Andhra Pradesh State Council of Higher Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	Computer Science and Engineering 22nd July 2022 Shift 1
Duration :	180
Total Marks :	200
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

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Mathematics

Section Id :	72254496
Section Number :	1
Mandatory or Optional :	Mandatory
Number of Questions :	50
Section Marks :	50
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Question Number : 1 Question Id : 7225444802 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $\begin{vmatrix} 2 & x & 3 \\ 4 & 1 & 6 \\ -1 & 2 & 7 \end{vmatrix}=0$ then the value of x is

Options :

1. ✘ 6

2. ✘ 5/3

3. ✔ 1/2

4. ✘ -6

Question Number : 2 Question Id : 7225444803 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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If $2A+3B-4I=\begin{pmatrix}3 & 15\\ 20 & 28\end{pmatrix}$ and $A+B+I=\begin{pmatrix}4 & 6\\ 8 & 14\end{pmatrix}$ then $A=$

Options :

1. ✖ $\begin{pmatrix}3 & 5\\ 0 & 8\end{pmatrix}$

2. ✖ $\begin{pmatrix}3 & 15\\ 2 & 8\end{pmatrix}$

3. ✖ $\begin{pmatrix}13 & 1\\ 20 & 2\end{pmatrix}$

4. ✔ $\begin{pmatrix}2 & 3\\ 4 & 7\end{pmatrix}$

Question Number : 3 Question Id : 7225444804 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The system of the simultaneous linear equations

$$x-y-2z=3;\quad 2x+y+z=5;\quad 4x-y-2z=1 \text{ then } z=$$

Options :

1. ✔ -10

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2. ✖ 3

3. ✖ 0

4. ✖ -1

Question Number : 4 Question Id : 7225444805 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $A = \begin{pmatrix} 1 & 2 \\ 2 & 4 \end{pmatrix}$ and $B = \begin{pmatrix} -4 & 6 \\ 2 & -3 \end{pmatrix}$ then $AB =$

Options :

1. ✖ 1

2. ✖ -8

3. ✖ -4

4. ✔ 0

Question Number : 5 Question Id : 7225444806 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If A is a square matrix such that $A^T = A$ then A is called _____

Options :

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1. ✓ symmetric matrix

2. ✗ skew symmetric matrix

3. ✗ singular matrix

4. ✗ scalar matrix

Question Number : 6 Question Id : 7225444807 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $\frac{10-x}{x^2+x-12} = \frac{A}{x+4} + \frac{B}{x-3}$ then $A + B =$

Options :

1. ✓ -1

2. ✗ 1

3. ✗ -2

4. ✗ 5

Question Number : 7 Question Id : 7225444808 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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If $\frac{4x^2+5x+8}{(x^2+5)(x+2)} = \frac{Ax+B}{x^2+5} + \frac{C}{x+2}$ then $B + C$ =

Options :

1. ✖ 12/7

2. ✖ -15/9

3. ✔ 15/9

4. ✖ 17/9

Question Number : 8 Question Id : 7225444809 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $sin\theta = \frac{3}{5}$, θ *is acute,* then $2tan\theta + 3sec\theta + 4sec\theta\ cosec\theta =$

Options :

1. ✖ -1

2. ✔ $\frac{163}{12}$

3. ✖ $\frac{-163}{12}$

4. ✖ $\frac{13}{12}$

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Question Number : 9 Question Id : 7225444810 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $x = asec\theta$, $y = btan\theta$ then $\frac{x^2}{a^2} - \frac{y^2}{b^2} =$

Options :

1. ✗ $\frac{1}{2}$

2. ✗ $-\frac{1}{2}$

3. ✗ $\frac{1}{4}$

4. ✓ 1

Question Number : 10 Question Id : 7225444811 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $tan^2 60^0 + 2tan^2 45^0$ is

Options :

1. ✓ 5

2. ✗ 2

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3. ✖ -5

4. ✖ -3

Question Number : 11 Question Id : 7225444812 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $tan20^0\ tan40^0\ tan60^0\ tan80^0$ is

Options :

1. ✖ -2

2. ✖ 2

3. ✖ -3

4. ✔ 3

Question Number : 12 Question Id : 7225444813 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $(1+tanA)(1+tanB)=2$ then $A+B=$

Options :

1. ✖ 65^0

2. ✔ 45^0

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3. ✖ 35^0

4. ✖ 25^0

Question Number : 13 Question Id : 7225444814 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $sin20^0\ sin40^0\ sin60^0\ sin80^0$ is

Options :

1. ✖ $\frac{-3}{16}$

2. ✖ $\frac{23}{16}$

3. ✖ $\frac{31}{16}$

4. ✔ $\frac{3}{16}$

Question Number : 14 Question Id : 7225444815 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If in a triangle ABC , $a = 13, b = 14, c = 15$ then the area of the triangle is

Options :

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1. ✖ 35 sq. units

2. ✖ 56 sq. units

3. ✔ 84 sq. units

4. ✖ 94 sq. units

Question Number : 15 Question Id : 7225444816 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $sin^{-1}\frac{5}{13} + \tan^{-1}\frac{12}{5}$ is

Options :

1. ✖ $-\frac{\pi}{2}$

2. ✖ $\frac{\pi}{4}$

3. ✔ $\frac{\pi}{2}$

4. ✖ $-\frac{\pi}{3}$

Question Number : 16 Question Id : 7225444817 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response

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Time : N.A Think Time : N.A Minimum Instruction Time : 0

The general solution of trigonometric equation $sec4\theta - sec2\theta = 2$ is

Options :

1. ✓ $\frac{2n\pi}{5} \pm \frac{\pi}{10}$ or $2n\pi \pm \frac{\pi}{2}$

2. ✗ $\frac{3\pi}{5}$

3. ✗ $\frac{5\pi}{4}$

4. ✗ $\frac{\pi}{4}$

Question Number : 17 Question Id : 7225444818 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $\tan^{-1}(2sin150^0)$is

Options :

1. ✗ π

2. ✗ 3π

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3. ✗ $\frac{\pi}{2}$

4. ✓ $\frac{\pi}{4}$

Question Number : 18 Question Id : 7225444819 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The modulus of $\frac{(1+i)(i-\sqrt{3})i}{1-i}$ is

Options :

1. ✓ 2

2. ✗ 6

3. ✗ -2

4. ✗ 4

Question Number : 19 Question Id : 7225444820 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $1, \omega, \omega^2$ are the cube roots of unity, then $(1-\omega)(1-\omega^2)(1-\omega^4)(1-\omega^5) =$

Options :

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1. ✖ 3

2. ✔ 9

3. ✖ 1

4. ✖ 0

Question Number : 20 Question Id : 7225444821 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The length of the tangent from(-3,1) to the circle $3x^2 + 3y^2 - 5x - 6y - 12 = 0$ is

Options :

1. ✖ -3

2. ✔ 3

3. ✖ 4

4. ✖ 9

Question Number : 21 Question Id : 7225444822 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The eccentricity of an equilateral hyperbola is

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Options :

1. ✖ 1

2. ✔ $\sqrt{2}$

3. ✖ 3

4. ✖ $\sqrt{3}$

Question Number : 22 Question Id : 7225444823 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The eccentricity of the hyperbola $36x^2 - 25y^2 = 900$ is

Options :

1. ✔ $\frac{\sqrt{61}}{5}$

2. ✖ $\frac{9}{2}$

3. ✖ $\frac{3}{2}$

4. ✖ $\frac{5}{2}$

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Question Number : 23 Question Id : 7225444824 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The equation of tangent to parabola $y^2 = 16x$ at an end point of latus rectum is

Options :

