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 :	Agricultural 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 :	72254473
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 : 7225443601 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 : 7225443602 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 : 7225443603 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 : 7225443604 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 : 7225443605 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 : 7225443606 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 : 7225443607 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 : 7225443608 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 : 7225443609 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 : 7225443610 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 : 7225443611 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 : 7225443612 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 : 7225443613 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 : 7225443614 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 : 7225443615 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 : 7225443616 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 : 7225443617 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 : 7225443618 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 : 7225443619 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 : 7225443620 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 : 7225443621 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 : 7225443622 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 : 7225443623 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 : 7225443624 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 : 7225443625 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 : 7225443626 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 : 7225443627 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 : 7225443628 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 : 7225443629 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 : 7225443630 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 : 7225443631 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 : 7225443632 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 : 7225443633 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 : 7225443634 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 : 7225443635 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 : 7225443636 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 : 7225443637 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 : 7225443638 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 : 7225443639 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 : 7225443640 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 : 7225443641 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 : 7225443642 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 : 7225443643 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 : 7225443644 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 : 7225443645 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 : 7225443646 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 : 7225443647 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 : 7225443648 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 : 7225443649 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 : 7225443650 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 :	72254474
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 : 7225443651 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 : 7225443652 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 : 7225443653 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 $A \bullet B$

Options :

1. ✖ 28

2. ✔ 14

3. ✖ 0

4. ✖ 7

Question Number : 54 Question Id : 7225443654 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 : 7225443655 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 : 7225443656 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 : 7225443657 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 : 7225443658 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 : 7225443659 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 : 7225443660 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 : 7225443661 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 : 7225443662 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 : 7225443663 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 : 7225443664 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 : 7225443665 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 : 7225443666 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 : 7225443667 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 : 7225443668 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 : 7225443669 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 : 7225443670 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 : 7225443671 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 : 7225443672 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 : 7225443673 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 : 7225443674 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 : 7225443675 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

Chemistry

Section Id :	72254475
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 : 7225443676 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 : 7225443677 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 : 7225443678 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 : 7225443679 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 : 7225443680 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 : 7225443681 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 : 7225443682 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 : 7225443683 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 : 7225443684 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 : 7225443685 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 : 7225443686 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 : 7225443687 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 : 7225443688 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 : 7225443689 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 : 7225443690 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 : 7225443691 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 : 7225443692 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 : 7225443693 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 : 7225443694 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 : 7225443695 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 : 7225443696 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 : 7225443697 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 : 7225443698 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 : 7225443699 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 : 7225443700 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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Agricultural Engineering

Section Id :	72254476
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 : 7225443701 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A wedge shaped construction in hand hammer is called

Options :

1. ✗ But

2. ✗ Brush

3. ✓ Peen

4. ✗ Pan

Question Number : 102 Question Id : 7225443702 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 joining two pieces of sheet metal permanently without any heat energy is

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Options :

1. ✖ Soldering

2. ✖ Spot welding

3. ✔ Riveting

4. ✖ Brazing

Question Number : 103 Question Id : 7225443703 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In S. I system, the unit of power is watt, which is equal to

Options :

1. ✖ Newton

2. ✔ Joule per second

3. ✖ Joule per min

4. ✖ Newton-meter

Question Number : 104 Question Id : 7225443704 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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Tool post of lathe is located on the top of

Options :

1. ✖ Tail piece

2. ✖ Saddle

3. ✖ Apron

4. ✔ Compound rest

Question Number : 105 Question Id : 7225443705 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Zinc-coated iron sheet is known as

Options :

1. ✖ Black Iron sheet

2. ✔ Galvanized Iron sheet

3. ✖ Tin plate sheet

4. ✖ Stainless steel

Question Number : 106 Question Id : 7225443706 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 shelling of paddy in rubber roll sheller is due to

Options :

1. ✔ Shearing

2. ✖ Impact

3. ✖ Compression

4. ✖ Tearing

Question Number : 107 Question Id : 7225443707 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Kinematic viscosity of liquid having 5 poise viscosity and 0.8 specific gravity is

Options :

1. ✖ 6.25×10^{-4} stokes

2. ✖ $6.25x\ 10^{-2}$ stokes

3. ✖ $6.25x\ 10^{-3}$ stokes

4. ✔ $6.25\times10^{-4}\ m^2/s$

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Question Number : 108 Question Id : 7225443708 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The velocity ratio in a single fixed pulley is

Options :

