocity of sound in air = 340 m/s)

Options :

1. ✗ 286.5 Hz

2. ✗ 418.2 Hz

3. ✓ 733.3 Hz

4. ✗ 644.5 Hz

Question Number : 69 Question Id : 89040114481 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

During the melting of a slab of ice at 273K at atmospheric pressure

Options :

1. ✗ Positive work is done by the ice-water system on the atmosphere

2. ✓ Positive work is done on the ice-water system by the atmosphere

3. ✗ Negative work is done on the ice-water system by the atmosphere

4. ✗ The internal energy of the ice-water system decreases

Question Number : 70 Question Id : 89040114482 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A gas is compressed at a constant pressure of 50 N/m^2 from a volume of 10 m^3 to a volume of 4 m^3 . Energy of 100 J is then added to the gas by heating. Its internal energy is

Options :

1. ✓ Increases by 400 J
2. ✗ Increases by 200 J
3. ✗ Increases by 100 J
4. ✗ Decreases by 200 J

Question Number : 71 Question Id : 89040114483 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A vessel containing 10 liters of an ideal gas at a pressure of 760 mm of Hg is connected to an evacuated 9 liter vessel. The resultant pressure is

Options :

1. ✓ 400 mm of Hg
2. ✗ 1440 mm of Hg
3. ✗ 40 mm of Hg
4. ✗ 760 mm of Hg

Question Number : 72 Question Id : 89040114484 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A sealed glass jar is full of water. When its temperature is decreased to 0°C

Options :

1. ✖ The glass jar remains as it is with ice
2. ✖ The glass jar remains as it is with water
3. ✖ Glass jar contains half the amount of ice mixed with water
4. ✔ The glass jar breaks due to the formation of ice

Question Number : 73 Question Id : 89040114485 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A bubble rises from the bottom of a lake 90 m deep on reaching the surface, its volume becomes (Atmospheric pressure is 10 m of water)

Options :

1. ✖ 4 times
2. ✖ 8 times
3. ✔ 10 times
4. ✖ 3 times

Question Number : 74 Question Id : 89040114486 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An endoscope is employed by a physician to view the internal parts of a body organ. It is based on the principle of

Options :

1. ✖ Refraction
2. ✖ Reflection
3. ✖ Dispersion
4. ✔ Total internal reflection

Question Number : 75 Question Id : 89040114487 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Light of wavelength $5000 \text{ \AA}$ falls on a sensitive plate with photo electric work function of 1.9 eV . The kinetic energy of the emitted photoelectron will be

Options :

1. ✔ 0.58 eV
2. ✖ 2.48 eV
3. ✖ 1.24 eV
4. ✖ 1.16 eV

Chemistry

Section Id :	890401285
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	890401309

Question Shuffling Allowed :

Yes

Question Number : 76 Question Id : 89040114488 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Consider the elements with atomic numbers $Z = 1$ to $Z=20$. The number of elements with only one unpaired electron in their ground state is

Options :

1. ✖ 10

2. ✖ 6

3. ✔ 8

4. ✖ 12

Question Number : 77 Question Id : 89040114489 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Identify the orbital which has lobes not orienting on the axis

Options :

1. ✖ P_x

2. ✖ P_y

3. ✖ $d_{x^2-y^2}$

4. ✔ d_{yz}

Question Number : 78 Question Id : 89040114490 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If n , l , m and s represent the symbols of quantum numbers, the impossible quantum number set for the electron in terms of n , l , m and s respectively is

Options :

1. ✓ 2, 0, -1, +1/2

2. ✗ 3, 0, 0, -1/2

3. ✗ 4, 1, +1, +1/2

4. ✗ 3, 2, -1, -1/2

Question Number : 79 Question Id : 89040114491 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Consider the elements with atomic numbers $Z = 8, 9, 11, 19$ and 20 . The number of ionic compounds possible with the elements having these atomic numbers is

Options :

1. ✓ 6

2. ✗ 5

3. ✗ 10

4. ✗ 8

Question Number : 80 Question Id : 89040114492 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In which of the molecules lone pair, bond pair of electrons ratio is 2:3 ?

Options :

1. ✖ Cl_2

2. ✖ O_2

3. ✖ HCl

4. ✔ N_2

Question Number : 81 Question Id : 89040114493 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

How many moles of urea is present in 250 ml of 0.2 M solution of it?

