



# Telangana State Council Higher Education

## Notations :

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

<b>Question Paper Name:</b>	Computer Science and Engineering 11th May 2019 Shift1
<b>Subject Name:</b>	Computer Science and Engineering
<b>Creation Date:</b>	2019-05-11 13:35:19
<b>Duration:</b>	180
<b>Total Marks:</b>	200
<b>Display Marks:</b>	No
<b>Share Answer Key With Delivery Engine:</b>	Yes
<b>Actual Answer Key:</b>	Yes
<b>Calculator:</b>	None
<b>Magnifying Glass Required?:</b>	No
<b>Ruler Required?:</b>	No
<b>Eraser Required?:</b>	No
<b>Scratch Pad Required?:</b>	No
<b>Rough Sketch/Notepad Required?:</b>	No
<b>Protractor Required?:</b>	No
<b>Show Watermark on Console?:</b>	Yes
<b>Highlighter:</b>	No
<b>Auto Save on Console?:</b>	No

## Computer Science and Engineering

<b>Group Number :</b>	1
<b>Group Id :</b>	89465820
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	180
<b>Revisit allowed for view? :</b>	No
<b>Revisit allowed for edit? :</b>	No
<b>Break time:</b>	0
<b>Group Marks:</b>	200

## Mathematics

<b>Section Id :</b>	89465875
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Mandatory or Optional:</b>	Mandatory
<b>Number of Questions:</b>	50
<b>Number of Questions to be attempted:</b>	50
<b>Section Marks:</b>	50
<b>Display Number Panel:</b>	Yes
<b>Group All Questions:</b>	No

Sub-Section Number: 1  
Sub-Section Id: 89465885  
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 8946583809 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0
2. ✖ 1
3. ✔ -1
4. ✖ 11

Question Number : 2 Question Id : 8946583810 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Let  $A$  and  $B$  be two square matrices of order  $n$ . If  $AB = A$ ,  $BA = B$  then  $A^2 + B^2 = \underline{\hspace{1cm}}$ .

Options :

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

Question Number : 3 Question Id : 8946583811 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✓ -5

2. ✗ 5

3. ✗ 3

4. ✗ 1

Question Number : 4 Question Id : 8946583812 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✗  $A(\alpha, \beta)$

2. ✗  $A(\alpha, -\beta)$

3. ✓  $A(-\alpha, -\beta)$

4. ✗  $A(-\alpha, \beta)$

Question Number : 5 Question Id : 8946583813 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical


Correct Marks : 1 Wrong Marks : 0


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

Options :

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

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


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


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


Question Number : 6 Question Id : 8946583814 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0


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

Options :

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

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

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


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


Question Number : 7 Question Id : 8946583815 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

$$\cos \frac{2\pi}{7} + \cos \frac{4\pi}{7} + \cos \frac{6\pi}{7} = \text{_____}.$$

Options :

1.  1

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

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

4. ✖ 0

Question Number : 8 Question Id : 8946583816 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the angles  $A, B$  and  $C$  of a triangle are in an arithmetic progression and if  $a, b$  and  $c$  denote the lengths of the sides opposite to  $A, B$  and  $C$  respectively, then the value of the expression  $\frac{a}{c} \sin 2C + \frac{c}{a} \sin 2A$  is —.

Options :

1. ✔  $\sqrt{3}$

2. ✖  $\frac{\sqrt{3}}{2}$

3. ✖ 1

4. ✖  $\frac{1}{2}$

Question Number : 9 Question Id : 8946583817 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔  $\frac{7}{24}$

2. ✖  $\frac{24}{7}$

3. ✖  $\frac{3}{4}$

4. ✖ 1

Question Number : 10 Question Id : 8946583818 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $50^\circ$

2. ✖  $30^\circ$

3. ✖  $16^\circ$

4. ✔  $8^\circ$

Question Number : 11 Question Id : 8946583819 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

3. ✖  $\left(\frac{63}{16}, 5\right)$

4. ✖  $\left(\frac{16}{63}, 5\right)$

Question Number : 12 Question Id : 8946583820 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The equation  $\tan^{-1}\left(\frac{x+1}{x-1}\right) + \tan^{-1}\left(\frac{x-1}{x}\right) = \tan^{-1}(-7)$  has \_\_\_\_\_.

Options :

1. ✓ unique solution  $x = 2$
2. ✗ two solutions  $x = 1, 2$
3. ✗ no solution
4. ✗ infinite number of solutions

Question Number : 13 Question Id : 8946583821 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a triangle  $ABC$ , let  $a, b$  and  $c$  denote the lengths of the sides opposite to  $A, B$  and  $C$  respectively. If  $\frac{1}{a+c} + \frac{1}{b+c} = \frac{3}{a+b+c}$ , then the angle  $C$  is \_\_\_\_\_.

Options :

1. ✗  $30^\circ$
2. ✗  $90^\circ$
3. ✓  $60^\circ$
4. ✗  $45^\circ$

Question Number : 14 Question Id : 8946583822 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\sin^{-1}x = 3$  then  $x =$  \_\_\_\_\_.

Options :

1. ✓  $\log(3 + \sqrt{10})$
2. ✗  $\log(3 - \sqrt{10})$

3. ✖  $\log(6 + \sqrt{10})$

4. ✖ 1

Question Number : 15 Question Id : 8946583823 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Question Number : 16 Question Id : 8946583824 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $2\sqrt{2} + 2i$

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

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

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



Question Number : 17 Question Id : 8946583825 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

such that  $r + s = 5$  and  $rs = 6$  is  $ax + by + c = 0$ , then  $a + b + c = \underline{\hspace{2cm}}$ .