1. ✖ Zero

2. ✔ One

3. ✖ Two

4. ✖ Three

Question Number : 109 Question Id : 7225443709 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Stream velocity can be determined approximately by

Options :

1. ✖ Wire gauge

2. ✖ Bubble gauge

3. ✔ Float

4. ✖ Pressure gauge

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Question Number : 110 Question Id : 7225443710 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Bernoulli's theorem is based on the principle of conversation of

Options :

1. ✗ Velocity

2. ✗ Mass

3. ✗ Pressure

4. ✓ Energy

Question Number : 111 Question Id : 7225443711 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-recording type rain gauge

Options :

1. ✗ Weighing type

2. ✓ Simon's

3. ✗ Tipping bucket

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4. ✖ Float type

Question Number : 112 Question Id : 7225443712 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wetted perimeter of trapezoidal channel of side slopes 1:1.5 with bottom width 1.5 m and depth of flow 2.5 m is

Options :

1. ✖ 6.8 m

2. ✖ 6.0 m

3. ✖ 9.4 m

4. ✔ 10.5 m

Question Number : 113 Question Id : 7225443713 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

On which law of thermodynamics, refrigeration system works

Options :

1. ✖ Zeroth

2. ✖ First

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3. ✓ Second

4. ✗ Third

Question Number : 114 Question Id : 7225443714 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Example for fluid link, in which the motion is transmitted with the help of fluid pressure is

Options :

1. ✗ Crank

2. ✗ Piston

3. ✗ Rope drive

4. ✓ Hydraulic brake

Question Number : 115 Question Id : 7225443715 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which part of tractor indicates the engine hour as well as engine revolution per minute

Options :

1. ✓ Hour meter

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2. ✖ Speedo meter

3. ✖ Light switch

4. ✖ Power button

Question Number : 116 Question Id : 7225443716 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The compression ratio of diesel engine is

Options :

1. ✖ 5:1 to 8:1

2. ✖ 10:1 to 19:1

3. ✔ 14:1 to 22:1

4. ✖ 24:1 to 30:1

Question Number : 117 Question Id : 7225443717 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The number of secondary windings of ignition coil compared to primary windings will be

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Options :

1. ✗ Less

2. ✓ More

3. ✗ Equal

4. ✗ half

Question Number : 118 Question Id : 7225443718 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 used to measure the distance?

Options :

1. ✗ Tape

2. ✗ Pacing

3. ✗ Pedometer

4. ✓ Barometer

Question Number : 119 Question Id : 7225443719 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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Fore and back bearings of a line differ exactly by

Options :

1. ✖ 60°

2. ✖ 90°

3. ✔ 180°

4. ✖ 360°

Question Number : 120 Question Id : 7225443720 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Instrument used for fixing perpendicular line is

Options :

1. ✔ Cross staff

2. ✖ Whites

3. ✖ Plumb bob

4. ✖ Chain

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Question Number : 121 Question Id : 7225443721 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Tang is the part of

Options :

1. ✖ Saw

2. ✖ Wing compass

3. ✖ Bevel square

4. ✔ Chisel

Question Number : 122 Question Id : 7225443722 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The shifting of the level in levelling indicates

Options :

1. ✖ Back sight

2. ✖ Fore sight

3. ✔ Change point

4. ✖ Front sight

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Question Number : 123 Question Id : 7225443723 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which method of contouring is most suitable for hilly terrains

Options :

1. ✖ Cross section

2. ✔ Tachometric

3. ✖ Direct

4. ✖ Square

Question Number : 124 Question Id : 7225443724 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Angle, if main scale reading of theodolite is 344°-40' and vernier division as 16, is

Options :

1. ✖ 345°-40'-20"

2. ✖ 344°-40'-20"

3. ✔ 344°-45'-20"

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4. ✖ 345°-45'-20"

Question Number : 125 Question Id : 7225443725 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Measure of the sharpness of the corners of the solid is

Options :

1. ✖ Circularity

2. ✖ Sphericity

3. ✖ Linearity

4. ✔ Roundness

Question Number : 126 Question Id : 7225443726 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 part is related to dynamo

Options :

1. ✔ Armature

2. ✖ Volute Casing

3. ✖ Valve

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4. ✖ Impeller

Question Number : 127 Question Id : 7225443727 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Ability of material to absorb energy before fracture is known as

Options :

1. ✖ Malleability

2. ✖ Creep

3. ✔ Toughness

4. ✖ Brittleness

Question Number : 128 Question Id : 7225443728 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Photovoltaic solar cells are made of