Options :

1. ✖ 0.03

2. ✖ 0.04

3. ✔ 0.05

4. ✖ 0.06

Question Number : 82 Question Id : 89040114494 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

x ml of 0.1 M NaOH solution is diluted with distilled water to get 250 ml of 0.01 M solution.

The value of x (in ml) is

Options :

1. ✖ 12.5

2. ✔ 25

3. ✖ 37.5

4. ✖ 50

Question Number : 83 Question Id : 89040114495 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

3×10^{22} molecules of Na_2CO_3 (molecular weight = 106) present in 500 ml of solution.

The normality of the solution formed is ($N = 6 \times 10^{23} \text{ mol}^{-1}$)

Options :

1. ✖ 0.1 N

2. ✔ 0.2 N

3. ✖ 0.4 N

4. ✖ 0.05 N

Question Number : 84 Question Id : 89040114496 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Identify the pair containing only Lewis acids

Options :

1. ✔ BF_3, NH_3

2. ✖ H^+, BF_3

3. ✖ $\text{F}^-, \text{H}_2\text{O}$

4. ✖ $\text{NH}_4^+, \text{NH}_3$

Question Number : 85 Question Id : 89040114497 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

4 g of NaOH is dissolved in 1.0 L solution. The pH of solution is

Options :

1. ✓ 13

2. ✗ 1

3. ✗ 12

4. ✗ 7.4

Question Number : 86 Question Id : 89040114498 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Number of coulombs corresponding to 1 mol of electrons approximately is equal to

Options :

1. ✗ 1.93×10^5

2. ✓ 9.65×10^4

3. ✗ 1.93×10^4

4. ✗ 9.65×10^5

Question Number : 87 Question Id : 89040114499 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Aqueous solution of which of the following does not act as electrolyte?

Options :

1. ✓ Urea
2. ✗ Copper Sulphate
3. ✗ Silver Nitrate
4. ✗ Sodium Chloride

Question Number : 88 Question Id : 89040114500 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The amount of silver (in mg) deposited when 9.65 coulombs of electricity is passed through an aqueous solution of silver nitrate is ($A_g=108$ u) ($1F=96500$ C mol⁻¹)

Options :

1. ✗ 16.2
2. ✗ 21.2
3. ✓ 10.8
4. ✗ 6.4

Question Number : 89 Question Id : 89040114501 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The standard electrode potentials of Zn, Ag and Cu are -0.76, +0.80 and +0.34 V respectively. Identify the correct statement from the following.

Options :

1. ✗ Ag can oxidize Zn and Cu

2. ✖ Ag can reduce Zn^{2+} and Cu^{2+}
3. ✔ Zn can reduce Ag^+ and Cu^{2+}
4. ✖ Cu can oxidize Zn and Ag

Question Number : 90 Question Id : 89040114502 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

In the removal of permanent hardness of water by permutit process, Na^+ ions of permutit are exchanged with which ions of water ?

Options :

1. ✖ K^+ , Ba^{2+}
2. ✖ Fe^{2+} , K^+
3. ✔ Ca^{2+} , Mg^{2+}
4. ✖ Zn^{2+} , Cu^{2+}

Question Number : 91 Question Id : 89040114503 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the degree of hardness (in ppm) of a sample containing 19 mg of MgCl_2 (Molecular Weight = 95) in 2 kg water sample? (express it in terms of equivalents of CaCO_3)

Options :

1. ✔ 10
2. ✖ 20

3. ✖ 30

4. ✖ 40

Question Number : 92 Question Id : 89040114504 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Identify the pair of chlorides responsible for permanent hardness of water.

Options :

1. ✖ NaCl, KCl

2. ✖ CaCl₂, KCl

3. ✖ AlCl₃, MgCl₂

4. ✔ MgCl₂, CaCl₂

Question Number : 93 Question Id : 89040114505 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The cell formed in bent pipes is an example of

Options :

1. ✖ Concentration Cell

2. ✖ Composition Cell

3. ✔ Stress Cell

4. ✖ Electrolytic Cell

Question Number : 94 Question Id : 89040114506 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Tarnishing of silver is due to formation of

Options :

1. ✖ Its sulphate layer
2. ✖ Its nitrate layer
3. ✔ Its sulphide layer
4. ✖ Its chloride layer

Question Number : 95 Question Id : 89040114507 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a co-polymer?