1. ✗ $2x - 3y - 4 = 0$

2. ✗ $2x + 2y + 4 = 0$

3. ✓ $x - y + 4 = 0$

4. ✗ $x - y - 4 = 0$

Question Number : 24 Question Id : 7225444825 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $y = 4x + k$ is a tangent to the hyperbola $\frac{x^2}{64} - \frac{y^2}{49} = 1$ then the value of k is

Options :

1. ✗ $\pm\sqrt{775}$

2. ✗ $\pm\sqrt{995}$

3. ✗ $\pm\sqrt{275}$

4. ✓ $\pm\sqrt{975}$

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Question Number : 25 Question Id : 7225444826 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the line $2x + \sqrt{6}\,y = 2$ touches the hyperbola $x^2 - 2y^2 = 4$ then the point of contact is

Options :

1. ✖ $(4, \sqrt{6})$

2. ✔ $(4, -\sqrt{6})$

3. ✖ $(-4,6)$

4. ✖ $(5,7)$

Question Number : 26 Question Id : 7225444827 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $\lim_{x\to 2}\left(\frac{x^3-3x-2}{2x^2-5x+2}\right)$ is

Options :

1. ✖ $\frac{1}{3}$

2. ✔ 3

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3. ✗ $\frac{1}{5}$

4. ✗ $\frac{1}{2}$

Question Number : 27 Question Id : 7225444828 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $2x^2 - 3xy + 4y^2 = 1$ then $\frac{dy}{dx} =$

Options :

1. ✓ $\frac{4x-3y}{3x-8y}$

2. ✗ $\frac{4x-7y}{3x-8y}$

3. ✗ $\frac{4x-3y}{3x+8y}$

4. ✗ $\frac{4x-3y}{3x-18y}$

Question Number : 28 Question Id : 7225444829 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $x = a\sin^2 t$ and $y = a\cos^2 t$ then $\frac{dy}{dx} =$

Options :

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1. ✖ -2

2. ✖ $\tan t$

3. ✖ $\sin t$

4. ✔ -1

Question Number : 29 Question Id : 7225444830 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The curve $xy^2 = 16$ at the point where the ordinate is -2 then the equation of tangent is

Options :

1. ✖ $x + 4y - 12 = 0$

2. ✖ $2x - 4y - 12 = 0$

3. ✔ $x - 4y - 12 = 0$

4. ✖ $x - 5y - 12 = 0$

Question Number : 30 Question Id : 7225444831 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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The equation of the normal to the curve $y^2 = \frac{x^3}{2a-x}$ at the point (a, a) is

Options :

1. ✓ $x + 2y = 3a$

2. ✗ $x - 2y = 4a$

3. ✗ $2x + y = 2a$

4. ✗ $3x - 4y = 5a$

Question Number : 31 Question Id : 7225444832 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The angle between the curves $xy = 2$ and $y^2 = 4x$ is

Options :

1. ✗ $-\tan^{-1}(3)$

2. ✓ $\tan^{-1}(3)$

3. ✗ $\sin^{-1}(3)$

4. ✗ $\cos^{-1}(3)$

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Question Number : 32 Question Id : 7225444833 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The maximum value of xe^{-x} is

Options :

1. ✔ $\frac{1}{e}$

2. ✖ $-\frac{1}{e}$

3. ✖ $2e$

4. ✖ e

Question Number : 33 Question Id : 7225444834 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The height of the right circular cylinder of greatest volume which is inscribed in a sphere of radius a is

Options :

1. ✖ $\frac{-2a}{7}$

2. ✖ $-\frac{a}{2}$

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3. ✓ $\frac{2a}{\sqrt{3}}$

4. ✗ $\frac{1}{2}$

Question Number : 34 Question Id : 7225444835 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The volume of a spherical ball is increasing at the rate of 4π cc/s, then the rate of increase of the radius, when the volume is $288\pi\ cc$ is

Options :

1. ✗ 36 cm/sec

2. ✗ 6 cm/sec

3. ✓ $\frac{1}{36} cm/sec$

4. ✗ $\frac{1}{6} cm/sec$

Question Number : 35 Question Id : 7225444836 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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If $z = e^{(ax+by)} f(ax-by)$ then $b\frac{\partial z}{\partial x} + a\frac{\partial z}{\partial y} =$

Options :

1. ✖ $-2abz$

2. ✖ $3abz$

3. ✔ 2abz

4. ✖ 5abz

Question Number : 36 Question Id : 7225444837 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $\int \frac{e^x - e^{-x}}{e^x + e^{-x}} dx$ is

Options :

1. ✖ $\log(e^{2x} - 1) - x + c$

2. ✖ $-\log(e^{2x} + 1) - x + c$

3. ✖ $\log(e^{2x} + 7) - x + c$

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4. ✔ $log(e^{2x}+1)-x+c$

Question Number : 37 Question Id : 7225444838 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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

Options :

1. ✘ $-\frac{1}{2}\sinh^{-1}(x-1)+c$

2. ✘ $\frac{1}{2}\sinh^{-1}(2x+1)+c$

3. ✔ $\frac{1}{2}\sinh^{-1}(2x-1)+c$

4. ✘ $\frac{1}{2}\sinh^{-1}(3x-1)+c$

Question Number : 38 Question Id : 7225444839 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $\int logx\,dx$ is

Options :

1. ✘ $logx-x+c$

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2. ✓ $xlogx - x + c$

3. ✗ $2xlogx + x + c$

4. ✗ $-xlogx + x + c$

Question Number : 39 Question Id : 7225444840 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $\int_0^{\pi/4} \sqrt{1 + sin2x}\, dx$ is

Options :

1. ✓ 1

2. ✗ 2

3. ✗ -1

4. ✗ π

Question Number : 40 Question Id : 7225444841 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The area enclosed between the curves $y^2 = 4x$ and $x^2 = 4y$ is

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Options :

1. ✓ $\frac{16}{3}$ square units

2. ✗ $\frac{5}{2}$ square units

3. ✗ $\frac{3}{2}$ square units

4. ✗ $\frac{9}{2}$ square units

Question Number : 41 Question Id : 7225444842 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The mean value of $\frac{1}{4+x^2}$ on $[-2,2]$ is

Options :

1. ✗ $\frac{\pi}{12}$

2. ✗ $-\frac{\pi}{2}$

3. ✗ $\frac{\pi}{2}$

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4. ✓ $\frac{\pi}{4}$

Question Number : 42 Question Id : 7225444843 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $\int \frac{1}{1+4x^2}\,dx$ on R is

Options :

1. ✗ $-\frac{1}{2}tan^{-1}(2x)+c$

2. ✗ $\frac{1}{2}tan^{-1}(5x)+c$

3. ✗ $-\frac{1}{2}tan^{-1}(x)+c$

4. ✓ $\frac{1}{2}tan^{-1}(2x)+c$

Question Number : 43 Question Id : 7225444844 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of $\int_0^1 \frac{x\sin^{-1}x}{\sqrt{1-x^2}}\,dx$ is

Options :

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1. ✖ -1

2. ✖ 0

3. ✔ 1

4. ✖ 5

Question Number : 44 Question Id : 7225444845 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The order and degree of the differential equation $\left(\frac{dy}{dx}\right)^2 + 3\left(\frac{dy}{dx}\right) + 2 = 0$ is

Options :

1. ✖ Order=2, degree=2

2. ✖ Order=2, degree=1

3. ✔ order = 1, degree = 2

4. ✖ Order=3, degree=1

Question Number : 45 Question Id : 7225444846 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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The general solution of the differential equation $\frac{dy}{dx} + ycotx = 4xcosecx$ is

Options :

1. ✖ $ycosx = 2x^2+c$

2. ✔ $ysinx = 2x^2+c$

3. ✖ $ysinx = -2x^2+c$

4. ✖ $ysinx = 3x^2+c$

Question Number : 46 Question Id : 7225444847 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The general solution of the linear differential equation $\frac{dy}{dx} - \frac{y}{x+1} = e^{3x}(x+1)$ is