Options :

1. ✖ 11

2. ✖ 5

3. ✖ -7

4. ✔ -1

Question Number : 18 Question Id : 8946583826 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $5(a^2 + b^2) = 1$

2. ✖  $a^2 + b^2 = \sqrt{5}$

3. ✔  $a^2 + b^2 = 1$

4. ✖  $\sqrt{a^2 + b^2} = 5$

Question Number : 19 Question Id : 8946583827 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✓ 14 cm

2. ✗  $\sqrt{304}$  cm

3. ✗ 4 cm

4. ✗  $\sqrt{124}$  cm

Question Number : 20 Question Id : 8946583828 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The 2019<sup>th</sup> derivative of the function  $(x-1)e^{-x}$  is \_\_\_\_\_

Options :

1. ✗  $\frac{x-2019}{e^x}$

2. ✗  $\frac{2019-x}{e^x}$

3. ✗  $\frac{x-2020}{e^x}$

4. ✓  $\frac{2020-x}{e^x}$

Question Number : 21 Question Id : 8946583829 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Question Number : 22 Question Id : 8946583830 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✖  $U$

3. ✔  $-U$

4. ✖  $2U$

Question Number : 23 Question Id : 8946583831 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 3

2. ✔ 75

3. ✖  $\frac{1}{3}$

4. ✖  $\frac{1}{75}$

Question Number : 24 Question Id : 8946583832 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $1 < x < 2$

2. ✖ all  $x \in \mathbb{R}$

3. ✔  $\mathbb{R} - [1, 2]$

4. ✖  $x \geq 2$

Question Number : 25 Question Id : 8946583833 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $e^2$

2. ✖  $\infty$

3. ✖ 1

4. ✔ 2

Question Number : 26 Question Id : 8946583834 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 2

2. ✖ 4

3. ✖  $e$

4. ✔ 3

Question Number : 27 Question Id : 8946583835 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ 5100

2. ✖ 1

3. ✖ 5050

4. ✖  $\frac{1}{2}$

Question Number : 28 Question Id : 8946583836 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✖  $\frac{1}{2}$

3. ✔  $\frac{9}{16}$

4. ✖  $\frac{9}{8}$

Question Number : 29 Question Id : 8946583837 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔  $\frac{1}{6}$

2. ✖  $\frac{1}{5}$

3. ✖ 1

4. ✖ 6

Question Number : 30 Question Id : 8946583838 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✔  $\frac{22}{7} - \pi$

3. ✖  $\frac{2}{105}$

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

Question Number : 31 Question Id : 8946583839 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $1$

2. ✖  $\frac{8}{19}$

3. ✖  $\frac{35}{4}$

4. ✔  $\frac{27}{6}$

Question Number : 32 Question Id : 8946583840 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $\frac{96}{5}$

2. ✔  $\frac{96\pi}{5}$

3. ✖  $\frac{32\pi}{5}$

4. ✖  $\frac{32}{5}$

Question Number : 33 Question Id : 8946583841 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔  $\frac{\pi^2}{32}$

2. ✖  $\frac{\pi}{32}$

3. ✖  $\frac{\pi^2}{16}$

4. ✖  $\frac{\pi}{16}$

Question Number : 34 Question Id : 8946583842 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 5

2. ✖  $\frac{20}{3}$

3. ✔  $\frac{5}{3}$

4. ✖ 1

Question Number : 35 Question Id : 8946583843 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ infinitely many solutions

2. ✖ no solution

3. ✖ a unique solution

4. ✖ exactly two solutions



Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $a = 1, b = \frac{3}{2}$

2. ✖  $a = \frac{3}{2}, b = 1$

3. ✔  $a = \frac{2}{3}, b = 1$

4. ✖  $a = 1, b = \frac{2}{3}$

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✓  $-xe^{2x} \cos 3x$

2. ✗  $xe^{2x} \cos 3x$

3. ✗  $-xe^{2x} \sin 3x$

4. ✗  $xe^{2x} \sin 3x$

Question Number : 39 Question Id : 8946583847 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Question Number : 40 Question Id : 8946583848 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Then,  $y(1)$  is equal to \_\_\_\_\_.

Options :

1. ✖  $\frac{2}{e} - \frac{2}{e^2}$

2. ✔  $2e^{-2}$

3. ✖  $2 - \frac{2}{e}$

4. ✖  $2 - 2e$

Question Number : 41 Question Id : 8946583849 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Question Number : 42 Question Id : 8946583850 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $y = \frac{1}{ce^x - \sin x}$

2. ✖  $y = ce^{-x} - e^x \sin x$

3. ✖  $y = ce^{-x} - \sin x$

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

Question Number : 43 Question Id : 8946583851 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

is \_\_\_\_\_.

Options :

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

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

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

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

Question Number : 44 Question Id : 8946583852 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖

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

2. ✖

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

3. ✔

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

4. ✖

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

Question Number : 45 Question Id : 8946583853 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

\_\_\_\_\_.

Options :

1. ✔ 0

2. ✖ 3

3. ✖  $\infty$ 4. ✖  $\frac{1}{2}$ 

Question Number : 46 Question Id : 8946583854 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Laplace transform of the solution of the differential equation  $\frac{dy}{dx} - 2y = e^{5x}$  with the initial condition  $y(0) = 3$  is \_\_\_\_\_.

Options :

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

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

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

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

Question Number : 47 Question Id : 8946583855 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Question Number : 48 Question Id : 8946583856 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

For  $x > 0$ ,  $\int_0^{\infty} \frac{\sin xt}{t} dt$  is \_\_\_\_\_.

Options :

1. ✖ 0

2. ✖  $\frac{\pi}{2x}$

3. ✖  $\frac{1}{x}$

4. ✔  $\frac{\pi}{2}$

Question Number : 49 Question Id : 8946583857 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

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

Options :

1. ✖  $a_n = 0$ , for all  $n \geq 0$

2. ✖  $a_0 = \frac{\pi}{2}$  and  $a_n = 0$ , for all  $n \geq 1$

3. ✖  $b_n \neq 0$ , for all  $n \geq 1$

4. ✔  $a_0 = \pi$  and  $a_n = 0$ , for all  $n \geq 1$

Question Number : 50 Question Id : 8946583858 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :



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

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

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

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

## Physics

Section Id :	89465876
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	25
Number of Questions to be attempted:	25
Section Marks:	25
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	89465886
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 8946583859 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical  
 Correct Marks : 1 Wrong Marks : 0

The dimensional formula for gravitational constant is \_\_\_\_\_.

Options :

1. ✓  $L^3T^{-2}M^{-1}$

2. ✗  $L^3T^2M^{-1}$

3. ✗  $L^2T^3M^{-2}$

4. ✗  $L^3T^1M^{-3}$



Question Number : 52 Question Id : 8946583860 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

Question Number : 53 Question Id : 8946583861 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is not correct?

Options :

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

Question Number : 54 Question Id : 8946583862 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✗  $\sqrt{0.89}$
2. ✗ 0.2
3. ✗ 0.3

4. ✓  $\sqrt{0.11}$

Question Number : 55 Question Id : 8946583863 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which of the following is correct?

Options :

1. ✗  $A.B \neq B.A$

2. ✓  $A.(B+C) = A.B + C.A$

3. ✗  $A.B = A.B - A.C$

4. ✗  $A.B = -B.A$

Question Number : 56 Question Id : 8946583864 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✗  $G$

2. ✓  $GM/R^2$

3. ✗  $GM/R$

4. ✗  $GM$

Question Number : 57 Question Id : 8946583865 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The value of  $g$  is maximum at\_\_\_\_\_.