Options :

1. ✖ Buna-S rubber
2. ✔ Neoprene rubber
3. ✖ Bakelite
4. ✖ Urea – Formaldehyde

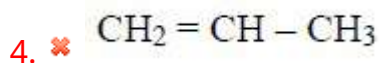
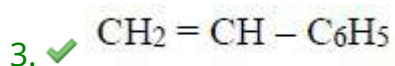
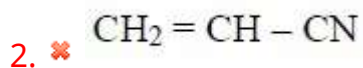
Question Number : 96 Question Id : 89040114508 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The monomer involved in the formation of polystyrene is

Options :

1. ✖ $\text{CH}_2 = \text{CH} - \text{Cl}$

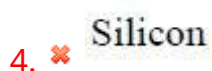
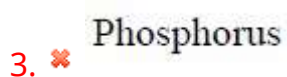
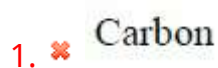


Question Number : 97 Question Id : 89040114509 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

We can overcome the undesirable properties of natural rubber by heating natural rubber with

Options :

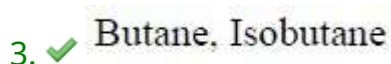
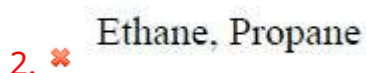
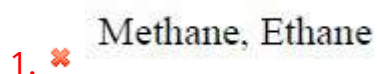


Question Number : 98 Question Id : 89040114510 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Liquefied petroleum gas (LPG) mainly contains

Options :



4. ✖ Ethene, Ethyne

Question Number : 99 Question Id : 89040114511 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Greenhouse effect is caused by

Options :

1. ✖ NO₂

2. ✖ CO

3. ✖ NO

4. ✔ CO₂

Question Number : 100 Question Id : 89040114512 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which compound is mainly responsible for the depletion of ozone layer?

Options :

1. ✖ CO₂

2. ✖ CH₄

3. ✖ CH₃OH

4. ✔ CF₂Cl₂

Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	890401310
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 89040114513 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which of the following is a universal gate?

Options :

1. ✖ AND
2. ✖ OR
3. ✔ NAND
4. ✖ XOR

Question Number : 102 Question Id : 89040114514 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a combinational circuit?

Options :

1. ✔ Flip-Flop
2. ✖ Decoder
3. ✖ Multiplexer

4. ✖ Adder

Question Number : 103 Question Id : 89040114515 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A demultiplexer is a device that _____.

Options :

1. ✖ Encode multiple inputs into one output

2. ✖ Decode binary to decimal

3. ✖ Store binary information

4. ✔ Route a single input to multiple outputs

Question Number : 104 Question Id : 89040114516 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Convert the binary number 110011 into its decimal equivalent.

Options :

1. ✖ 49

2. ✔ 51

3. ✖ 53

4. ✖ 55

Question Number : 105 Question Id : 89040114517 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of select lines required for an 8-to-1 multiplexer is?

Options :

1. ✖ 2

2. ✔ 3

3. ✖ 5

4. ✖ 8

Question Number : 106 Question Id : 89040114518 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A Sequential logic circuit that toggles its output state on each clock pulse is

Options :

1. ✖ SR flip-flop

2. ✖ D flip-flop

3. ✖ JK flip-flop

4. ✔ T flip-flop

Question Number : 107 Question Id : 89040114519 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Convert the decimal number 108 into its octal equivalent.

Options :

1. ✖ 124

2. ✖

3. ✖ 144

4. ✔ 154

Question Number : 108 Question Id : 89040114520 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the simplified form of the Boolean expression $(A + B)(A + C)$?

Options :

1. ✖ $A + B + C$

2. ✖ $AB + C$

3. ✖ $AC + BC$

4. ✔ $A + BC$

Question Number : 109 Question Id : 89040114521 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the primary purpose of a Software Requirements Specification (SRS) document?

Options :

1. ✖ To define the coding standards

2. ✖ To outline the software design

3. ✔ To describe the functional and non-functional requirements

4. ✖ To test the software

Question Number : 110 Question Id : 89040114522 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The second phase of a waterfall model is

Options :

1. ✖ Requirement gathering

2. ✔ Design

3. ✖ Implementation

4. ✖ Verification

Question Number : 111 Question Id : 89040114523 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In which phase of SDLC is the feasibility study conducted?