Options :

1. ✖ Carbon

2. ✔ Silicon

3. ✖ Gun metal

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4. ✗ Aluminium

Question Number : 129 Question Id : 7225443729 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Recommended speed of belt for carrying grain derivatives is

Options :

1. ✗ 3.5 m/s

2. ✓ 2.5 m/s

3. ✗ 1.5 m/s

4. ✗ 0.5 m/s

Question Number : 130 Question Id : 7225443730 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Soil particles greater than 2 mm diameter are called

Options :

1. ✗ Sand

2. ✗ Cement

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3. ✖ Stone

4. ✔ Gravel

Question Number : 131 Question Id : 7225443731 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The application efficiency of drip irrigation system in greenhouse is

Options :

1. ✖ 70 %

2. ✖ 75-85 %

3. ✔ 90-95 %

4. ✖ 95-98 %

Question Number : 132 Question Id : 7225443732 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The distance of centre of gravity of an equilateral triangle from any of three sides with each side equal to 'a' cm is

Options :

1. ✖ $\frac{a\sqrt{3}}{2}$

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2. ✗ $\frac{a\sqrt{2}}{3}$

3. ✓ $\frac{a}{2\sqrt{3}}$

4. ✗ $\frac{a}{3\sqrt{2}}$

Question Number : 133 Question Id : 7225443733 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Load lifted / effort applied is called as

Options :

1. ✗ Velocity ratio

2. ✓ Mechanical advantage

3. ✗ Pitch

4. ✗ Effort

Question Number : 134 Question Id : 7225443734 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

GPS stands for

Options :

1. ✓ Global position system

2. ✗ Global permanent system

3. ✗ German position system

4. ✗ Global position society

Question Number : 135 Question Id : 7225443735 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is used to connect ridge and furrow type green house?

Options :

1. ✗ V-frame

2. ✗ X-frame

3. ✗ U-frame

4. ✓ A-frame

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Question Number : 136 Question Id : 7225443736 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Separation of dry and wet grains is possible with

Options :

1. ✖ Inclined belt

2. ✖ Concentric drum

3. ✖ Indented disc

4. ✔ Pneumatic separator

Question Number : 137 Question Id : 7225443737 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The implement which is attached to the tractor along a hinge axis and not a single hitch point is

Options :

1. ✖ Trailed type

2. ✔ Semi-mounted type

3. ✖ Mounted type

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4. ✗ Center of power

Question Number : 138 Question Id : 7225443738 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The area of land that receives irrigation water under a project in a year is known as

Options :

1. ✓ Net irrigated area

2. ✗ Command area

3. ✗ Delta

4. ✗ Gross command area

Question Number : 139 Question Id : 7225443739 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The role of aspirators in rice milling is to remove

Options :

1. ✗ Bran

2. ✓ Husk

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3. ✖ Germ

4. ✖ Endosperm

Question Number : 140 Question Id : 7225443740 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The most efficient cross section of open channel is

Options :

1. ✔ Semi-circular

2. ✖ Trapezoidal

3. ✖ Parabolic

4. ✖ Rectangular

Question Number : 141 Question Id : 7225443741 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the material is passed only once through equipment, then the process of grinding is

Options :

1. ✖ Closed circuit

2. ✔ Open circuit

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3. ✗ Free crushing

4. ✗ Close crushing

Question Number : 142 Question Id : 7225443742 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Filter aid increases

Options :

1. ✗ Resistance of cake

2. ✗ Temperature of cake

3. ✗ Density of cake

4. ✓ Porosity of cake

Question Number : 143 Question Id : 7225443743 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Olpad thresher is mainly used for

Options :

1. ✗ Pulses

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2. ✖ Millets

3. ✖ Groundnut

4. ✔ Wheat

Question Number : 144 Question Id : 7225443744 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The lines joining equal amount of rainfall are known as

Options :

1. ✔ Isohyets

2. ✖ Iso crones

3. ✖ Iso bars

4. ✖ Iso baths

Question Number : 145 Question Id : 7225443745 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Air velocity to keep the grains in suspension

Options :

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1. ✓ 15-30 m/s

2. ✗ 30-45 m/s

3. ✗ 40-50 m/s

4. ✗ 50-65 m/s

Question Number : 146 Question Id : 7225443746 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A speed of centrifugal dehusker ranges between

Options :