Options :

1. ✗ equator

2. ✓ Pole

3. ✖ higher altitudes

4. ✖ at the centre of the earth

Question Number : 58 Question Id : 8946583866 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When the speed of rotation of earth increases your weight\_\_\_\_\_

Options :

1. ✖ increases

2. ✔ decreases

3. ✖ remains constant

4. ✖ becomes zero

Question Number : 59 Question Id : 8946583867 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The value of G is zero at \_\_\_\_\_

Options :

1. ✔ nowhere

2. ✖ the centre of the earth

3. ✖ surface of the earth

4. ✖ pole

Question Number : 60 Question Id : 8946583868 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 50%

2. ✖ 100%

3. ✔ 125%

4. ✖ 25%

Question Number : 61 Question Id : 8946583869 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ both will reach the ground with the same velocity

2. ✖ both will reach the ground together

3. ✖ both will reach the ground travelling with same acceleration

4. ✖ the block sliding down the plane will strike earlier

Question Number : 62 Question Id : 8946583870 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖  $u/24$

2. ✖  $u/5$

3. ✖  $5u$

4. ✔  $25u$

Question Number : 63 Question Id : 8946583871 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

Question Number : 64 Question Id : 8946583872 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

Question Number : 65 Question Id : 8946583873 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1.  $2\pi b$

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

3.  $2\pi/b$

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

Question Number : 66 Question Id : 8946583874 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 1 cm

2. ✖  $\sqrt{2}$  cm

3. ✖ 2 cm

4. ✔  $2\sqrt{2}$  cm

Question Number : 67 Question Id : 8946583875 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When a star approaches the earth, the waves are shifted towards \_\_\_\_\_

Options :

1. ✖ green colour

2. ✖ yellow colour

3. ✔ blue end

4. ✖ red end

Question Number : 68 Question Id : 8946583876 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0



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

Options :

1. ✓ 100
2. ✗ 90
3. ✗ 80
4. ✗ 900

Question Number : 69 Question Id : 8946583877 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

Question Number : 70 Question Id : 8946583878 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The quality of tone\_\_\_\_\_

Options :

1. ✗ decreases with loudness
2. ✗ varies inversely as amplitude
3. ✗ varies directly as pitch

4. ✓ depends on the overtones present

Question Number : 71 Question Id : 8946583879 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✗ reversible process

2. ✓ irreversible process

3. ✗ isothermal process

4. ✗ isobaric process

Question Number : 72 Question Id : 8946583880 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✗  $\text{CO}_2$  is a perfect gas

2. ✓ there is continuity of state

3. ✗ there is discontinuity of state

4. ✗ gases like  $\text{CO}_2$  and  $\text{H}_2$  cannot be liquefied

Question Number : 73 Question Id : 8946583881 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A diesel cycle works at \_\_\_\_\_

Options :

1. ✗ constant volume

2. ✓ constant pressure



3. ✖ constant temperature

4. ✖ both constant volume and constant temperature

Question Number : 74 Question Id : 8946583882 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ zero to 10 k

2. ✖ 10 k to 20 k

3. ✖ 20 k to 50 k

4. ✖ 50 k alone

Question Number : 75 Question Id : 8946583883 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Propagation of light through fiber core is due to \_\_\_\_\_

Options :

1. ✖ diffraction

2. ✖ interference

3. ✔ total internal reflection

4. ✖ reflection

Chemistry

Section Id :

89465877

Section Number :

3

Section type :

Online

Mandatory or Optional:

Mandatory

Number of Questions:

25

Number of Questions to be attempted:

25

Section Marks:	25
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	89465887
Question Shuffling Allowed :	Yes

Question Number : 76 Question Id : 8946583884 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which of the following energy orders is correct?

Options :

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

Question Number : 77 Question Id : 8946583885 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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





Options :

1. ☐ Covalent AB
2. ☒ Ionic AB
3. ☐ Covalent AB<sub>2</sub>
4. ☐ Ionic AB<sub>2</sub>

Question Number : 78 Question Id : 8946583886 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The oxidation number of 'S' in S<sub>8</sub>, S<sub>2</sub>F<sub>2</sub>, H<sub>2</sub>S respectively are \_\_\_\_\_.

Options :

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

Question Number : 79 Question Id : 8946583887 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

A:  $1s^2, 2s^2, 2p^1$





B:  $1s^2, 2s^2, 2p^6, 3s^2, 3p^1$

C:  $1s^2, 2s^2, 2p^6, 3s^2, 3p^3$

D:  $1s^2, 2s^2, 2p^6, 3s^2, 3p^5$

The elements that belong to same group are \_\_\_\_\_.

Options :

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

Question Number : 80 Question Id : 8946583888 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

\_\_\_\_\_.

Options :

1. ✖ 0.1 M
2. ✔ 0.025 M
3. ✖ 0.25 M
4. ✖ 0.01 M

Question Number : 81 Question Id : 8946583889 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The molecular weight of  $\text{H}_3\text{PO}_4$  is 98. The equivalent weight is \_\_\_\_\_ gram / equivalents.

Options :

1. ✖ 98
2. ✖ 49
3. ✔ 32.66
4. ✖ 24.5

Question Number : 82 Question Id : 8946583890 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is the Bronsted acid?

Options :

1. ✖  $\text{Cl}^-$
2. ✖  $\text{NH}_2^-$
3. ✖  $\text{CH}_3\text{COO}^-$
4. ✔  $\text{NH}_4^+$

Question Number : 83 Question Id : 8946583891 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The pH of 1 M KOH is \_\_\_\_\_.

Options :

1. ✖ 12

2. ✖ 11

3. ✔ 14

4. ✖ 13

Question Number : 84 Question Id : 8946583892 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Froth floatation process is used for the \_\_\_\_\_.

Options :

1. ✖ Oxide ores

2. ✔ Sulphide ores

3. ✖ Chloride ores

4. ✖ Oxide ores and Chloride ores

Question Number : 85 Question Id : 8946583893 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The composition of brass is \_\_\_\_\_.

Options :

1. ✔ Cu and Zn

2. ✖ Cu and Ni

3. ✖ Cu and Mn

4. ✖ Cu and Fe

Question Number : 86 Question Id : 8946583894 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is correct?

Options :

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

Question Number : 87 Question Id : 8946583895 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the electrolysis of  $\text{CuCl}_2$  solution using copper electrode, if 2.5 gm of Cu is deposited at cathode, then at anode \_\_\_\_\_.