Options :

1. ✔ Planning

2. ✖ Implementation

3. ✖ Testing

4. ✖ Maintenance

Question Number : 112 Question Id : 89040114524 Question Type : MCQ Option Shuffling : No
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Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In Agile development, which methodology uses sprints?

Options :

1. ✖ Kanban
2. ✔ Scrum
3. ✖ Waterfall
4. ✖ Spiral

Question Number : 113 Question Id : 89040114525 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which testing level focuses on individual components or modules of the software?

Options :

1. ✔ Unit Testing
2. ✖ System Testing
3. ✖ Integration Testing
4. ✖ Validation Testing

Question Number : 114 Question Id : 89040114526 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is an advantage of the Incremental Model?

Options :

1. ✖ Complete product is delivered at once
2. ✔ Allows early detection of errors
3. ✖ Does not support customer feedback
4. ✖ Requires no planning

Question Number : 115 Question Id : 89040114527 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following best describes debugging?

Options :

1. ✖ The process of writing code
2. ✖ Running a program without any issues
3. ✖ Adding new features to a program
4. ✔ Identifying and fixing errors in a program

Question Number : 116 Question Id : 89040114528 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which type of requirement deals with performance, reliability, and security?

Options :

1. ✖ Functional Requirements
2. ✖

System Requirements

3. ✓ Non-Functional Requirements

4. ✗ Business requirements

Question Number : 117 Question Id : 89040114529 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which register holds the address of the next instruction to be executed?

Options :

1. ✗ Instruction Register (IR)

2. ✗ Memory Address Register (MAR)

3. ✓ Program Counter (PC)

4. ✗ Stack Pointer (SP)

Question Number : 118 Question Id : 89040114530 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which memory holds frequently accessed data for fast retrieval?

Options :

1. ✓ Cache

2. ✗ ROM

3. ✗ RAM

4. ✖ Hard Drive

Question Number : 119 Question Id : 89040114531 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The 8086 microprocessor has how many address lines?

Options :

1. ✖ 16

2. ✔ 20

3. ✖ 24

4. ✖ 32

Question Number : 120 Question Id : 89040114532 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The primary purpose of an interrupt in a microprocessor is to _____.

Options :

1. ✖ Execute instructions faster

2. ✖ Control memory access

3. ✖ Organize Registers

4. ✔ Handle I/O operations efficiently

Question Number : 121 Question Id : 89040114533 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a volatile memory?

Options :

1. ✓ RAM
2. ✗ ROM
3. ✗ Hard Disk
4. ✗ Flash Drive

Question Number : 122 Question Id : 89040114534 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The size of the general-purpose registers in the 8086 microprocessor is _____.

Options :

1. ✗ 8 bits
2. ✓ 16 bits
3. ✗ 32 bits
4. ✗ 64 bits

Question Number : 123 Question Id : 89040114535 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which component of the CPU coordinates all activities inside it?

Options :

1. ✖ ALU
2. ✔ Control Unit
3. ✖ Register File
4. ✖ Cache

Question Number : 124 Question Id : 89040114536 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

What is the result of the binary addition: $1101 + 1010$?

Options :

1. ✔ 10111
2. ✖ 10011
3. ✖ 11110
4. ✖ 11000

Question Number : 125 Question Id : 89040114537 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The Carry Flag (CF) is set when _____.

Options :

1. ✖ The result is negative
2. ✖ An arithmetic operation results in a zero value

3. ✖ A division operation produces a remainder
4. ✔ An arithmetic operation results in a carry out of the most significant bit

Question Number : 126 Question Id : 89040114538 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

In two's complement representation, which statement is true?

Options :

1. ✖ The MSB (Most Significant Bit) is always 0
2. ✔ The MSB determines the sign of the number
3. ✖ Addition does not require special handling
4. ✖ Two's complement is not used in modern computers

Question Number : 127 Question Id : 89040114539 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a type of addressing mode in microprocessors?

Options :

1. ✖ Immediate
2. ✖ Direct
3. ✖ Indirect
4. ✔ Sequential

Question Number : 128 Question Id : 89040114540 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is a type of ROM that can be programmed only once?

Options :

1.  PROM
2.  EPROM
3.  EEPROM
4.  Flash Memory

Question Number : 129 Question Id : 89040114541 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which data structure uses the FIFO (First In, First Out) principle?

Options :

1.  Stack
2.  Queue
3.  Linked List
4.  Tree

Question Number : 130 Question Id : 89040114542 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the time complexity of Binary Search on a sorted array?