1. ✗ 500-1500 rpm

2. ✗ 1500-2500 rpm

3. ✓ 2500-3000 rpm

4. ✗ 3000-4500 rpm

Question Number : 147 Question Id : 7225443747 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The CO_2 content in atmosphere is

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Options :

1. ✗ 0.245%

2. ✓ 0.345%

3. ✗ 0.445%

4. ✗ 0.545%

Question Number : 148 Question Id : 7225443748 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The total depth of water applied to the crop is called

Options :

1. ✗ Duty

2. ✗ Net irrigation

3. ✗ Base period

4. ✓ Delta

Question Number : 149 Question Id : 7225443749 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The equipment used for inter cultivation operation in SRI paddy cultivation is

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Options :

1. ✗ Hand hoe

2. ✓ Cono weeder

3. ✗ Spade

4. ✗ Sickle

Question Number : 150 Question Id : 7225443750 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Infiltration is measured in field by

Options :

1. ✓ Double ring method

2. ✗ Lysimeter

3. ✗ USWB Class A pan

4. ✗ Rain gauge

Question Number : 151 Question Id : 7225443751 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Soil erosion by rain drop is called

Options :

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1. ✗ Rill erosion

2. ✗ Inter rill erosion

3. ✓ Splash erosion

4. ✗ Sheet erosion

Question Number : 152 Question Id : 7225443752 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A device used to cut the furrow vertically on land ahead of plough bottom is

Options :

1. ✗ Share

2. ✗ Shovel

3. ✗ Gunnel

4. ✓ Coulter

Question Number : 153 Question Id : 7225443753 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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Sub-soiler plough is best suited for

Options :

1. ✖ Puddling

2. ✔ Deep ploughing and Breaking hard pan

3. ✖ Making ditches

4. ✖ Inter cultivation

Question Number : 154 Question Id : 7225443754 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Most important component of sprinkler irrigation system is

Options :

1. ✖ Lateral pipe

2. ✔ Sprinkler head

3. ✖ Riser pipe

4. ✖ Debris screen

Question Number : 155 Question Id : 7225443755 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

The percent oil loss (left with cake) in hydraulic press ghani is

Options :

1. ✖ 3-4%

2. ✔ 7-8%

3. ✖ 10-12%

4. ✖ 12-14%

Question Number : 156 Question Id : 7225443756 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The device used to connect and disconnect the tractor engine from the transmission gears and drive wheels is

Options :

1. ✔ Clutch

2. ✖ Gearbox

3. ✖ Differential

4. ✖ Final drive

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Question Number : 157 Question Id : 7225443757 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Contour bunds are not suitable in

Options :

1. ✗ Sandy soils

2. ✗ Red soils

3. ✓ Black cotton soils

4. ✗ Light soils

Question Number : 158 Question Id : 7225443758 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The specific gravity for fully charged battery is

Options :

1. ✗ 1.12

2. ✓ 1.28

3. ✗ 1.32

4. ✗ 1.52

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Question Number : 159 Question Id : 7225443759 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The fuel gas used for welding of metal is

Options :

1. ✗ Biogas

2. ✗ Coal gas

3. ✗ Producer gas

4. ✓ Acetylene gas

Question Number : 160 Question Id : 7225443760 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The tilt angle of disc plough varies between

Options :

1. ✗ $10 - 15^0$

2. ✓ $15 - 25^0$

3. ✗ $30 - 35^0$

4. ✗ $40 - 45^0$

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Question Number : 161 Question Id : 7225443761 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The hydraulic system does not lift the implement due to

Options :

1. ✓ Defective control valve

2. ✗ Higher Engine oil level

3. ✗ Engine overloaded

4. ✗ PTO non function

Question Number : 162 Question Id : 7225443762 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The number of years of rainfall data to be considered for the design of permanent structures is

Options :

1. ✗ 10-20

2. ✗ 20-25

3. ✓ 25-50

4. ✗ 50-60

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Question Number : 163 Question Id : 7225443763 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Vertical suction of a plough influences

Options :

1. ✖ Pulverization

2. ✔ Depth of cut

3. ✖ Soil turning

4. ✖ Direction of pull

Question Number : 164 Question Id : 7225443764 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The type of brake used in power tillers is

Options :

1. ✔ Inner side expansion

2. ✖ Outer side expansion

3. ✖ Hydraulic brake

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4. ✗ Disc brake

Question Number : 165 Question Id : 7225443765 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Method of ploughing in which plough works round a strip of unploughed land is