Options :

1. ✖ 890 mL of  $\text{Cl}_2$  at STP is liberated
2. ✖ 445 mL of  $\text{O}_2$  at STP is liberated
3. ✖ 2.5 gm of copper is deposited
4. ✔ a decrease of 2.5 gm of mass takes place

Question Number : 88 Question Id : 8946583896 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The unit of resistivity is \_\_\_\_\_.

Options :

1. ✖  $\Omega$
2. ✔  $\Omega \text{ m}$

3. ✖  $\Omega / \text{m}$

4. ✖  $\Omega \text{ m}^2$

Question Number : 89 Question Id : 8946583897 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following metals provide cathodic protection to iron?

Options :

1. ✖ Cu and Ni

2. ✔ Al and Zn

3. ✖ Al and Cu

4. ✖ Co and Ni

Question Number : 90 Question Id : 8946583898 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The chemical composition of rust is \_\_\_\_\_.

Options :

1. ✖  $\text{Fe}_3\text{O}_4$

2. ✖  $\text{Fe}_3\text{O}_3$

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

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

Question Number : 91 Question Id : 8946583899 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

1 ppm of hardness of water is equal to \_\_\_\_\_.

Options :

1. ✔ 1 part of  $\text{CaCO}_3$  hardness in  $10^6$  parts of water



2. ✖ 1 part of  $\text{CaCO}_3$  hardness in  $10^8$  parts of water
3. ✖ 1 part of  $\text{CaCO}_3$  hardness in  $10^7$  parts of water
4. ✖ 1 part of  $\text{CaCO}_3$  hardness in  $10^5$  parts of water

Question Number : 92 Question Id : 8946583900 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The temporary hardness of water is due to the presence of \_\_\_\_\_.

Options :

1. ✖  $\text{MgCl}_2$  and  $\text{CaCl}_2$
2. ✖  $\text{Ca}(\text{NO}_3)_2$  and  $\text{Mg}(\text{NO}_3)_2$
3. ✖  $\text{CaSO}_4$  and  $\text{MgSO}_4$
4. ✔  $\text{Ca}(\text{HCO}_3)_2$  and  $\text{Mg}(\text{HCO}_3)_2$

Question Number : 93 Question Id : 8946583901 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The basic buffer solution is a mixture of \_\_\_\_\_.

Options :

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

Question Number : 94 Question Id : 8946583902 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following polymers has amide linkage?

Options :



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

Question Number : 95 Question Id : 8946583903 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The monomer of natural rubber is \_\_\_\_\_.

Options :

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

Question Number : 96 Question Id : 8946583904 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is a thermo setting?

Options :

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

Question Number : 97 Question Id : 8946583905 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The composition of water gas is \_\_\_\_\_.

Options :

1. ☒ CO and H<sub>2</sub> are combustible gases and CO<sub>2</sub> and N<sub>2</sub> are non-combustible gases
2. ☐ CO + CO<sub>2</sub> are combustible gases and H<sub>2</sub>O and N<sub>2</sub> non-combustible gases
3. ☐ CO + N<sub>2</sub> are combustible gases and H<sub>2</sub>O and H<sub>2</sub> are non-combustible gases
4. ☐ N<sub>2</sub>+H<sub>2</sub> are combustible gases and CO + H<sub>2</sub>O are non-combustible gases

Question Number : 98 Question Id : 8946583906 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Earth is protected from UV radiation by \_\_\_\_\_.

Options :

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

Question Number : 99 Question Id : 8946583907 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of following statements is not correct?

Options :

1. ☐ CO is the main air pollutant
2. ☐ All pollutants are not wastes
3. ☒ Water is polluted by dissolved Oxygen
4. ☐ Lichens are pollution indicators

Question Number : 100 Question Id : 8946583908 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Minamata disease is caused due to the presence of \_\_\_\_\_.

Options :

1. ✖ Cd
2. ✖ Pb
3. ✖ As
4. ✔ Hg

### Computer Science and Engineering

Section Id :	89465878
Section Number :	4
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	100
Number of Questions to be attempted:	100
Section Marks:	100
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	89465888
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 8946583909 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Match the following:

#### List I

- (a) 8251A
- (b) 8255A
- (c) 8259A

#### List II

- (i) Programmable Peripheral Interface
- (ii) Programmable Interface Controller
- (iii) Programmable Communication Interface

Options :

1. ✖ a-i, b-iii, c-ii
2. ✖ a-iii, b-ii, c-i

3. ✖ a-i, b-ii, c-iii

4. ✔ a-iii, b-i, c-ii

Question Number : 102 Question Id : 8946583910 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct pair of instructions designed to aid the sign-extension process

Options :

1. ✔ CBW and CWD

2. ✖ INC and DEC

3. ✖ NEG and POS

4. ✖ CMP and XGHS

Question Number : 103 Question Id : 8946583911 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When  $J = K = 1$ , then JK flip-flop functions like a/an \_\_\_\_\_.

Options :

1. ✖ D flip-flop

2. ✖ S-R flip-flop

3. ✖ NAND gate

4. ✔ T flip-flop

Question Number : 104 Question Id : 8946583912 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Two numbers with digits X and Y and radix 3 and 4 have following relationship:

$(XY)_3 = (YX)_4$ , then what are the values of X and Y?

Options :

1. ✔  $X = 3$  and  $Y = 2$

2. ✖  $X = 5$  and  $Y = 4$

3. ✖  $X = 1$  and  $Y = 2$

4. ✖  $X = 3$  and  $Y = 1$

Question Number : 105 Question Id : 8946583913 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following are employed in digital computers for generating binary control decisions?

Options :

1. ✔ combinational circuits

2. ✖ sequential circuits

3. ✖ binary counters

4. ✖ segment registers

Question Number : 106 Question Id : 8946583914 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is the maximum number of prime implicants possible for an  $n$ -variable Boolean function?

Options :

1. ✔  $2^{n-1}$

2. ✖  $2n$

3. ✖  $2^{n+1}$

4. ✖  $2^n$

Question Number : 107 Question Id : 8946583915 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A simplified form of the Boolean function  $F(A, B, C) = \Sigma(0, 2, 4, 5, 6)$  is \_\_\_\_\_.

Options :

1. ✖  $F = BC + AC'$
2. ✔  $F = C' + AB'$
3. ✖  $F = BC + AC$
4. ✖  $F = A' + BC$

Question Number : 108 Question Id : 8946583916 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which digital logic family is suitable for circuits that need high component density?

Options :

1. ✖ TTL
2. ✖ ECL
3. ✔ MOS
4. ✖ CMOS

Question Number : 109 Question Id : 8946583917 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

According to Flynn's classification, MISD stands for \_\_\_\_\_.