Options :

1. ✖ $O(n)$
2. ✖ $O(n \log n)$
3. ✔ $O(\log n)$
4. ✖ $O(1)$

Question Number : 131 Question Id : 89040114543 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which operation in a queue removes an element?

Options :

1. ✖ Push
2. ✖ Pop
3. ✖ Enqueue
4. ✔ Dequeue

Question Number : 132 Question Id : 89040114544 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which one of the following is NOT a linear data structure?

Options :

1. ✖ Array

2. ✖ Stack

3. ✖ Queue

4. ✔ Tree

Question Number : 133 Question Id : 89040114545 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In Selection Sort, which element is selected at each step while sorting the elements in ascending order?

Options :

1. ✖ The largest element

2. ✔ The Smallest element

3. ✖ The Middle element

4. ✖ Any Random element

Question Number : 134 Question Id : 89040114546 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What type of data structure is used in recursion?

Options :

1. ✔ Stack

2. ✖ Queue

3. ✖ Tree

4. ✖ Linked List

Question Number : 135 Question Id : 89040114547 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which sorting algorithm is based on the divide-and-conquer principle?

Options :

1. ✖ Bubble Sort

2. ✖ Selection Sort

3. ✔ Merge Sort

4. ✖ Insertion Sort

Question Number : 136 Question Id : 89040114548 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which one is not a dynamic data structure?

Options :

1. ✔ Array

2. ✖ Stack

3. ✖ Queue

4. ✖

Linked List

Question Number : 137 Question Id : 89040114549 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the time complexity of deleting an element from the beginning of a linked list?

Options :

1.  $O(1)$
2.  $O(\log n)$
3.  $O(n)$
4.  $O(n \log n)$

Question Number : 138 Question Id : 89040114550 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following sorting algorithms is the most efficient in the average case?

Options :

1.  Bubble Sort
2.  Selection Sort
3.  Quick Sort
4.  Insertion Sort

Question Number : 139 Question Id : 89040114551 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which OSI layer is responsible for end-to-end communication?

Options :

1. ✓ Transport
2. ✗ Network
3. ✗ Data Link
4. ✗ Physical

Question Number : 140 Question Id : 89040114552 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

What is the default subnet mask for a Class B IP address?

Options :

1. ✗ 255.0.0.0
2. ✓ 255.255.0.0
3. ✗ 255.255.255.0
4. ✗ 255.255.255.255

Question Number : 141 Question Id : 89040114553 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

What is the main function of a router?

Options :

1. ✖ Signal Amplification
2. ✖ Collision Avoidance
3. ✖ Frame Filtering
4. ✔ Packet Switching

Question Number : 142 Question Id : 89040114554 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The primary purpose of an IP address is to _____.

Options :

1. ✔ Identify devices on a network
2. ✖ Authenticate users
3. ✖ Encrypt Data
4. ✖ Manage network protocols

Question Number : 143 Question Id : 89040114555 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which protocol operates at the Transport Layer of the OSI model?

Options :

1. ✖ IP
2. ✔ TCP

3. ✖ ARP

4. ✖ ICMP

Question Number : 144 Question Id : 89040114556 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which statement best describes a Metropolitan Area Network (MAN)?

Options :

1. ✖ A network that covers a small geographic area, such as a single building

2. ✖ A network that spans a large geographical area, such as a country

3. ✔ A network that connects multiple LANs within a city

4. ✖ A wireless network providing access to mobile users

Question Number : 145 Question Id : 89040114557 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which network model is based on direct connections between computers without a central server?

Options :

1. ✖ Client-Server Model

2. ✔ Peer-to-Peer Model

3. ✖ Hybrid Network Model

4. ✖

Cloud Computing Model

Question Number : 146 Question Id : 89040114558 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which protocol is used to resolve IP addresses to MAC addresses?

Options :

1. ✓ ARP
2. ✗ RARP
3. ✗ ICMP
4. ✗ DHCP

Question Number : 147 Question Id : 89040114559 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the primary function of the MAC address?

Options :

1. ✓ Identify devices on a network locally
2. ✗ Define network topology
3. ✗ Provide internet access
4. ✗ Encrypt network traffic

Question Number : 148 Question Id : 89040114560 Question Type : MCQ Option Shuffling : No

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Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which layer of the OSI model is responsible for error detection and correction?