Options :

1. ✗ Gathering

2. ✓ Casting

3. ✗ Head land

4. ✗ Dead furrow

Question Number : 166 Question Id : 7225443766 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Thickness of disc of standard disc plough varies from

Options :

1. ✓ 5 to 10 mm

2. ✗ 15 to 20 mm

3. ✗ 40 to 60 mm

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4. ✖ 60 to 90 mm

Question Number : 167 Question Id : 7225443767 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

One HP is equal to

Options :

1. ✔ 75 Kg m/sec

2. ✖ 75 Kg m/min

3. ✖ 4500 Kg m/sec

4. ✖ 4500 Kg m/min

Question Number : 168 Question Id : 7225443768 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Common types of cooling pads used in green houses are made of

Options :

1. ✖ Wood

2. ✖ Aluminium

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3. ✗ Glass

4. ✓ Cellulose

Question Number : 169 Question Id : 7225443769 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The ability of air to remove solar heat from the greenhouse depends upon its

Options :

1. ✗ Volume

2. ✓ Weight

3. ✗ Mass

4. ✗ Speed

Question Number : 170 Question Id : 7225443770 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The greenhouse constructed on hilly terrains is

Options :

1. ✗ Lean–to type

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2. ✗ Ridge and furrow type

3. ✓ Uneven span type

4. ✗ Quonset type

Question Number : 171 Question Id : 7225443771 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Rocker sprayers are operated at pressure of

Options :

1. ✗ 0 to 7 kg/cm^2

2. ✓ 14 to 18 kg/cm^2

3. ✗ 18 to 20 kg/cm^2

4. ✗ 20 to 24 kg/cm^2

Question Number : 172 Question Id : 7225443772 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In spark ignited engine the atomization of fuel takes place in

Options :

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1. ✖ Radiator

2. ✖ Ignition chamber

3. ✔ Carburettor

4. ✖ Cylinder

Question Number : 173 Question Id : 7225443773 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The shoe is provided in the reaper to

Options :

1. ✔ Regulate the height of cut

2. ✖ Regulate the blade

3. ✖ Regulate the width of cut

4. ✖ Regulate the engine speed

Question Number : 174 Question Id : 7225443774 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 seed cotton is removed from the machines with tapered spindles by means of rotating

Options :

1. ✗ Straight spindles

2. ✗ Sprocket chain

3. ✗ Spindle moistener

4. ✓ Doffer plate

Question Number : 175 Question Id : 7225443775 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

With a solar focusing type collector, highest temperature that can be achieved is about

Options :

1. ✗ 100 °C

2. ✗ 300 °C

3. ✓ 500 °C

4. ✗ 1000 °C

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Question Number : 176 Question Id : 7225443776 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The biogas plant in which floating drum is present

Options :

1. ✓ KVIC design

2. ✗ Deenabandu

3. ✗ Fixed dome

4. ✗ Portable Polyethylene type

Question Number : 177 Question Id : 7225443777 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A popular dryer used in paddy processing industry or in modern rice mills originated from USA is

Options :

1. ✗ Reciprocating dryer

2. ✗ Circular bin dryer

3. ✗ Deep bed dryer

4. ✓ LSU dryer

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Question Number : 178 Question Id : 7225443778 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wind speed in relation to height

Options :

1. ✗ Decreases

2. ✓ Increases

3. ✗ No change

4. ✗ Exponential decrease

Question Number : 179 Question Id : 7225443779 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Gypsum is added to reclaim

Options :

1. ✗ Saline soils

2. ✓ Alkali soils

3. ✗ Salt affected soils

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4. ✗ Poorly drained soils

Question Number : 180 Question Id : 7225443780 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For natural ventilation flow path, the preferred shape of green house is

Options :

1. ✗ Even span

2. ✗ Uneven span

3. ✓ Quonset

4. ✗ Ridge and furrow

Question Number : 181 Question Id : 7225443781 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Direct radiation is also known as

Options :

1. ✗ Solar radiation

2. ✓ Beam radiation

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3. ✗ Diffusion radiation

4. ✗ Global radiation

Question Number : 182 Question Id : 7225443782 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Most commonly used holding tool in workshop is

Options :

1. ✓ Bench vice

2. ✗ Die stock

3. ✗ Tap wrench

4. ✗ Die wrench

Question Number : 183 Question Id : 7225443783 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The temperature in box type solar cooker is around

Options :