Options :

1. ✖ $y/\sin x = -\frac{e^{4x}}{4} + c$

2. ✔ $\frac{y}{x+1} = \frac{e^{3x}}{3} + c$

3. ✖ $y\,e^{3x}\,x = -\frac{\cos 2x}{4} + ce^{3x}$

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4. ✖ $y \sin x = \frac{e^{3x}}{4} + c$

Question Number : 47 Question Id : 7225444848 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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

Options :

1. ✖ $-\frac{e^x}{6}$

2. ✖ $\frac{e^x}{16}$

3. ✖ $\frac{e^x}{9}$

4. ✔ $\frac{e^x}{6}$

Question Number : 48 Question Id : 7225444849 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The particular integral for the differential equation $(D^2 + 4D + 3)y = sin3x$ is

Options :

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1. ✖ $sinx + 3cos2x$

2. ✖ $cos3x - 2sin4x$

3. ✖ $\frac{2}{30}(2cos2x + sinx)$

4. ✔ $\frac{-1}{30}(2cos3x + sin3x)$

Question Number : 49 Question Id : 7225444850 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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

Options :

1. ✔ $\frac{1}{xy} = -x + c$

2. ✖ $\frac{-1}{xy} = -x + c$

3. ✖ $\frac{2}{xy} = x + c$

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4. ✗ $\frac{1}{y} = -x + c$

Question Number : 50 Question Id : 7225444851 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The general solution of the differential equation $(2x + y + 1)dx + (x + 2y + 1)dy = 0$ is

Options :

1. ✗ $x^2 + xy + 3y^2 + 2x + y = c$

2. ✓ $x^2 + xy + y^2 + x + y = c$

3. ✗ $2x^2 + xy + 2y^2 + x + y = c$

4. ✗ $x^2 - xy + 2y^2 + x + y = c$

Physics

Section Id :	72254497
Section Number :	2
Mandatory or Optional :	Mandatory
Number of Questions :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes

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Maximum Instruction Time : 0

Question Number : 51 Question Id : 7225444852 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The dimensions of permeability is

Options :

1. ✓ $MLT^{-2}A^{-2}$

2. ✗ $MLT^{-1}A^{-2}$

3. ✗ $MLT^{-2}A^{-1}$

4. ✗ $MLT^{-1}A^{-1}$

Question Number : 52 Question Id : 7225444853 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If velocity (V), force (F) and energy (E) are taken as fundamental units, then dimensional formula for mass will be

Options :

1. ✗ V^0FE^2

2. ✗ $VF^{-2}E^0$

3. ✗ $V^{-2}F^0E$

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4. ✔ $V^{-2}F^{0}E$

Question Number : 53 Question Id : 7225444854 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Vector A extends from the origin to a point having polar coordinates $(7, 70^0)$ and vector B extends from the origin to a point having polar coordinates $(4, 130^0)$. Find A • B

Options :

1. ✖ 28

2. ✔ 14

3. ✖ 0

4. ✖ 7

Question Number : 54 Question Id : 7225444855 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If two vectors $2\hat{\imath} + 3\hat{\jmath} - \hat{k}$ and $-4\hat{\imath} - 6\hat{\jmath} - \lambda\hat{k}$ are parallel to each other then value of λ be

Options :

1. ✖ 2

2. ✔ 4

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3. ✖ 0

4. ✖ 6

Question Number : 55 Question Id : 7225444856 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The coefficient of static friction between contact surfaces of two bodies is 1. The contact surface of one body supports the other till the inclination is less than

Options :

1. ✖ 30^0

2. ✔ 45^0

3. ✖ 60^0

4. ✖ 90^0

Question Number : 56 Question Id : 7225444857 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A smooth block is released from rest on a 45^0 inclined plane and it slides a distance 'd'. The time taken to slide is 'n' times that on a smooth inclined plane. The coefficient of friction is

Options :

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1. ✔ $\mu_k = 1 - \frac{1}{n^2}$

2. ✖ $\mu_k = \sqrt{1 - \frac{1}{n^2}}$

3. ✖ $\mu_k = \frac{1}{1-n^2}$

4. ✖ $\mu_k = \sqrt{\frac{1}{1-n^2}}$

Question Number : 57 Question Id : 7225444858 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A body is projected at an angle other than 90^0 with the horizontal with some velocity. If the time of ascent of the body is 1second, then the maximum height it can reach is (Take g=10ms^{-2})

Options :

1. ✔ 5 m

2. ✖ 10 m

3. ✖ 2.5 m

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4. ✖ 75 m

Question Number : 58 Question Id : 7225444859 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A bullet fired from a gun falls at a distance half of its maximum range. The angle of projection of the bullet is

Options :

1. ✖ 45^0

2. ✖ 60^0

3. ✖ 30^0

4. ✔ 15^0

Question Number : 59 Question Id : 7225444860 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A body is thrown vertically upwards with a velocity. Select the incorrect statements from the following

I. Both velocity and acceleration are zero at its highest point.

II. Velocity is maximum and acceleration is zero at the highest point

III. Velocity is maximum and acceleration is 'g' downwards at its highest point

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Options :

1. ✓ I,II and III

2. ✗ II and III

3. ✗ I and II

4. ✗ I and III

Question Number : 60 Question Id : 7225444861 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A person standing on a tower of height 60 m throws an object upwards with velocity of 40 m/s at an angle 30^0 to the horizontal. Find the total time taken by the object to gain maximum height and fall on the ground (take g= 10 m/s^2).

Options :

1. ✗ 3 s

2. ✗ 20 s

3. ✓ 6 s

4. ✗ 16 s

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Question Number : 61 Question Id : 7225444862 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A bucket full of water is drawn up by a person. In this case the work done by the gravitational force is

Options :

1. ✓ Negative because the force and displacement are in opposite directions

2. ✗ Positive because the force and displacement are in the same direction

3. ✗ Negative because the force and displacement are the same direction

4. ✗ Positive because the force and displacement are in opposite direction

Question Number : 62 Question Id : 7225444863 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When a long spring is stretched by x cm, its potential energy is U. If the spring is stretched by Nx cm, the potential energy stored in it will be

Options :

1. ✗ U/N

2. ✗ NU

3. ✓ N^2U

4. ✗ U/N^2

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Question Number : 63 Question Id : 7225444864 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a non-renewable source of energy?

Options :

1. ✔ Coal

2. ✖ Solar

3. ✖ Geothermal

4. ✖ Tidal

Question Number : 64 Question Id : 7225444865 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If a class room has dimensions 20x15x5 m^3 and reverberation time 1.5 sec, the total absorption of all surfaces and the average absorption coefficient will be

Options :

1. ✖ 0.7 and 69

2. ✔ 69 and 0.07

3. ✖ 6.9 and 0.7

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4. ✗ 0.69 and 0.7

Question Number : 65 Question Id : 7225444866 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A source of sound of frequency 450 cycles/sec is stationary but an observer is moving towards the source with 34 m/sec speed. If the speed of sound is 340 m/sec, the apparent frequency will be

Options :

1. ✗ 410 cycles/sec

2. ✗ 500 cycles/sec

3. ✗ 550 cycles/sec

4. ✓ 495 cycles/sec

Question Number : 66 Question Id : 7225444867 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A simple pendulum has a time period T in vacuum. Its time period when it is completely immersed in a liquid of density one-eighth of the density of material of the bob is

Options :

1. ✗ $\sqrt{\frac{7}{8}}T$

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2. ✖ $\sqrt{\frac{5}{8}}T$

3. ✖ $\sqrt{\frac{3}{8}}T$

4. ✔ $\sqrt{\frac{8}{7}}T$

Question Number : 67 Question Id : 7225444868 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A particle executes simple harmonic motion represented by displacement function as $x(t) = A \sin(\omega t + \phi)$. If the position and velocity of the particle at $t = 0$ s are 2 cm and 2ω cm s^{-1} respectively, then its amplitude is $x\sqrt{2}$ cm where the value of x is