Options :

1. ✖ Multiple Input Sequential Data
2. ✔ Multiple Instruction stream Single data stream
3. ✖ Multiple Input Single Data output
4. ✖ Multiple Input Single Data stream



Question Number : 110 Question Id : 8946583918 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A three-input decoder has \_\_\_\_\_ outputs.

Options :

1. ✖ 4
2. ✔ 8
3. ✖ 12
4. ✖ 6

Question Number : 111 Question Id : 8946583919 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the maximum possible range of sequence for Mod-16 binary up-counter?

Options :

1. ✖ 0 to 256
2. ✖ 0 to 255
3. ✔ 0 to 15
4. ✖ 0 to 16

Question Number : 112 Question Id : 8946583920 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which is an implementation technique where the phases of a computer instruction cycle overlap in execution?

Options :

1. ✖ context switching
2. ✖ vector processing
3. ✖ array processing



#### 4. Pipelining

Question Number : 113 Question Id : 8946583921 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Intel 8086 processor has \_\_\_\_\_ bit address space.

Options :

- 1.  8
- 2.  16
- 3.  20
- 4.  32

Question Number : 114 Question Id : 8946583922 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Intel 8086 processor has \_\_\_\_\_ segment registers to point to segments of memory.

Options :




- 1.  8
- 2.  4
- 3.  6
- 4.  2

Question Number : 115 Question Id : 8946583923 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is correct during mode-2 operation of 8255?

Options :

- 1.  port A can be configured as 8-bit I/O port
- 2.  port A can be configured as bidirectional port
- 3.  port B can be configured as bidirectional port

4. ✖ port C can be configured as bidirectional port

Question Number : 116 Question Id : 8946583924 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

What are the address lines of the interrupts RST 7 and 8?

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. 0036 H and 0038H
2. 0030H and 0030H
3. 0032 H and 0034H
4. 0030 H and 0038H

Question Number : 117 Question Id : 8946583925 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

In 80486 processor a \_\_\_\_\_ way set-associative cache is used for instructions and data.

Options :

1. ✖ 2
2. ✖ 3
3. ✔ 4
4. ✖ 5

Question Number : 118 Question Id : 8946583926 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

For 80386 processor, \_\_\_\_\_ allows the application programmer to organize the main memory in logical modules.

Options :

1. ✖ protection

- 2. ✖ input/ output
- 3. ✖ bus
- 4. ✔ segmentation

Question Number : 119 Question Id : 8946583927 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

When the word read from memory is an operand, the computer is in \_\_\_\_\_ cycle.

Options :

- 1. ✖ fetch
- 2. ✔ execute
- 3. ✖ Indirect
- 4. ✖ Empty

Question Number : 120 Question Id : 8946583928 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

What is the content of the simplest type of dynamic RAM cell?


Options :


- 1. ✖ one transistor and one flip-flop
- 2. ✖ only one register and one transistor
- 3. ✔ only one transistor and one capacitor
- 4. ✖ one capacitor and one inductor


Question Number : 121 Question Id : 8946583929 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0


What is the purpose of having combinational gates in registers?

Options :

1.  to perform data-processing tasks

2.  to encode the data

3.  to decode the data


4.  to encrypt the data


Question Number : 122 Question Id : 8946583930 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical


Correct Marks : 1 Wrong Marks : 0


In the \_\_\_\_\_ mode, the content of the program counter is added to the address part of the instruction to obtain the effective address.

Options :

1.  absolute address

2.  indexed address

3.  auto decrement

4.  relative-address

Question Number : 123 Question Id : 8946583931 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical


Correct Marks : 1 Wrong Marks : 0

Memory mapped I/O allows the use of \_\_\_\_\_ type instructions to access I/O data.

Options :

1.  I/O

2.  Memory

3.  Key board

4.  Register

Question Number : 124 Question Id : 8946583932 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In \_\_\_\_\_ controlled I/O, the processor repeatedly polls I/O device.

Options :

1. ✗ I/O
2. ✗ DMA
3. ✓ Program
4. ✗ Interrupt

Question Number : 125 Question Id : 8946583933 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In direct memory access the interface transfers data into and out of the memory unit  
through the \_\_\_\_\_ bus.

Options :

1. ✗ CPU
2. ✗ Input
3. ✗ Output
4. ✓ Memory

Question Number : 126 Question Id : 8946583934 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The terms DTE and DCE are connected with which interface device?

Options :

1. ✗ 8255
2. ✓ 8251
3. ✗ 8257
4. ✗ 8259

Question Number : 127 Question Id : 8946583935 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the decimal equivalent of the octal number 736.4?

Options :

1. ✖ 487.5

2. ✖ 463.5

3. ✔ 478.5

4. ✖ 352.5

Question Number : 128 Question Id : 8946583936 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_ memory systems permit user to construct his/her programs as though he/she  
had a memory space equal to the totality of the auxiliary memory.

Options :

1. ✖ Cache

2. ✖ Register

3. ✖ I/O

4. ✔ Virtual

Question Number : 129 Question Id : 8946583937 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A \_\_\_\_\_ is a collection of one or more variables, possibly of different types  
grouped together under single name.

Options :

1. ✔ structure

2. ✖ class



3. ✖ object

4. ✖ Pointer

Question Number : 130 Question Id : 8946583938 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of values returned by a function is \_\_\_\_.

Options :

1. ✖ 0

2. ✔ 1

3. ✖ 2

4. ✖ -1

Question Number : 131 Question Id : 8946583939 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the output of the following program?

```
#include <stdio.h>
```

```
int jumble(int x, int y){
```

```
    x=2*x+y;
```

```
    return x; }
```

```
int main()
```

```
{ int x=2, y=5;
```

```
x=jumble(y, x); y=jumble(y, x);
```

```
printf("%d \n", y);
```

```
return 0; }
```

Options :

1. ✖ 5



2. ✖ 2

3. ✔ 22

4. ✖ 26

Question Number : 132 Question Id : 8946583940 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Consider the following program:

```
#include<stdio.h>

int main()
{ int i = 0;
  int j = sizeof(i++);
  printf("%d %d", i, j);
  return 0;}
```

What is the output of the program?

<https://www.hackerrank.com/prepare-your-question-page/>

Options :

1. ✔ 0 4

2. ✖ 1 1

3. ✖ 0 1

4. ✖ 4 0


Question Number : 133 Question Id : 8946583941 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0


Which of the following is **not** used as a keyword for storage classes?