Options :

1. ✘ Physical
2. ✔ Data Link
3. ✘ Session
4. ✘ Application

Question Number : 149 Question Id : 89040114561 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

_____ is a device used to amplify and retransmit network signals.

Options :

1. ✘ Router
2. ✘ Switch
3. ✘ Bridge
4. ✔ Repeater

Question Number : 150 Question Id : 89040114562 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the purpose of subnetting?

Options :

1. ✖ To convert IPv4 addresses into IPv6
2. ✖ To encrypt network communication
3. ✔ To reduce network congestion and improve efficiency
4. ✖ To multicast Packets

Question Number : 151 Question Id : 89040114563 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which scheduling algorithm gives each process an equal share of CPU time?

Options :

1. ✖ FIFO
2. ✔ Round Robin
3. ✖ Priority Scheduling
4. ✖ Shortest Job Next

Question Number : 152 Question Id : 89040114564 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the purpose of a page table?

Options :

1. ✖ Store file metadata
2. ✖

Track free memory

3. ✖ Manage CPU scheduling

4. ✔ Map logical to physical addresses

Question Number : 153 Question Id : 89040114565 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Excessive swapping between memory and disk in an OS is referred to as _____.

Options :

1. ✖ High CPU usage

2. ✖ Network congestion

3. ✔ Thrashing

4. ✖ Memory fragmentation

Question Number : 154 Question Id : 89040114566 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Process Control Block (PCB) contains which of the following information?

Options :

1. ✔ Process ID and process state

2. ✖ Memory addresses of all system files

3. ✖

Network configuration settings

CPU scheduling algorithms

4. ✖

Question Number : 155 Question Id : 89040114567 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What does the term 'context switching' refer to in an OS?

Options :

Switching between different networks

1. ✖

Switching the CPU from one process to another

2. ✔

Changing the user interface mode

3. ✖

Allocating additional memory to a process

4. ✖

Question Number : 156 Question Id : 89040114568 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is a critical section in process synchronization?

Options :

A protected area of memory

1. ✔

An I/O buffer

2. ✖

A process scheduler

3. ✖

4. ✖

A cache memory section

Question Number : 157 Question Id : 89040114569 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which component of an operating system provides an interface for users to access its services?

Options :

- 1. ✖ Device drivers
- 2. ✖ Libraries
- 3. ✔ System Calls
- 4. ✖ Process Control Block

Question Number : 158 Question Id : 89040114570 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which page replacement algorithm suffers from Belady's anomaly?

Options :

- 1. ✖ Optimal
- 2. ✔ FIFO
- 3. ✖ LRU
- 4. ✖ LFU

Question Number : 159 Question Id : 89040114571 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which issue in process synchronization is prevented by using a semaphore?

Options :

1. ✖ CPU scheduling
2. ✔ Deadlocks
3. ✖ Memory Fragmentation
4. ✖ Page Faults

Question Number : 160 Question Id : 89040114572 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the main function of the operating system's scheduler?

Options :

1. ✖ To manage memory allocation
2. ✖ To manage file systems
3. ✔ To manage CPU time for processes
4. ✖ To handle I/O operations

Question Number : 161 Question Id : 89040114573 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Paging involves breaking physical memory into fixed-sized blocks called _____.

Options :

1. ✓ Frames
2. ✗ Segments
3. ✗ Pages
4. ✗ Blocks

Question Number : 162 Question Id : 89040114574 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The interval from the time of submission of a process to the time of completion is the

Options :

1. ✗ Throughput
2. ✓ Turnaround time
3. ✗ Waiting time
4. ✗ Response time

Question Number : 163 Question Id : 89040114575 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following ensures referential integrity in a relational database?

Options :

1. ✗ Primary Key
2. ✓

Foreign Key

3. ✖ Index

4. ✖ View

Question Number : 164 Question Id : 89040114576 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which normal form removes transitive dependencies?

Options :

1. ✖ 1NF

2. ✖ 2NF

3. ✔ 3NF

4. ✖ BCNF

Question Number : 165 Question Id : 89040114577 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What type of database model uses tables with rows and columns?

Options :

1. ✖ Hierarchical Model

2. ✔ Relational Model

3. ✖ Object Oriented Model

4. ✖ Network Model

Question Number : 166 Question Id : 89040114578 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a valid PL/SQL control statement?