Options :

1. ✔ 2

2. ✖ $2\sqrt{2}$

3. ✖ 4

4. ✖ 1

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Question Number : 68 Question Id : 7225444869 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

An observer standing between two parallel cliffs emits an intense sound note. If two successive echoes are heard after 5 s and 7 s, then distance between the cliffs is (velocity of sound is 340 m/s)

Options :

1. ✗ 850 m

2. ✗ 1190 m

3. ✓ 2040 m

4. ✗ 340 m

Question Number : 69 Question Id : 7225444870 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

M grams of steam at 100°C is mixed with 200 g of ice at its melting point in a thermally insulated container. If it produced liquid water at 40°C [heat of vaporization of water is 540 cal/g and heat of fusion of ice is 80 cal/g] the value of M is

Options :

1. ✗ 20

2. ✗ 80

3. ✓ 40

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4. ✖ 10

Question Number : 70 Question Id : 7225444871 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which type of ideal gas will have the largest value for $C_p - C_v$?

Options :

1. ✖ Polyatomic

2. ✖ Diatomic

3. ✖ Monoatomic

4. ✔ The value will be the same for all

Question Number : 71 Question Id : 7225444872 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In thermodynamics, heat and work are

Options :

1. ✔ Path functions

2. ✖ Intensive thermodynamic state variables

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3. ✖ Extensive thermodynamic state variables

4. ✖ Point functions

Question Number : 72 Question Id : 7225444873 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For an adiabatic expansion of an ideal gas, the fractional change in its pressure is equal to (where γ is the ratio of specific heats):

Options :

1. ✖ $-\gamma\frac{V}{dV}$

2. ✔ $-\gamma\frac{dV}{V}$

3. ✖ $-\frac{1}{\gamma}\frac{V}{dV}$

4. ✖ $-\frac{1}{\gamma}\frac{dV}{V}$

Question Number : 73 Question Id : 7225444874 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following processes must violate the first law of thermodynamics?

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Options :

1. ✓ $W > 0, Q > 0,$ and $\Delta E_{int} < 0$

2. ✗ $W > 0, Q < 0,$ and $\Delta E_{int} > 0$

3. ✗ $W < 0, Q > 0,$ and $\Delta E_{int} < 0$

4. ✗ $W > 0, Q < 0,$ and $\Delta E_{int} = 0$

Question Number : 74 Question Id : 7225444875 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The critical angle for total internal reflection is maximum for

Options :

1. ✗ Red light

2. ✗ Blue light

3. ✗ Ultraviolet rays

4. ✓ Infrared rays

Question Number : 75 Question Id : 7225444876 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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Photon of frequency (f) has a momentum (p) associated with it. If c is the velocity of light, the momentum is

Options :

1. ✓ hf/c

2. ✗ f/c

3. ✗ hfc

4. ✗ hf/c^2

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Chemistry

Section Id :	72254498
Section Number :	3
Mandatory or Optional :	Mandatory
Number of Questions :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Question Number : 76 Question Id : 7225444877 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Bohr's theory can be applied to which of the following ions?

Options :

1. ✗ Na^+

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2. ✗ Be^{2+}

3. ✗ Li^{+}

4. ✓ Li^{2+}

Question Number : 77 Question Id : 7225444878 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the correct orbital designation of an electron with the quantum number , n=4, l=3, m=2, s=1/2?

Options :

1. ✗ 3d

2. ✓ 4f

3. ✗ 5p

4. ✗ 6s

Question Number : 78 Question Id : 7225444879 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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The Two electrons present in an orbital are distinguished by

Options :

1. ✖ Principal Quantum number

2. ✖ Azimuthal Quantum number

3. ✖ Magnetic Quantum number

4. ✔ Spin Quantum number

Question Number : 79 Question Id : 7225444880 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Favorable conditions for the formation of an ionic bond are

Options :

1. ✖ Small cation, large anion, high charge on both the ions.

2. ✔ Large cation, small anion, low charge on both the ions

3. ✖ Large cation, large anion, high charge on both the ions.

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Small cation, small anion, high charge on both the ions

4. ✖

Question Number : 80 Question Id : 7225444881 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The maximum covalent character is observed in

Options :

1. ✖ LiCl

2. ✖ $BeCl_2$

3. ✖ LiF

4. ✔ $BeBr_2$

Question Number : 81 Question Id : 7225444882 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a reaction of H_2SO_4 with NaOH, $NaHSO_4$ is formed. Equivalent weight of H_2SO_4 is

Options :

1. ✖ 49 grams

2. ✔ 98 grams

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3. ✖ 98 amu

4. ✖ 49 amu

Question Number : 82 Question Id : 7225444883 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If 5.85 grams of NaCl are dissolved in water and the solution is made up to 0.5 litre, the molarity of solution will be:

Options :

1. ✔ 0.2

2. ✖ 0.4

3. ✖ 1.0

4. ✖ 0.1

Question Number : 83 Question Id : 7225444884 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The solution of Mercury with other metals is called

Options :

1. ✖ Saturated solutions

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2. ✗ Unsaturated solutions

3. ✓ Amalgam

4. ✗ Supersaturated solutions.

Question Number : 84 Question Id : 7225444885 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A strong acid has a

Options :

1. ✗ Weak conjugate acid

2. ✓ Weak conjugate base

3. ✗ Strong conjugate base

4. ✗ Strong conjugate acid

Question Number : 85 Question Id : 7225444886 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Electron pair donor is

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Options :

1. ✗ Lowry- Bronsted base

2. ✗ Lowry- Bronsted acid

3. ✗ Lewis acid

4. ✓ Lewis base

Question Number : 86 Question Id : 7225444887 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The poor conductor of the electricity among the following is:

Options :

1. ✗ Copper

2. ✗ Aluminium

3. ✗ Silver

4. ✓ Pure water

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Question Number : 87 Question Id : 7225444888 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The amount of electricity that can deposit 108 g of silver from $AgNO_3$ solution is

Options :

1. ✖ 1 ampere

2. ✖ 1 coulomb

3. ✔ 1 faraday

4. ✖ 1 siemen

Question Number : 88 Question Id : 7225444889 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is false regarding galvanic cells?

Options :

1. ✖ It converts chemical energy into electrical energy

2. ✖ The electrolytes taken in the two beakers are different

3. ✔ The reactions taking place are non-spontaneous

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4. ✖ To set up this cell, a salt bridge is required

Question Number : 89 Question Id : 7225444890 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the standard reduction potential of cathode of a galvanic cell if the standard EMF of the cell and standard reduction potential of the anode are 2.71 volts and -2.37 volts respectively?

Options :

1. ✖ 0.68 volts

2. ✖ -0.68 volts

3. ✖ -0.34 volts

4. ✔ 0.34 volts.

Question Number : 90 Question Id : 7225444891 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Hardness of water is conventionally expressed in terms of equivalent amount of

Options :

1. ✖ $MgCO_3$

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2. ✓ $CaCO_3$

3. ✗ Na_2CO_3

4. ✗ K_2CO_3

Question Number : 91 Question Id : 7225444892 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Zero hardness of water is achieved by

Options :

1. ✗ Using Lime soda process

2. ✗ Excess lime treatment

3. ✗ Using excess alum dosage

4. ✓ Ion-Exchange method

Question Number : 92 Question Id : 7225444893 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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What is the hardness of water in terms of $CaCO_3$ equivalent if water contains 27.6 mg/L of $MgSO_4$

Options :

1. ✔ 23 mg/L

2. ✖ 2.3 mg/L

3. ✖ 28 mg/L

4. ✖ 12 mg/L

Question Number : 93 Question Id : 7225444894 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Electrochemical corrosion in acidic environment is carried with

Options :

1. ✖ Evolution of oxygen

2. ✖ Absorption of oxygen

3. ✔ Evolution of hydrogen

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4. ✖ Absorption of hydrogen

Question Number : 94 Question Id : 7225444895 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following metal oxide film is protective from corrosion?