Options :

1. ✖ auto

2. ✖ static


3.  dynamic


4.  extern

Question Number : 134 Question Id : 8946583942 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0


Which of the following registers is a 6-byte queue in 8086?

Options :

1.  base pointer

2.  instruction register

3.  programme counter

4.  stack segment register

Question Number : 135 Question Id : 8946583943 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Consider the following program:

```
#include<stdio.h>

int main()
{
    int a=25, b;
    b = a<<1>>2<<2>>3;
    printf("%d", b);
    return 0;}
```

What is the output of the program?

Options :

1.  25

2.  6

3. ✖ 24

4. ✖ 7

Question Number : 136 Question Id : 8946583944 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The result of evaluating the postfix expression  $5\ 4\ +\ 6\ *\ 8\ -\ 6\ +\ 7\ *$  is \_\_\_\_\_.

Options :

1. ✖ 280

2. ✔ 364

3. ✖ 481

4. ✖ 502

Question Number : 137 Question Id : 8946583945 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the time complexity of the following algorithm when  $n = 2^k$ , for some  $k \geq 0$ ?

Algorithm Display(n)

for (i=1; i ≤ n; i=i+4)

for (j=1; j ≤ n; j=j\*2)

print "All the Best."

Options :

1. ✖  $\Theta(n^2)$

2. ✖  $O(n^{1.5})$

3. ✔  $\Theta(n \log n)$

4. ✖  $\Theta((\log n)^2)$

Question Number : 138 Question Id : 8946583946 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The best-case, the average-case and the worst-case running time of binary search algorithm is \_\_\_\_\_ respectively.

Options :

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

Question Number : 139 Question Id : 8946583947 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following recurrences describes the worst-case running time of quicksort algorithm?

Options :

1. ✔  $T(n) = T(n-1) + \Theta(n)$  for  $n \geq 2$  and  $T(1) = O(1)$
2. ✖  $T(n) = 2T(n/2) + \Theta(n)$  for  $n \geq 2$  and  $T(1) = O(1)$
3. ✖  $T(n) = 2T(n-1) + \Theta(n)$  for  $n \geq 2$  and  $T(1) = O(1)$
4. ✖  $T(n) = T(n/2) + \Theta(n)$  for  $n \geq 2$  and  $T(1) = O(1)$

Question Number : 140 Question Id : 8946583948 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let  $A[1..n]$  be an integer array with  $n$  elements such that each element of  $A$  is at most four positions away from its original position in the sorted order.

Which of the following sorting algorithms sorts array  $A$  efficiently?

Options :

1. ✖ merge sort
2. ✔ insertion sort

3. ✖ selection sort

4. ✖ bubble sort

Question Number : 141 Question Id : 8946583949 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the OSI reference model, a \_\_\_\_\_ layer manages and synchronizes the conversation between two different applications.

Options :

1. ✖ Network

2. ✔ session

3. ✖ data link

4. ✖ Presentation

Question Number : 142 Question Id : 8946583950 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many number of bits for Networks IDs and Host IDs will be available in Class C Network ?

Options :

1. ✔ 24 and 8

2. ✖ 16 and 16

3. ✖ 16 and 8

4. ✖ 8 and 24

Question Number : 143 Question Id : 8946583951 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The main function of the network layer is routing of \_\_\_\_\_ from the source machine to the destination machine.

Options :

- 1. ✖ frames
- 2. ✖ wireless
- 3. ✔ packets
- 4. ✖ bit stream

Question Number : 144 Question Id : 8946583952 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

IPv6 addresses are \_\_\_\_\_ bits long.

Options :

- 1. ✖ 32
- 2. ✖ 64
- 3. ✔ 128
- 4. ✖ 256

Question Number : 145 Question Id : 8946583953 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

In the OSI reference model, Network layer deals with \_\_\_\_\_.

Options :

- 1. ✔ IP addressing and subnetting
- 2. ✖ Flow control and IP addressing
- 3. ✖ Classful addressing and congestion control
- 4. ✖ Reliable data transmission and subnetting



Question Number : 146 Question Id : 8946583954 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

User Datagram Protocol (UDP) is an unreliable, \_\_\_\_\_ protocol for applications that do not want TCPs sequencing.

Options :

1. ✖ secure
2. ✔ connection less
3. ✖ connection oriented
4. ✖ control

Question Number : 147 Question Id : 8946583955 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which protocol is used for E-Mail server to send a mail?

Options :

1. ✖ FTP
2. ✖ POP
3. ✔ SMTP
4. ✖ SNMP

Question Number : 148 Question Id : 8946583956 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The most common application of the twisted pair is the \_\_\_\_\_ system.

Options :

1. ✖ LAN
2. ✖ Wireless
3. ✔ Telephone



4. ✖ Radio

Question Number : 149 Question Id : 8946583957 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A \_\_\_\_\_ cable consists of a stiff copper wire surrounded by an insulated material.

Options :

1. ✖ optical

2. ✔ coaxial

3. ✖ electrical

4. ✖ Fibre

Question Number : 150 Question Id : 8946583958 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Using \_\_\_\_\_ technique, every incoming packet is sent out on every outgoing line except the one it arrived on.

Options :

1. ✖ flow based

2. ✖ distance vector

3. ✔ flooding

4. ✖ link state

Question Number : 151 Question Id : 8946583959 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The shortest Job First scheduling algorithm is provably \_\_\_\_\_.

Options :

1. ✔ optimal

2. ✖ difficult

3. ✖ easy

4. ✖ Average

Question Number : 152 Question Id : 8946583960 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The degree of multiprogramming is \_\_\_\_\_.

Options :

1. ✖ the number of processes executed per unit time

2. ✖ the number of processes in the ready queue

3. ✔ the number of processes in the memory

4. ✖ the number of processes in the i/o queue

Question Number : 153 Question Id : 8946583961 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Number of i-nodes in use of Unix file system represents \_\_\_\_\_.

Options :

1. ✔ number of files

2. ✖ number of directions

3. ✖ number of internal users

4. ✖ number of indices

Question Number : 154 Question Id : 8946583962 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Given a logical address with the following format:

2 bits	16 bits	8 bits
Seg	Page #	Page offset

What is the maximum size of each segment and maximum number of pages per segment?

Options :

1. ☒ 16 MB and 64 K
2. ☐ 8 MB and 64K
3. ☐ 16 MB and 32K
4. ☐ 8 MB and 32 K

Question Number : 155 Question Id : 8946583963 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

When a device/ system attempts to perform two or more operations at the same time on the shared data, the result depends on the order of the usage shared data is called \_\_\_\_.