Options :

1. ✖ IF-THEN-ELSE

2. ✖ CASE

3. ✖ LOOP

4. ✔ SWITCH

Question Number : 167 Question Id : 89040114579 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the purpose of the HAVING clause in SQL?

Options :

1. ✔ To filter groups based on a condition

2. ✖ To filter rows based on a condition

3. ✖ To sort the result set

4. ✖ To join tables

Question Number : 168 Question Id : 89040114580 Question Type : MCQ Option Shuffling : No
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Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following SQL statements contains an error?

Options :

1. ✖ Select * from emp where empid = 1003;
2. ✖ Select empid from emp where empid = 1002;
3. ✖ Select empid from emp;
4. ✔ Select ALL from emp where empid = 1001;

Question Number : 169 Question Id : 89040114581 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

_____ is not a DDL command.

Options :

1. ✖ ALTER
2. ✔ UPDATE
3. ✖ DROP
4. ✖ TRUNCATE

Question Number : 170 Question Id : 89040114582 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a key characteristic of NoSQL databases?

Options :

1. ✖ Fixed schema
2. ✖ Relational data model
3. ✔ Scalability and flexibility
4. ✖ Only supports structured data

Question Number : 171 Question Id : 89040114583 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a NoSQL database type?

Options :

1. ✖ Document-based
2. ✖ Key-Value Store
3. ✖ Graph-based
4. ✔ Relational

Question Number : 172 Question Id : 89040114584 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the purpose of normalization in a relational database?

Options :

1. ✖ To increase data redundancy
2. ✖

To decrease performance

3. ✖ To store all data in a single table

4. ✔ To eliminate data redundancy and improve integrity

Question Number : 173 Question Id : 89040114585 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a principle of Object-Oriented Programming?

Options :

1. ✖ Encapsulation

2. ✔ Interfaces

3. ✖ Abstraction

4. ✖ Polymorphism

Question Number : 174 Question Id : 89040114586 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which keyword is used to define an object in C++?

Options :

1. ✖ create

2. ✔ new

3. ✖ object

4. ✖ call

Question Number : 175 Question Id : 89040114587 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the output of the following code snippet?

```
#include <iostream>
using namespace std;

int main() {
    int x = 5;
    int y = x++;
    cout << y;
    return 0;
}
```

Options :

1. ✔ 5

2. ✖ 6

3. ✖ 0

4. ✖ Compilation error

Question Number : 176 Question Id : 89040114588 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT a type of constructor in C++?

Options :

1. ✖ Copy Constructor

2. ✖ Default Constructor

3. ✔ Static Constructor

4. ✖ Parameterized Constructor

Question Number : 177 Question Id : 89040114589 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following operators cannot be overloaded?

Options :

1. ✔ ::

2. ✖ +

3. ✖ *

4. ✖ =

Question Number : 178 Question Id : 89040114590 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the correct syntax for declaring a pure virtual function in C++?

Options :

1. ✖ void virtual show () = 0

2. ✖ void show () virtual

3. ✔ virtual void show () = 0

4. ✖ pure virtual void show ()

Question Number : 179 Question Id : 89040114591 Question Type : MCQ Option Shuffling : No

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Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the purpose of the *endl* manipulator in C++?

Options :

1. ✖ It only moves the cursor to the next line.
2. ✖ It only flushes the output buffer.
3. ✔ It moves the cursor to the next line and flushes the output buffer.
4. ✖ It inserts a tab space in the output.

Question Number : 180 Question Id : 89040114592 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What will be the output of the following code?

```
#include <iostream>
using namespace std;
int main() {
    int a = 10;
    int *ptr = &a;
    cout << *ptr;
    return 0;
}
```

Options :

1. ✖ Address of a
2. ✔ 10
3. ✖ 0
4. ✖ Compilation error

Question Number : 181 Question Id : 89040114593 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the main purpose of templates in C++?

Options :

1. ✖ To improve runtime performance
2. ✖ To speed up program execution
3. ✖ To enable function overriding
4. ✔ To define functions and classes that can operate on different data types

Question Number : 182 Question Id : 89040114594 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the meaning of encapsulation in Object Oriented Programming?

Options :

1. ✖ Avoiding class usage
2. ✖ Using only public methods
3. ✖ Allowing global access to variables
4. ✔ Hiding implementation details

Question Number : 183 Question Id : 89040114595 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which keyword is used to define a constant in Java?