1. ✗ 50 °C

2. ✗ 75 °C

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3. ✔ 100 °C

4. ✘ 300 °C

Question Number : 184 Question Id : 7225443784 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Inundation irrigation system is also called as

Options :

1. ✔ Flood irrigation

2. ✘ Flow irrigation

3. ✘ Lift irrigation

4. ✘ Border irrigation

Question Number : 185 Question Id : 7225443785 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The device used for keeping the disc at equal spacing on the gang of disc harrow is

Options :

1. ✘ Bumper

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2. ✓ Spool

3. ✗ Arbor

4. ✗ Middle tine

Question Number : 186 Question Id : 7225443786 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Perforated pipe sprinkler is best suited, when height of crop doesn't exceed

Options :

1. ✗ 10-40 cm

2. ✓ 30-70 cm

3. ✗ 60-90 cm

4. ✗ 100 cm

Question Number : 187 Question Id : 7225443787 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Substances with one or two valence electrons are called as

Options :

1. ✗ Conductors

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2. ✗ Resistors

3. ✗ Insulators

4. ✓ Good conductors

Question Number : 188 Question Id : 7225443788 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Material used for manufacturing of power chaff cutter blade is

Options :

1. ✗ Iron

2. ✗ Plastic

3. ✗ Wood

4. ✓ Carbon steel

Question Number : 189 Question Id : 7225443789 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In raspbar cylinder, usually number of bars fixed to the cylinder are

Options :

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1. ✗ 0-4

2. ✓ 6 – 8

3. ✗ 18 -28

4. ✗ 28-38

Question Number : 190 Question Id : 7225443790 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Shovel type furrow openers are best suited for

Options :

1. ✓ Stony or Root infested fields

2. ✗ Clay soil

3. ✗ Black soil

4. ✗ Red soil

Question Number : 191 Question Id : 7225443791 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A hydrograph is a plot of

Options :

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1. ✖ Rainfall intensity and time

2. ✔ Runoff discharge and time

3. ✖ Cumulative rainfall and time

4. ✖ Cumulative runoff and time

Question Number : 192 Question Id : 7225443792 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A part of rainfall that flows over the ground surface directly into streams is

Options :

1. ✔ Direct runoff

2. ✖ Overland flow

3. ✖ Base flow

4. ✖ Interflow

Question Number : 193 Question Id : 7225443793 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 process by which water vapour leaves the living plant body and enters the atmosphere is

Options :

1. ✖ Evaporation

2. ✔ Transpiration

3. ✖ Precipitation

4. ✖ Interception

Question Number : 194 Question Id : 7225443794 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The inflation pressure in the rear wheels of the tractor varies between

Options :

1. ✖ $0.2 - 0.6\ kg/cm^2$

2. ✔ $0.8 - 1.5\ kg/cm^2$

3. ✖ $1.8 - 1.9\ kg/cm^2$

4. ✖ $2.6 - 3.5\ kg/cm^2$

Question Number : 195 Question Id : 7225443795 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

Flaking can be accomplished by

Options :

1. ✓ Roller mill

2. ✗ Gyratory crusher

3. ✗ Disc mill

4. ✗ Burr mill

Question Number : 196 Question Id : 7225443796 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The area covered by a combine with 4 m cutter bar running at 4 kmph is

Options :

1. ✓ 1.6 ha/hr

2. ✗ 2.4 ha/hr

3. ✗ 3.6 ha/hr

4. ✗ 3.8 ha/hr

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Question Number : 197 Question Id : 7225443797 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The loss of head due to friction according to Darcy's formula is

Options :

1. ✗ $4flv^2 / 2g$

2. ✓ $4flv^2 / 2gd$

3. ✗ $4flv / gd$

4. ✗ $4fl^2 / 2d$

Question Number : 198 Question Id : 7225443798 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Minimum temperature at which the fuel will ignite is known as

Options :

1. ✗ Melt point

2. ✗ Pour point

3. ✗ Cloud point

4. ✓ Flash point

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Question Number : 199 Question Id : 7225443799 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 converting solid biomass with a limited quantity of air into producer gas is

Options :

1. ✓ Gasification

2. ✗ Combustion

3. ✗ Pyrolysis

4. ✗ Liquification

Question Number : 200 Question Id : 7225443800 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Tractor flywheel having a gear is called as

Options :

1. ✓ Ring gear

2. ✗ Crown wheel

3. ✗ Bull gear

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4. ✖ Helical gear

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