Options :

1. ☐ critical section
2. ☐ starvation
3. ☒ race condition
4. ☐ deadlock

Question Number : 156 Question Id : 8946583964 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

A process is in \_\_\_\_\_ state, if it is waiting for an event that will never occur.

Options :

1. ☒ deadlock

- 2. ✖ safe
- 3. ✖ unsafe
- 4. ✖ Starvation

Question Number : 157 Question Id : 8946583965 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Resource \_\_\_\_\_ is one of the methods for eliminating deadlocks.

Options :

- 1. ✖ allocation
- 2. ✔ preemption
- 3. ✖ execution
- 4. ✖ elimination

Question Number : 158 Question Id : 8946583966 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Operating System performs the following actions when a new process is created:

- (1) Allocate the memory and other resources to the process
- (2) Assign process id and priority
- (3) Create a process control block (PCB) for the process
- (4) Set up the process environment
- (5) Initialize resource accounting information for the process.

What would be the correct sequence of the above actions?

Options :

- 1. ✖ 4, 3, 1, 2, 5
- 2. ✖ 4, 3, 5, 2, 1

3. ✓ 2, 1, 3, 4, 5

4. ✗ 3, 4, 2, 5, 1

Question Number : 159 Question Id : 8946583967 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In which of the following page replacement policies Belady's anomaly occurs?

Options :

1. ✓ FIFO

2. ✗ LRU

3. ✗ LFU

4. ✗ NRU

Question Number : 160 Question Id : 8946583968 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A state is in \_\_\_\_\_ state if the system can allocate resources to each process in some order and still avoid a deadlock.

Options :

1. ✗ locked

2. ✗ concurrent

3. ✓ safe

4. ✗ unsafe

Question Number : 161 Question Id : 8946583969 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

'Alter table' in SQL is one of the following types of command.

Options :

1. ✖ DCL command
2. ✔ DDL command
3. ✖ DML command
4. ✖ DAL command

Question Number : 162 Question Id : 8946583970 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A relation schema R is in \_\_\_\_\_ normal form if, whenever a nontrivial functional dependency

$X \rightarrow A$  holds in R, either (a) X is a super key of R or (b) A is a prime attribute of R.

Options :

1. ✖ 4NF
2. ✖ BCNF
3. ✔ 3NF
4. ✖ 5NF

Question Number : 163 Question Id : 8946583971 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which normal form is not based on the concept of functional dependency?

Options :

1. ✖ Third normal form
2. ✖ Second normal form
3. ✔ First normal form
4. ✖ Boyce-Codd normal form



Question Number : 164 Question Id : 8946583972 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A relation R is in Boyce-Codd Normal Form (BCNF) if and only if every determinant is a \_\_\_\_ key.

Options :

1. ✖ primary
2. ✔ candidate
3. ✖ secondary
4. ✖ Auxiliary

Question Number : 165 Question Id : 8946583973 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The conceptual schema insulates users from changes in the physical storage of the data.

This property is referred to as \_\_\_\_\_

Options :

1. ✖ data consistency
2. ✖ data insulation
3. ✖ logical data independence
4. ✔ physical data independence

Question Number : 166 Question Id : 8946583974 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In an E-R diagram, double ellipse is used to represent \_\_\_\_\_.

Options :

1. ✔ multivalued attribute



- 2. ✖ composite attribute
- 3. ✖ weak entity set
- 4. ✖ identifying relationship set

Question Number : 167 Question Id : 8946583975 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The \_\_\_\_\_ operation between two relations 'r' and 's' produces a relation with tuples which are in 'r' but not in 's'?

Options :

- 1. ✖ intersection
- 2. ✔ set difference
- 3. ✖ cartesian product
- 4. ✖ division

Question Number : 168 Question Id : 8946583976 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

What will be the result of the following SQL query?

```
SELECT S.sid FROM sailors S
WHERE S.rating >= ALL (SELECT S2.sid FROM sailors S2)
```

Options :





- 1. ✔ the sailors' id with the highest rating
- 2. ✖ the sailors' id with the minimum rating diamonds
- 3. ✖ the sailors' id whose rating is greater than the second set of sailors
- 4. ✖ the sailors' id with a rating equal to the second set of sailors

Question Number : 169 Question Id : 8946583977 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following mechanisms allows us to retrieve rows one at a time from a relation?

Options :


1.  view
2.  cursor
3.  trigger
4.  assertion

Question Number : 170 Question Id : 8946583978 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A relation R is in \_\_\_\_\_ normal form if and only if all underlying domains contain atomic values only.

Options :

1.  second
2.  first
3.  third
4.  Fifth

Question Number : 171 Question Id : 8946583979 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the output of the following (when embedded in a complete program)?

```
int n=5;
while (--n > 0)
{
    if(n == 2)
        exit(0);
    cout<<n<<" ";
}
cout<<"End of loop";
```

Options :

1. ✖ 2 3

2. ✔ 4 3

3. ✖ 3 4

4. ✖ 4 5

Question Number : 172 Question Id : 8946583980 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the output of the following (when embedded in a complete program)?

```
int n=1;
do
    cout<<n<<" ";
while (++n <=3);
```

Options :

1. ✔ 1 2 3

2. ✖ 4 3 2

3. ✖ 2 3 4

4. ✖ 3 4 5

Question Number : 173 Question Id : 8946583981 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A \_\_\_\_\_ member of the class is accessible by the member functions within its class and any class immediately derived from it.

Options :

1. ✖ Private
2. ✔ Protected
3. ✔ Public
4. ✖ Global

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

Question Number : 174 Question Id : 8946583982 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is the syntactically correct and complete function?

Options :

1. ✖ `int func(int a, int b){ cout<< "Hello"}`
2. ✖ `func (int c){cin>>"c" }`
3. ✔ `int func( int a, int b) { a = a+b; return (a);}`
4. ✖ `int func();`

Question Number : 175 Question Id : 8946583983 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Combining a number of items such as variables and functions into an object of a class is called \_\_\_\_\_.

Options :

1. ✖ abstraction

- 2. ✖ polymorphism
- 3. ✔ encapsulation
- 4. ✖ structure

Question Number : 176 Question Id : 8946583984 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which of the following statements is a valid syntax for typecast in C++?

Options :

- 1. ✔ (char) a;
- 2. ✖ char (a);
- 3. ✖ type char( a);
- 4. ✖ char type(a);

Question Number : 177 Question Id : 8946583985 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which header file does contain the methods setw() and get\_time()?

Options :

- 1. ✔ iomanip.h
- 2. ✖ iomanip.h, stdio.h
- 3. ✖ iostream.h
- 4. ✖ iostream.h, iomanip.h

Question Number : 178 Question Id : 8946583986 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_ refers to the ability to associate multiple meanings to one function name.