Options :

1. ✖ Porous

2. ✔ Non- porous

3. ✖ Volatile

4. ✖ Unstable

Question Number : 95 Question Id : 7225444896 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is thermosetting plastic?

Options :

1. ✖ PVC

2. ✖ Teflon

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3. ✖ Polystyrene

4. ✔ Bakelite

Question Number : 96 Question Id : 7225444897 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Ebonite is

Options :

1. ✔ highly vulcanized rubber

2. ✖ PVC

3. ✖ Synthetic rubber

4. ✖ polystyrene

Question Number : 97 Question Id : 7225444898 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Buna-S rubber is made up of the monomers of

Options :

1. ✖ 1,3 butadiene and acrylonitrile

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2. ✔ 1,3 butadiene and styrene

3. ✖ 1,3 butadiene and formaldehyde

4. ✖ 1,3 butadiene and phenol

Question Number : 98 Question Id : 7225444899 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Composition of water gas is

Options :

1. ✖ $CO + N_2$

2. ✖ $CO + CH_4$

3. ✔ $CO + H_2$

4. ✖ $CH_4 + N_2$

Question Number : 99 Question Id : 7225444900 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not a green house gas

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Options :

1. ✓ Hydrogen

2. ✗ Carbon monoxide

3. ✗ Methane

4. ✗ Nitrous oxide

Question Number : 100 Question Id : 7225444901 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Photochemical smog is due to the presence of

Options :

1. ✗ Oxide of carbon

2. ✗ Lead

3. ✗ Oxide of sulphur

4. ✓ Oxide of nitrogen

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Computer Science and Engineering

Section Id :	72254499
Section Number :	4
Mandatory or Optional :	Mandatory
Number of Questions :	100
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Question Number : 101 Question Id : 7225444902 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

$(1E.42)_{16} = (?)_8$

Options :

1. ✔ 36.204

2. ✘ 36.202

3. ✘ 74.204

4. ✘ 74.202

Question Number : 102 Question Id : 7225444903 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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Which logic gates among the below options can be used to create any Boolean function economically?

Options :

1. ✖ XOR, NAND, OR

2. ✖ OR, NOT, XOR

3. ✖ NOR, NAND, XOR

4. ✔ NOR, NAND

Question Number : 103 Question Id : 7225444904 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

101001 - 010110 =?

Options :

1. ✖ 100110

2. ✔ 010011

3. ✖ 010010

4. ✖ 011001

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Question Number : 104 Question Id : 7225444905 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

DeMorgan's theorem states that

Options :

1. ✖ $\overline{(A+B)} = \bar{A}.\bar{B}$ and $\overline{(A.B)} = \bar{A}.\bar{B}$

2. ✖ $\overline{(A+B)} = \bar{A}+\bar{B}$ and $\overline{(A.B)} = \bar{A}.\bar{B}$

3. ✔ $\overline{(A+B)} = \bar{A}.\bar{B}$ and $\overline{(A.B)} = \bar{A}+\bar{B}$

4. ✖ $\overline{(A+B)} = \bar{A}+\bar{B}$ and $\overline{(A.B)} = \bar{A}+\bar{B}$

Question Number : 105 Question Id : 7225444906 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When will JK flip flop toggle the input?

Options :

1. ✖ $J = 0, K = 0$

2. ✖ $J = 0, K = 1$

3. ✖ $J = 1, K = 0$

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4. ✔ J = 1, K = 1

Question Number : 106 Question Id : 7225444907 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the total number of transistors fabricated on a single chip is in the range of 300 to 3000, which integrated circuit do you prefer?

Options :

1. ✖ VLSI

2. ✖ SSI

3. ✔ LSI

4. ✖ MSI

Question Number : 107 Question Id : 7225444908 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The binary equivalent of 0.6875 is --------

Options :

1. ✔ 0.1011

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2. ✗ 0.0101

3. ✗ 0.1001

4. ✗ 0.0011

Question Number : 108 Question Id : 7225444909 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which is the DeMorgan's gate equivalent to OR?

Options :

1. ✗ Negative NOR

2. ✓ Negative NAND

3. ✗ Negative AND

4. ✗ Negative OR

Question Number : 109 Question Id : 7225444910 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are the data width and address widths of 8086 microprocessor?

Options :

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1. ✖ 12,16

2. ✖ 16,18

3. ✔ 16,20

4. ✖ 18,20

Question Number : 110 Question Id : 7225444911 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How many valid flag bits there in the flag register of 8086 microprocessor?

Options :

1. ✔ 9

2. ✖ 10

3. ✖ 12

4. ✖ 16

Question Number : 111 Question Id : 7225444912 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Who decides the starting address of the segment in physical memory?

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Options :

1. ✗ Segment descriptor

2. ✓ Operating system

3. ✗ Base address

4. ✗ Local descriptor

Question Number : 112 Question Id : 7225444913 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The communication line between CPU, memory and peripherals is called a

Options :

1. ✓ Bus

2. ✗ Line

3. ✗ Media

4. ✗ Hotline

Question Number : 113 Question Id : 7225444914 Display Question Number : Yes Is Question Mandatory : No Calculator : None

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Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following mapping is not used for mapping process in cache memory?

Options :

1. ✗ Associative mapping

2. ✗ Direct mapping

3. ✗ Set-Associative mapping

4. ✓ Segmented – page mapping

Question Number : 114 Question Id : 7225444915 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the false statement among the following.

Options :

1. ✓ The program counter holds the memory address of the instruction in execution

2. ✗ An instruction in the instruction register consists of the opcode and the operand

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3. ✗ The value of the program counter is incremented by 1 once its value has been read to the memory address register

4. ✗ Only opcode is transferred to the control unit

Question Number : 115 Question Id : 7225444916 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following stores the *operand* during execution and result of the *operation* after execution?

Options :

1. ✗ Flag register

2. ✗ Stack register

3. ✓ Accumulator

4. ✗ General purpose register

Question Number : 116 Question Id : 7225444917 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A stack pointer is

Options :

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1. ✓ a 16-bit register in the microprocessor that indicate the beginning of the stack memory.

2. ✗ a register that decodes and executes 16-bit arithmetic expression.

3. ✗ The first memory location where a subroutine address is stored.

4. ✗ a register in which flag bits are stored

Question Number : 117 Question Id : 7225444918 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The CMP instruction that compares the source and destination operands performs -------- operation.

Options :

1. ✗ Addition

2. ✓ Subtraction

3. ✗ Multiplication

4. ✗ Division

Question Number : 118 Question Id : 7225444919 Display Question Number : Yes Is Question Mandatory : No Calculator : None

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Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A machine in which the least significant byte (LSB) is stored in the lowest location is _____

Options :

1. ✖ Big endian

2. ✔ Little endian

3. ✖ Bi endian

4. ✖ Both Big endian and Little endian

Question Number : 119 Question Id : 7225444920 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the maximum number of addresses needed in an instruction?

Options :

1. ✖ 0

2. ✖ 1

3. ✖ 2

4. ✔ 3

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Question Number : 120 Question Id : 7225444921 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Using 2's complement notation, what is the result of 11000 + 11100

Options :

1. ✓ 10100

2. ✗ 110100

3. ✗ 11100

4. ✗ 011100

Question Number : 121 Question Id : 7225444922 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which option should be selected to work the following C expression?
string p = "HELLO";

Options :

1. ✗
```
typedef char [] string;
```

2. ✓
```
typedef char *string;
```


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3. ✗ typedef char [] string; and typedef char *string;

4. ✗ Such expression cannot be generated in C

Question Number : 122 Question Id : 7225444923 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given the following binary number in 32-bit (single precision) IEEE-754 format: 00111110 01101101 00000000 00000000, its approximate decimal value is ---

Options :

1. ✗ 23.1

2. ✓ 0.231

3. ✗ 0.145

4. ✗ 14.5

Question Number : 123 Question Id : 7225444924 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which register among the following can interact with the secondary storage?