Options :

1. ✓ final
2. ✗ const
3. ✗ static
4. ✗ volatile

Question Number : 184 Question Id : 89040114596 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a valid declaration of a Java array?

Options :

1. ✗ `int arr[] = new int[];`
2. ✗ `int arr = new int[5];`
3. ✓ `int arr[] = new int[5];`
4. ✗ `int arr[] = new int(5);`

Question Number : 185 Question Id : 89040114597 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

_____ is a collection of classes and interfaces.

Options :

1. ✗ Object

2. ✖ Collection

3. ✔ Package

4. ✖ Array

Question Number : 186 Question Id : 89040114598 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the purpose of the super keyword in Java?

Options :

1. ✔ To refer to the superclass object

2. ✖ To refer to the current object

3. ✖ To define a constant

4. ✖ To allocate memory dynamically

Question Number : 187 Question Id : 89040114599 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is NOT an event class in Java?

Options :

1. ✖ FocusEvent

2. ✖ ItemEvent

3. ✓ `LayoutEvent`

4. ✗ `ActionEvent`

Question Number : 188 Question Id : 89040114600 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is the superclass of all exceptions in Java?

Options :

1. ✗ `Error`

2. ✓ `Throwable`

3. ✗ `ArithmeticException`

4. ✗ `Exception`

Question Number : 189 Question Id : 89040114601 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which method is used to display output of an applet?

Options :

1. ✗ `show()`

2. ✗ `run()`

3. ✓ `paint()`

4. ✗ `print()`

Question Number : 190 Question Id : 89040114602 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

What will be the output of the following Java program?

```
class Output
{
    public static void main(String args[])
    {
        int arr[] = {1, 2, 3, 4, 5};
        for ( int i = 0; i < arr.length - 2; ++i)
            System.out.println(arr[i] + " ");
    }
}
```

Options :

1. ✗ 1 2
2. ✓ 1 2 3
3. ✗ 1 2 3 4
4. ✗ 1 2 3 4 5

Question Number : 191 Question Id : 89040114603 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which of the following is a valid way to create a thread in Java?

Options :

1. ✓ Implementing the Runnable interface
2. ✗ Calling the run() method directly
3. ✗ Using the Callable interface
4. ✗ Implementing the java class

Question Number : 192 Question Id : 89040114604 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which of the following is the top-level container in AWT?

Options :

- 1. ✖ Panel
- 2. ✖ Label
- 3. ✖ Button
- 4. ✔ Frame

Question Number : 193 Question Id : 89040114605 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

What is the correct way to refer to an external CSS file?

Options :

- 1. ✖ `<link style src="styles.css">`
- 2. ✖ `<css>styles.css</css>`
- 3. ✔ `<link rel="stylesheet" href="styles.css">`
- 4. ✖ `<stylesheet>styles.css</stylesheet>`

Question Number : 194 Question Id : 89040114606 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a client-side scripting language?

Options :

1. ✖ Java
2. ✔ JavaScript
3. ✖ Ruby
4. ✖ PERL

Question Number : 195 Question Id : 89040114607 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which HTML tag is used to insert an image?

Options :

1. ✖ `<img url="htmllogo.jpg" />`
2. ✖ `<img alt="htmllogo.jpg" />`
3. ✔ ``
4. ✖ `<img link="htmllogo.jpg" />`

Question Number : 196 Question Id : 89040114608 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a JavaScript data type?

Options :

1. ✖ String
2. ✖ Boolean
3. ✔ Float
4. ✖ Object

Question Number : 197 Question Id : 89040114609 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What does XML stand for?

Options :

1. ✖ Extra Markup Language
2. ✔ Extensible Markup Language
3. ✖ Example Markup Language
4. ✖ Executable Markup Language

Question Number : 198 Question Id : 89040114610 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which jQuery function is used to make an element invisible?

Options :

1. ✔ hide ()
2. ✖ remove ()

3. ✖ notDisplay ()

4. ✖ invisible ()

Question Number : 199 Question Id : 89040114611 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the purpose of the echo statement in PHP?

Options :

1. ✖ store data in a database

2. ✖ execute JavaScript code

3. ✔ display output on a webpage

4. ✖ To comment on code

Question Number : 200 Question Id : 89040114612 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which PHP function is used to redirect a page?

Options :

1. ✖ redirect ()

2. ✔ header ()

3. ✖ navigate ()

4. ✖ gotoPage ()