Options :

1. ✖ Abstraction
2. ✔ Polymorphism
3. ✖ Encapsulation
4. ✖ Structure

Question Number : 179 Question Id : 8946583987 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A / An \_\_\_\_\_ function of a class is not a member function of the class but has access to the private members of the class just as a member function does.

Options :

1. ✖ Member
2. ✖ Constructor
3. ✖ Overloaded
4. ✔ Friend

Question Number : 180 Question Id : 8946583988 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The technique of waiting until run time to determine the implementation of a procedure is called \_\_\_\_\_ binding.

Options :

1. ✖ static
2. ✖ early
3. ✔ dynamic



4. ✖ positive

Question Number : 181 Question Id : 8946583989 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following methods of String class is used to obtain character at a specified index?

Options :

- 1. ✖ char()
- 2. ✖ Charat()
- 3. ✖ charat()
- 4. ✔ charAt()

Question Number : 182 Question Id : 8946583990 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following methods of String class can be used to test strings for equality?

Options :

- 1. ✖ isequal()
- 2. ✖ isequals()
- 3. ✖ equal()
- 4. ✔ equals()

Question Number : 183 Question Id : 8946583991 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is not correct?

Options :

- 1. ✖ string is a class
- 2. ✔ strings in java are mutable.



3. ✖ every string is an object of class string.

4. ✖ java defines a peer class of string, called string buffer, which allows string to be altered.

Question Number : 184 Question Id : 8946583992 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which interface in Java threads is used to create?

Options :

1. ✖ thread

2. ✖ thread. create

3. ✖ run

4. ✔ runnable

Question Number : 185 Question Id : 8946583993 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which Java keyword is used to prevent inheritance?

Options :

1. ✖ stop

2. ✖ finally

3. ✔ final

4. ✖ finalize

Question Number : 186 Question Id : 8946583994 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following constructs is mandatory to handle user-defined exceptions?

Options :

1. ✖ finally

- 2. ✖ final
- 3. ✖ throws
- 4. ✔ Throw

Question Number : 187 Question Id : 8946583995 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

What is the output of this program?

```
Class string_class {  
public static void main(String args[])  
{  
String obj="hello";  
String obj1 ="world";  
String obj2 =obj;  
string obj2 =" world";  
System.out.println(obj+" "+ obj2);  
}
```

Options :

- 1. ✔ hello hello
- 2. ✖ world world
- 3. ✔ hello world
- 4. ✖ world hello

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

Question Number : 188 Question Id : 8946583996 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which of these jump statements can skip processing remainder of code in its body for a particular iteration?

Options :

1. ✖ break
2. ✖ return
3. ✖ exit
4. ✔ continue

Question Number : 189 Question Id : 8946583997 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

What is the output of this program?

```
Class selection_statements
```

```
{  
  
Public static void main(String args[])  
  
    {  
  
int var1 = 5;  
int var2 = 6;  
if ((var2 = 1) == var1)  
    System.out.print(var2);  
else  
    System.out.print(++var2);  
    }  
}
```

Options :

1. ✖ 1
2. ✔ 2
3. ✖ 3
4. ✖ 4





Question Number : 190 Question Id : 8946583998 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the output of this program?

```
Class string_demo{  
    public static void main(String args[])  
    {  
        String obj="I"+"like"+"Java";  
        System.out.println(obj);  
    }  
}
```

Options :





- 1.  I
- 2.  Like
- 3.  Java
- 4.  IlikeJava

Question Number : 191 Question Id : 8946583999 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following JavaScript statements is the correct definition of an array?

Options :

- 1.  var a = new Array[100]
- 2.  a = new Array[1, 2, 3, 4]
- 3.  a = new Array(1, 2, 3, 4)
- 4.  a = new Array[]

Question Number : 192 Question Id : 8946584000 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

JavaScript is contained inside the \_\_\_\_\_ tags.

Options :

1. ✖ `<font> . . . </font>`
2. ✔ `<script> . . . </script>`
3. ✖ `<head> . . . </head>`
4. ✖ `<body> . . . </body>`

Question Number : 193 Question Id : 8946584001 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

What is the output of the following PHP code?

```
<?php
$username="ECET2019";
if(ereg("[^a-z]",$userName))
echo"Username must be all lowercase!";
else
echo"Username is all lowercase!";
?>
```

Options :

1. ✔ error
2. ✖ username must be all lowercase!
3. ✖ username is all lowercase!
4. ✖ no output is returned

Question Number : 194 Question Id : 8946584002 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which of the following PHP functions can be used to get the current memory usage?

Options :

1. ✖ `get_usage()`
2. ✖ `get_peak_usage()`
3. ✔ `get_memory_usage()`
4. ✖ `get_memory_peak_usage()`

Question Number : 195 Question Id : 8946584003 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct option for PHP:

S1: `echo ( )` is capable of outputting multiple strings

S2: `echo ( )` cannot be used as part of a complex expression because it returns void

S3: `Print ( )` return a Boolean

Options :

1. ✖ Only S1
2. ✖ S1 and S2 only
3. ✔ S1, S2 and S3
4. ✖ S1 and S3 only

Question Number : 196 Question Id : 8946584004 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following HTML codes displays the content in bold face?

Options :

1. ✖ `<b> This text is big<b>`
2. ✔ `<b> This text is big</b>`
3. ✖ `<b/> This text is bold</b>`



4. ✖ `<b>` This text is bold `<\b>`

Question Number : 197 Question Id : 8946584005 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In HTML document to insert images, we use the \_\_\_\_\_ tag.

Options :

1. ✖ Picture

2. ✖ Pic

3. ✔ Img

4. ✖ Image

Question Number : 198 Question Id : 8946584006 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following tags is used to add a row to a table?

Options :

1. ✖ `<td>` and `</td>`

2. ✖ `<row>` and `<row>`

3. ✖ `<tablerow>` and `</tablerow>`

4. ✔ `<tr>` and `</tr>`

Question Number : 199 Question Id : 8946584007 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which are the compound data types of PHP?

Options :

1. ✔ array and object



- 2. ✖ array and map
- 3. ✖ array and vector
- 4. ✖ array and hash table

Question Number : 200 Question Id : 8946584008 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which PHP's super global variable offers information regarding the PHP parser's underlying server environment?

Options :

- 1. ✖ \$ - SEVER
- 2. ✔ \$ - ENV
- 3. ✖ \$ - PARSER
- 4. ✖ \$ - COOKIES