Options :

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1. ✗ PC

2. ✓ MAR

3. ✗ MDR

4. ✗ IR

Question Number : 124 Question Id : 7225444925 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Assume that you are editing a file named prime.c. Where will it be among the following?

Options :

1. ✗ ROM

2. ✗ CPU

3. ✓ RAM

4. ✗ Flash memory

Question Number : 125 Question Id : 7225444926 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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Who monitors the execution of instructions?

Options :

1. ✖ Accumulator

2. ✖ Address Register

3. ✔ Program Counter

4. ✖ Index Register

Question Number : 126 Question Id : 7225444927 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the function of the control unit in the CPU?

Options :

1. ✖ It stores program instruction

2. ✔ It decodes program instruction

3. ✖ It performs logic operations

4. ✖ It reads program instruction

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Question Number : 127 Question Id : 7225444928 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When data is not found in Cache memory, it is called ----------

Options :

1. ✖ Not Found

2. ✖ Not Available

3. ✖ Hit

4. ✔ Miss

Question Number : 128 Question Id : 7225444929 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Where is the return address from an interrupt-service routine stored?

Options :

1. ✖ Heap

2. ✔ Stack

3. ✖ Queue

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4. ✖ Program counter

Question Number : 129 Question Id : 7225444930 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the output of the C program?

```
#include<stdio.h>
int main()
{
printf("main");
main();
        return 0;
}
```

Options :

1. ✖ Compiler error

2. ✖ main

3. ✔ mainmainmainmainmainmainmainmainmainmain… (Prints until stack overflow)

4. ✖ Runtime error

Question Number : 130 Question Id : 7225444931 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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What is the output of the C program?

```
#include<stdio.h>
int main()
{
        int v=5;
        v = !v>6;
printf("%d",v);
}
```

Options :

1. ✔ 0

2. ✖ 1

3. ✖ 5

4. ✖ 6

Question Number : 131 Question Id : 7225444932 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Linked lists are not suitable for the implementation of

Options :

1. ✖ Insertion sort

2. ✖ Radix sort

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3. ✓ Binary search

4. ✗ Polynomial manipulation

Question Number : 132 Question Id : 7225444933 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let A be an array. How do you access the 3rd element using pointers?

Options :

1. ✗ *A+2

2. ✗ *(*A+2)

3. ✗ &(A+2)

4. ✓ *(A+2)

Question Number : 133 Question Id : 7225444934 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the disadvantage of array data structure?

Options :

1. ✓ Static memory allocation

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2. ✖ Dynamic memory allocation

3. ✖ Accessing elements in constant time

4. ✖ Index starting at 0

Question Number : 134 Question Id : 7225444935 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When a pop() operation is called on an empty queue, what is the condition called?

Options :

1. ✖ Overflow

2. ✔ Underflow

3. ✖ Syntax Error

4. ✖ Garbage value

Question Number : 135 Question Id : 7225444936 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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What is a complete binary tree?

Options :

1. ✗ Each node has exactly zero or two children

2. ✗ A tree in which all nodes have degree 2

3. ✓ A binary tree, which is completely filled, with the possible exception of the bottom level, which is filled from left to right

4. ✗ A binary tree, which is completely filled, with the possible exception of the bottom level, which is filled from right to left

Question Number : 136 Question Id : 7225444937 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If theheight of a tree with single node is considered as 1, What is the maximum number of nodes in a binary tree of height 5?

Options :

1. ✓ 31

2. ✗ 7

3. ✗ 13

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4. ✗ 15

Question Number : 137 Question Id : 7225444938 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the drawback of a Linked List?

Options :

1. ✓ Random access is not possible in a linked list

2. ✗ Memory is not wasted as no pre-allocation is done

3. ✗ Insertion operation complexity

4. ✗ Deletion operation complexity

Question Number : 138 Question Id : 7225444939 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which sorting algorithm has the worst-case time complexity of $O(n^2)$ while other cases time complexities are much better than the worst case?

Options :

1. ✓ Quick sort

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2. ✖ Merge sort

3. ✖ Insertion sort

4. ✖ Selection sort

Question Number : 139 Question Id : 7225444940 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which address identifies a process on a host?

Options :

1. ✖ physical

2. ✖ logical

3. ✔ port

4. ✖ MAC

Question Number : 140 Question Id : 7225444941 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which layer takes care of compression and encryption?

Options :

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1. ✖ Application

2. ✔ Presentation

3. ✖ Session

4. ✖ Network

Question Number : 141 Question Id : 7225444942 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In which topology the network consists of direct link between two computers?

Options :

1. ✖ Bus

2. ✖ Ring

3. ✖ Star

4. ✔ P2P

Question Number : 142 Question Id : 7225444943 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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If n devices are connected by mesh topology that uses simplex connections, then how many cables or lines are required?

Options :

1. ✖ n

2. ✖ $n-1$

3. ✔ $n(n-1)$

4. ✖ $\frac{n(n-1)}{2}$

Question Number : 143 Question Id : 7225444944 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which topology has minimal traffic?

Options :

1. ✔ Mesh

2. ✖ Ring

3. ✖ Bus

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4. ✖ Star

Question Number : 144 Question Id : 7225444945 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Two hosts are 10,000 km apart and they are connected by single direct link of bandwidth 10^6 bits per second. What is the propagation time if the propagation speed along the link is 2×10^8 m/sec?

Options :

1. ✔ 50 milli sec

2. ✖ 100 milli sec

3. ✖ 200 milli sec

4. ✖ 400 milli sec

Question Number : 145 Question Id : 7225444946 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the class of the IP address 172.50.4.12?

Options :

1. ✖ Class D

2. ✖ Class C

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3. ✓ Class B

4. ✗ Class A

Question Number : 146 Question Id : 7225444947 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The network address of 172.16.0.0/19 provides how many subnets and hosts?

Options :

1. ✗ 7 subnets, each having 30 hosts

2. ✓ 8 subnets, each having 8190 hosts

3. ✗ 8 subnets, each having 2046 hosts

4. ✗ 7 subnets, each having 2046 hosts

Question Number : 147 Question Id : 7225444948 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which protocol is used for sending emails, and, receiving emails respectively?

Options :

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1. ✗ POP3, SMTP

2. ✗ IMAP, POP3

3. ✓ SMTP, POP3

4. ✗ IMAP, SMTP

Question Number : 148 Question Id : 7225444949 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider the below 4 actions in a network. What is the order in which these actions should be executed for communication between a web browser and a web server?

1. The web browser requests a webpage using HTTP.
2. The web browser establishes a TCP connection with the web server.
3. The web server sends the requested webpage using HTTP.
4. The web browser resolves the domain name using DNS.

Options :

1. ✓ 4,2,1,3

2. ✗ 1,2,3,4

3. ✗ 4,1,2,3

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4. ✖ 2,4,1,3

Question Number : 149 Question Id : 7225444950 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The PCB of a process does not contain ----------

Options :

1. ✖ Contents of the CPU registers

2. ✔ Program Code

3. ✖ Program counter

4. ✖ Process state

Question Number : 150 Question Id : 7225444951 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which system call returns the process identifier of a terminated child?

Options :

1. ✔ wait

2. ✖ fork

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3. ✖ exit

4. ✖ close

Question Number : 151 Question Id : 7225444952 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which data structure is used for the ready queue?

