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

## Computer Science and Engineering

| | |
|---|---|
| **Group Number :** | 1 |
| **Group Id :** | 89465820 |
| **Group Maximum Duration :** | 0 |
| **Group Minimum Duration :** | 180 |
| **Revisit allowed for view? :** | No |
| **Revisit allowed for edit? :** | No |
| **Break time:** | 0 |
| **Group Marks:** | 200 |

### Mathematics

| | |
|---|---|
| **Section Id :** | 89465875 |
| **Section Number :** | 1 |
| **Section type :** | Online |
| **Mandatory or Optional:** | Mandatory |
| **Number of Questions:** | 50 |
| **Number of Questions to be attempted:** | 50 |
| **Section Marks:** | 50 |
| **Display Number Panel:** | Yes |
| **Group All Questions:** | 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 $10\times10$ 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 $A^2+B^2=$ ___.

**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**

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

**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 $x = \tan\left(\text{Cosec}^{-1}\frac{65}{63}\right)$ and $y = \sec^2\left(Cot^{-1}\frac{1}{2}\right) + \cos ec^2\left(Tan^{-1}\frac{1}{3}\right)$, 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 $\text{Tan}^{-1}\left(\frac{x+1}{x-1}\right)+T\,\text{an}^{-1}\left(\frac{x-1}{x}\right)=T\,\text{an}^{-1}(-7)$ 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 $\sin hx=3$ then $x=$ _____.

**Options :**

1. ✔ $\log(3+\sqrt{10})$

2. ✖ $\log(3-\sqrt{10})$

3. ✖ $\log(6+\sqrt{10})$

4. ✖ $1$

**Question Number : 15 Question Id : 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. ✖ $|z_1+z_2|\le|z_1|+|z_2|$

3. ✔ $|z_1+z_2|\le\big||z_1|-|z_2|\big|$

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 $a+b+c=$ ____ .

**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 $2019^{th}$ 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**

$\lim\limits_{x\to\infty} x\left(\log\left(1+\frac{x}{2}\right)-\log\left(\frac{x}{2}\right)\right)=$ _____.

**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**

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

**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**

$\lim_{n\to\infty} \frac{1}{n^6} \sum_{k=1}^{n} k^5 =$ _____.

**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**

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

**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

**Question Number : 36 Question Id : 8946583844 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 $(a\,xy^3 + y\cos x)dx + (x^2y^2 + b\sin x)dy = 0$ is an exact differential equation for _____.

**Options :**

1. ✖ $a = 1,\ b = \frac{3}{2}$

2. ✖ $a = \frac{3}{2},\ b = 1$

3. ✔ $a = \frac{2}{3},\ b = 1$

4. ✖ $a = 1,\ b = \frac{2}{3}$

**Question Number : 37 Question Id : 8946583845 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 $\sin x$ 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. ✖ $y = c_1 \sin x + c_2 \cos x + c_3 e^{3x} + c_4 e^{2x}$

**Question Number : 38 Question Id : 8946583846 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 $D \equiv \frac{d}{dx}$, 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 $f(t)=\begin{cases}\sin t, & \text{for } 0\le t\le \pi\\ 0, & \text{for } t>\pi\end{cases}$

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 $F(s)=\dfrac{1}{s^3+2s^2+2s}$ Then, $\lim\limits_{x\to 0} f(x)=$

_____.

**Options :**

1. ✔ 0

2. ✖ 3

3. ✖ $\infty$

4. ✖ $\dfrac{1}{2}$

**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

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

**Options :**

1. ✖ $a_n = 0$, for all $n \ge 0$

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

3. ✖ $b_n \ne 0$, for all $n \ge 1$

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

**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 $f(x) = x$, $-\pi \le x \le \pi$. The Fourier series of $f(x)$ is _____.

**Options :**

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

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

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

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

Physics

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|---|---|
| **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. ✖ $j \times i = -k$

2. ✖ $k \times j = -i$

3. ✖ $i \times k = -j$

4. ✔ $k \times i = -j$

**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 $0.5\,i + 0.8\,j + c\,k$ 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. ✖ $CO_2$ is a perfect gas

2. ✔ there is continuity of state

3. ✖ there is discontinuity of state

4. ✖ gases like $CO_2$ and $H_2$ 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

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| | 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 $AB_2$

4. ✖ Ionic $AB_2$

**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 $S_8$, $S_2F_2$, $H_2S$ 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 $H_3PO_4$ is 98. The equivalent weight is _____ gram / equivalents.

.

**Options :**

1. ✖ 98

2. ✖ 49

3. ✔ 32.66

4. ✖ 24.5

**Question Number : 82 Question Id : 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. ✖ $Cl^-$

2. ✖ $NH_2^-$

3. ✖ $CH_3COO^-$

4. ✔ $NH_4^+$

**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 $CuCl_2$ solution using copper electrode, if 2.5 gm of Cu is deposited at cathode, then at anode _____.

**Options :**

1. ✖ 890 mL of $Cl_2$ at STP is liberated

2. ✖ 445 mL of $O_2$ at STP is liberated

3. ✖ 2.5 gm of copper is deposited

4. ✔ a decrease of 2.5 gm of mass takes place

**Question Number : 88 Question Id : 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. ✔ $\Omega$ m

3. ✖ $\Omega$ /m

4. ✖ $\Omega\, m^2$

**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. ✖ $Fe_3O_4$

2. ✖ $Fe_3O_3$

3. ✔ $Fe_2O_3.\, nH_2O$

4. ✖ $Fe_3O_3.\, xH_2O$

**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 $CaCO_3$ hardness in $10^6$ parts of water

2. ✖ 1 part of $CaCO_3$ hardness in $10^8$ parts of water

3. ✖ 1 part of $CaCO_3$ hardness in $10^7$ parts of water

4. ✖ 1 part of $CaCO_3$ hardness in $10^5$ parts of water

**Question Number : 92 Question Id : 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. ✖ $MgCl_2$ and $CaCl_2$

2. ✖ $Ca(NO_3)_2$ and $Mg(NO_3)_2$

3. ✖ $CaSO_4$ and $MgSO_4$

4. ✔ $Ca(HCO_3)_2$ and $Mg(HCO_3)_2$

**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. ✔ $NH_3 + NH_4Cl$

2. ✖ $HCl + NH_4Cl$

3. ✖ $NaCl + NH_4Cl$

4. ✖ $KOH + NH_4Cl$

**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 $H_2$ are combustible gases and $CO_2$ and $N_2$ are non-combustible gases

2. ✖ $CO + CO_2$ are combustible gases and $H_2O$ and $N_2$ non-combustible gases

3. ✖ $CO + N_2$ are combustible gases and $H_2O$ and $H_2$ are non-combustible gases

4. ✖ $N_2 + H_2$ are combustible gases and $CO + H_2O$ 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 | List II |
|---|---|
| (a) 8251A | (i) Programmable Peripheral Interface |
| (b) 8255A | (ii) Programmable Interface Controller |
| (c) 8259A | (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) = Σ(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?

**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. ✖  This text is big

2. ✔  This text is big

3. ✖  This text is bold

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