Options :

1. ✖ Stack

2. ✖ Queue

3. ✔ Linked list

4. ✖ Tree

Question Number : 152 Question Id : 7225444953 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The list of processes waiting at an I/O device are in ----------

Options :

1. ✖ Ready queue

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2. ✖ Job queue

3. ✔ Device queue

4. ✖ Waiting queue

Question Number : 153 Question Id : 7225444954 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider the 3 processes shown in the table:

Process	Arrival time	Time units required
P1	0	5
P2	1	7
P3	5	4

The completion order of the 3 processes under the policies FCFS and Round Robin scheduling with CPU quantum of 2 time units is----------

Options :

1. ✖ FCFS: P1,P2,P3 RR: P1,P2,P3

2. ✔ FCFS: P1,P2,P3 RR: P1,P3,P2

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3. ✖ FCFS: P1,P3,P2 RR: P1,P2,P3

4. ✖ FCFS: P1,P3,P2 RR: P1,P3,P2

Question Number : 154 Question Id : 7225444955 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

There are 200 tracks on a disk platter and the pending requests have come in the order : 36, 69, 167, 76, 42, 51, 126, 12, and 199. Assume the arm is located at the 100th track and moving towards track 200. If the sequence of disc access is 126, 167, 199, 12, 36, 42, 51, 69, and 76 then which disc access scheduling policy is used?

Options :

1. ✖ SCAN

2. ✖ Shortest Seek Time First

3. ✔ C-SCAN

4. ✖ FCFS

Question Number : 155 Question Id : 7225444956 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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When the time slice of Round Robin scheduling is large, its behaviour is similar to---------

Options :

1. ✔ FCFS

2. ✖ Shortest job first

3. ✖ Priority scheduling

4. ✖ Shortest remaining time first

Question Number : 156 Question Id : 7225444957 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If a resource pre-emption is used to eliminate deadlock, the process holding it so far has to be ----------

Options :

1. ✖ Aborted

2. ✖ Queued

3. ✔ Rolled back

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4. ✗ Terminated

Question Number : 157 Question Id : 7225444958 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How to avoid starvation of processes?

Options :

1. ✓ Include aging in the priority scheme

2. ✗ Include the number of resources in resource pre-emption

3. ✗ Randomly select processes for resource allocation

4. ✗ Randomly select processes for CPU allocation

Question Number : 158 Question Id : 7225444959 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A virtual memory system has an address space of 8 k words, a memory space of 4 k words, and page and block sizes of 1 k words. Find the number of page faults using LRU policy, for following page references.
1 0 2 4 6 2 1 5 7 0 0

Options :

1. ✗ 5

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2. ✖ 7

3. ✔ 9

4. ✖ 10

Question Number : 159 Question Id : 7225444960 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which is true with reference to Working Set model for page replacement?

Options :

1. ✖ It refers to static page replacement algorithm

2. ✖ It refers to local page replacement algorithm

3. ✔ It dynamically provides frames for the process as per its needs

4. ✖ It increases thrashing

Question Number : 160 Question Id : 7225444961 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which is not an OS service?

Options :

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1. ✖ Program execution

2. ✔ Networking

3. ✖ Error detection

4. ✖ Security

Question Number : 161 Question Id : 7225444962 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given a relation as shown in the Table1. If $\{Name, Age\}$ has to be the key for this table, what value should not be used in place of X ?.

Table 1 Student Table

Roll no	Name	Email	Age	GPA
401	Ram	Ram@gmail.com	X	7.9
402	Gopi	Gopi@gmail.com	19	8.2
403	Ram	RamCSE@gmail.com	20	6.5
404	Gopi	GopiCSE@gmail.com	18	7.6
405	Ramani	Ramani@gmail.com	21	8.9

Options :

1. ✖ 18

2. ✖ 19

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3. ✓ 20

4. ✗ 21

Question Number : 162 Question Id : 7225444963 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider a relation $R(A, B, C, D, E, F)$ with the Functional Dependencies $F = \{\{A, C\} \rightarrow \{D, E\}, \{A, D, F\} \rightarrow \{B, C\}\}$. Which among the following is a trivial FD from F^+ which is the closure of F.

Options :

1. ✗ $\{A, C\} \rightarrow \{D, E\}$

2. ✗ $\{A, C\} \rightarrow \{C, E\}$

3. ✓ $\{A, D\} \rightarrow \{D\}$

4. ✗ $\{A, D, F\} \rightarrow \{B\}$

Question Number : 163 Question Id : 7225444964 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following conditions is satisfied in a 2NF table?

Options :

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1. ✓ Eliminate all partial dependencies

2. ✗ Eliminate the possibility of insertion anomalies

3. ✗ Have a composite key

4. ✗ Have all non-key fields depend on the whole primary key

Question Number : 164 Question Id : 7225444965 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The process of properly defining tables to provide flexibility, minimized redundancy and data integrity is called _____

Options :

1. ✗ Database Design

2. ✓ Data Normalization

3. ✗ Data Rationalization

4. ✗ Data Standardization

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Question Number : 165 Question Id : 7225444966 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which SQL query can be used to find out the number of values in a column?

Options :

1. ✗ TOTAL

2. ✗ SUM

3. ✓ COUNT

4. ✗ ADD

Question Number : 166 Question Id : 7225444967 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A relationship between two tables can be created using which of the following?

Options :

1. ✗ Primary Key

2. ✓ Foreign Key

3. ✗ Candidate Key

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4. ✖ Relation Key

Question Number : 167 Question Id : 7225444968 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A many to many relationship between two entities usually result in how many tables?

Options :

1. ✔ 3

2. ✖ 2

3. ✖ 1

4. ✖ 4

Question Number : 168 Question Id : 7225444969 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does Atomicity property signify?

Options :

1. ✖ A transaction always takes place

2. ✔ The entire transaction takes place at once or doesn't happen at all

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3. ✗ Only insertion takes place in a table

4. ✗ Once a transaction takes place, it's permanent

Question Number : 169 Question Id : 7225444970 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the output of the SQL statement:
SELECT SUBSTR('Hello World', 2, 3) FROM DUAL;

Options :

1. ✗ el

2. ✗ e

3. ✓ ell

4. ✗ Hello

Question Number : 170 Question Id : 7225444971 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following creates a virtual relation for storing the query?

Options :

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1. ✗ Function

2. ✓ View

3. ✗ Procedure

4. ✗ Join

Question Number : 171 Question Id : 7225444972 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wrapping data and its related functionality into a single entity is known as

Options :

1. ✗ Abstraction

2. ✓ Encapsulation

3. ✗ Polymorphism

4. ✗ Modularity

Question Number : 172 Question Id : 7225444973 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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Which of the following explains Polymorphism?

Options :

1. ✖ int func(int, int); float func1(float, float);

2. ✖ int func(int); int func(int);

3. ✔ int func(float); float func(int, int, char);

4. ✖ int func(int); float func(int);

Question Number : 173 Question Id : 7225444974 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following feature of OOPs is not used in the following C++ code?

```
class A{
   int i;
   public:
   void print() {cout<< "hello" << i;}
}
class B : public A{
   int j;
   public:
   void assign (int a ) {j = a;}
}
```

Options :

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1. ✗ Abstraction

2. ✗ Encapsulation

3. ✗ Inheritance

4. ✓ Polymorphism

Question Number : 174 Question Id : 7225444975 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In C++, whenever a class contains two constructors, the constructors are

Options :

1. ✗ default constructors

2. ✗ destructors

3. ✓ Overloaded

4. ✗ Static

Question Number : 175 Question Id : 7225444976 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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Which of the following is not a type of Constructor?

Options :

1. ✓ Friend constructor

2. ✗ Copy constructor

3. ✗ Default constructor

4. ✗ Parameterized constructor

Question Number : 176 Question Id : 7225444977 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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What is the output of the code below?

```
#include<iostream>
using namespace std;
class Point {
private:
        int x;
        int y;
public:
        Point(int i, int j); // Constructor
};

Point::Point(int i = 0, int j = 0) {
        x = i;
        y = j;
        cout<< "Constructor called";
}

int main()
{
Point t1, *t2;
return 0;
}
```

Options :

1. ✖ Constructor called Constructor called

2. ✔ Constructor called

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3. ✗ Garbage value

4. ✗ error

Question Number : 177 Question Id : 7225444978 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is correct?

Options :

1. ✗ Base class pointer object cannot point to a derived class object

2. ✓ Derived class pointer object cannot point to a base class object

3. ✗ A derived class cannot have pointer objects

4. ✗ A base class cannot have pointer objects

Question Number : 178 Question Id : 7225444979 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following cannot be a friend?

Options :

1. ✗ Function

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2. ✖ Class

3. ✔ Object

4. ✖ Operator function

Question Number : 179 Question Id : 7225444980 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How run-time polymorphisms are implemented in C++?

Options :

1. ✖ Using Inheritance

2. ✖ Using Virtual functions

3. ✖ Using Templates

4. ✔ Using Inheritance and Virtual functions

Question Number : 180 Question Id : 7225444981 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is an abstract data type?

Options :

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1. ✗ int

2. ✗ string

3. ✓ class

4. ✗ float

Question Number : 181 Question Id : 7225444982 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the output of the following code?

```
public class Solution{
    public static void main(String[] args){
            byte x = 127;
             x++;
             x++;
  System.out.print(x);
     }
}
```

Options :

1. ✓ -127

2. ✗ 2

3. ✗ 127

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4. ✗ 129

Question Number : 182 Question Id : 7225444983 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a correct way to declare arrays in java?

Options :

1. ✗ int [10]a = new int[];

2. ✗ int a[] = new int(10);

3. ✓ int []a = new int[10];

4. ✗ int a[] = new int{10};

Question Number : 183 Question Id : 7225444984 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When an array is passed to a method in Java, what does the method receive?

Options :

1. ✓ A reference to the array

2. ✗ The length of the array

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3. ✖ A copy of the array

4. ✖ A copy of the first element of the array

Question Number : 184 Question Id : 7225444985 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the output of the following code?

```
public class Solution{
    public static void main(String[] args){
            short x = 10;
            x = x * 5;
        System.out.print(x);
        }
}
```

Options :

1. ✖ 50

2. ✖ 0

3. ✖ Exception

4. ✔ Compiler error

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Question Number : 185 Question Id : 7225444986 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the keyword among the following that makes a variable belong to a class, rather than being defined for each instance of the class.

Options :

1. ✖ private

2. ✔ static

3. ✖ volatile

4. ✖ final

Question Number : 186 Question Id : 7225444987 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify what can directly access and change the value of the variable x.

```
Package com.mypackage;
Public class Solution{
    Private int x = 100;
}
```

Options :

1. ✖ Any class

2. ✖ Any child class of Solution class

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3. ✓ Any method of Solution class

4. ✗ Any class in the package com.mypackage

Question Number : 187 Question Id : 7225444988 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Where is the toString() method defined?

Options :

1. ✗ java.lang.String

2. ✓ java.lang.Object

3. ✗ java.util

4. ✗ java.lang.util

Question Number : 188 Question Id : 7225444989 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the output of the following program.

```
String str = "abcde";
System.out.println(str.substring(1, 3));
```

Options :

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1. ✓ bc

2. ✗ abc

3. ✗ cd

4. ✗ bcd

Question Number : 189 Question Id : 7225444990 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When is finalize() invoked in Java?

Options :

1. ✓ Just before an object is garbage collected

2. ✗ Just before an object goes out of scope

3. ✗ Just before a variable goes out of scope

4. ✗ Just before the program completes the execution

Question Number : 190 Question Id : 7225444991 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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What is the output of the below code?

```
public class ThreadTest extends Thread
{
   public void run()
   {
System.out.println("In run");
yield();
System.out.println("Leaving run");
   }
   public static void main(String []argv)
   {
      (new ThreadTest()).start();
   }
}
```

Options :

1. ✗ Compilation error in main()

2. ✗ Compilation error in run()

3. ✗ In run

4. ✓ In run
Leaving run

Question Number : 191 Question Id : 7225444992 Display Question Number : Yes Is Question Mandatory : No Calculator : None

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Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How to create a hyperlink in HTML?

Options :

1. ✔ XYZ.com

2. ✖ <a url = "www.XYZ.com" XYZ.com /a>

3. ✖ XYZ.com

4. ✖ <a> www.XYZ.com <XYZ.com /a>

Question Number : 192 Question Id : 7225444993 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How to insert an image in HTML?

Options :

1. ✖

2. ✖

3. ✖

4. ✔

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Question Number : 193 Question Id : 7225444994 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is the correct way to open the file "sample.txt" as readable?

Options :

1. ✓ fopen("sample.txt", "r");

2. ✗ fopen("sample.txt", "r+");

3. ✗ fopen("sample.txt", "read");

4. ✗ fopen("sample.txt");

Question Number : 194 Question Id : 7225444995 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given the below PHP statement, how do you find the number of fruits?
$fruits = array("Apple", "Banana", "Orange");

Options :

1. ✗ len($fruits)

2. ✗ length(($fruits)

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3. ✔ count($fruits)

4. ✖ size($fruits)

Question Number : 195 Question Id : 7225444996 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What will be the output of the following PHP program?

```
<?php
   function multi($num)
   {
      if ($num == 3)
         echo "I Wonder";
      if ($num == 7)
         echo "Which One";
      if ($num == 8)
         echo "Is The";
      if ($num == 19)
         echo "Correct Answer";
   }
   $v = stripos("I love php, I love phptoo!","PHP");
   multi($v);
?>
```

Options :

1. ✖ I Wonder

2. ✔ Which One

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3. ✖ Is The

4. ✖ Correct Answer

Question Number : 196 Question Id : 7225444997 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which function in PHP starts with __ (double underscore)?

Options :

1. ✖ Default Function

2. ✖ User Defined Function

3. ✖ Inbuilt Function

4. ✔ Magic Function

Question Number : 197 Question Id : 7225444998 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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What will happen at the end of the following sequence of SQL commands?
BEGIN TRANSACTION
DELETE FROM MYTABLE WHERE ID=1
DELETE FROM OTHERTABLE
ROLLBACK TRANSACTION

Options :

1. ✗ The contents of both OTHERTABLE and MYTABLE will be deleted

2. ✗ The contents of OTHERTABLE will be deleted, as will be all the contents of MYTABLE whose ID is 1

3. ✗ The database will remain unchanged to all users except the one that executes these queries

4. ✓ The database will remain unchanged

Question Number : 198 Question Id : 7225444999 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does the DESC keyword do in the following query?
SELECT *
FROM MY TABLE
WHERE ID > 0
ORDER BY ID, NAME DESC

Options :

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1. ✖ It causes the dataset returned by the query to be sorted in descending order

2. ✖ It causes rows with the same ID to be sorted by NAME in ascending order

3. ✔ It causes rows with the same ID to be sorted by NAME in descending order

4. ✖ It causes rows to be sorted by NAME first and then by ID

Question Number : 199 Question Id : 7225445000 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which object is used to fill DataSet or DataTable with query result in area ADO.net?

Options :

1. ✖ DataReader

2. ✖ Dataset

3. ✔ DataAdapter

4. ✖ DataTables

Question Number : 200 Question Id : 7225445001 Display Question Number : Yes Is Question Mandatory : No Calculator : None

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Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In PHP for each loop is used to iterate over

Options :

1. ✖ number

2. ✖ object

3. ✖ function

4. ✔ array

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