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 06th May 2025 Shift 1
Subject Name :	Agricultural Engineering
Creation Date :	2025-05-06 14:10:29
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Share Answer Key With Delivery Engine :	Yes
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Agricultural Engineering

Group Number :	1
Group Id :	89040181
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200

Mathematics

Section Id :	890401315
Section Number :	1
Section type :	Online

Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	890401339
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 89040116013 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ *The matrix is invertible*

2. ✔ *The matrix is singular*

3. ✖ The matrix is diagonalizable

4. ✖ The matrix is symmetric.

Question Number : 2 Question Id : 89040116014 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 10

2. ✔ 20

3. ✖ 5

4. ✖ 25

Question Number : 3 Question Id : 89040116015 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the matrix A is of order 3x3 and the system of equations AX = B has a unique solution,

what can be concluded about the determinant of A?

Options :

1. ✖ The determinant of A is zero

2. ✔ The determinant of A is non-zero

3. ✖ The determinant of A must be 1 only

4. ✖ The determinant of A cannot be negative

Question Number : 4 Question Id : 89040116016 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ -2

2. ✔ 1

3. ✖ 1.5

4. ✖ -0.5

Question Number : 5 Question Id : 89040116017 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Question Number : 6 Question Id : 89040116018 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ -2

2. ✔ 2

3. ✖ 1

4. ✖ -1

Question Number : 7 Question Id : 89040116019 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $(1, -5, 4)$

2. ✖ $(1, 5, 4)$

3. ✖ $(4, 5, 1)$

4. ✖ $(1, 4, 5)$

Question Number : 8 Question Id : 89040116020 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

2. ✔ $-\frac{4}{5}$ *or* $\frac{4}{5}$

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

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

Question Number : 9 Question Id : 89040116021 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖

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

2. ✖ $\frac{\sqrt{2}}{2}$

3. ✔ $-\frac{\sqrt{2}}{2}$

4. ✖ $-\sqrt{2}$

Question Number : 10 Question Id : 89040116022 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ -1/4

2. ✖ -1/2

3. ✖ 1/2

4. ✔ 1/4

Question Number : 11 Question Id : 89040116023 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ ± 1

2. ✖ 1/2

3. ✖ 1

4. ✖ $\pm\frac{1}{2}$

Question Number : 12 Question Id : 89040116024 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✔ 1

3. ✖ 2

4. ✖ -1

Question Number : 13 Question Id : 89040116025 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 2

2. ✖ 4

3. ✔ 5

4. ✖ 1

Question Number : 14 Question Id : 89040116026 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $\frac{\pi}{6}$

2. ✔ $\frac{\pi}{3}$

3. ✖ $\frac{\pi}{12}$

4. ✖ $\frac{\pi}{4}$

Question Number : 15 Question Id : 89040116027 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $n\pi + \frac{\pi}{4}$ only

2. ✔ $n\pi \pm \frac{\pi}{4}$

3. ✖ $2n\pi \pm \frac{\pi}{4}$

4. ✖ $n\pi - \frac{\pi}{4}$ only

Question Number : 16 Question Id : 89040116028 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ 0

2. ✖ 1

3. ✖ -1

4. ✖ $1/2$

Question Number : 17 Question Id : 89040116029 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $\frac{5}{\sqrt{34}}$

2. ✖ $-\frac{5}{\sqrt{34}}$

3. ✖ $-\frac{\sqrt{34}}{25}$

4. ✔ $\frac{\sqrt{34}}{5}$

Question Number : 18 Question Id : 89040116030 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $-\frac{1}{5}$

2. ✖ $\frac{1}{5}$

3. ✖ $-\frac{2}{5}$

4. ✖ $\frac{2}{5}$

Question Number : 19 Question Id : 89040116031 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $\frac{2}{25}$

2. ✖ $-\frac{2}{25}$

3. ✖ $\frac{1}{25}$

4. ✖ $-\frac{1}{25}$

Question Number : 20 Question Id : 89040116032 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Then the length of diameter is

Options :

1. ✖ $5\ cm$

2. ✔ $10\ cm$

3. ✖ $15\ cm$

4. ✖ $8\ cm$

Question Number : 21 Question Id : 89040116033 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 81

2. ✔ 7

3. ✖ 29

4. ✖ 21

Question Number : 22 Question Id : 89040116034 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $100\ cm$

2. ✖ $197.14\ cm$

3. ✔ $179.14\ cm$

4. ✖ $110.14\ cm$

Question Number : 23 Question Id : 89040116035 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $y^2 = 4x$

2. ✔ $y^2 = 4x - 4$

3. ✖ $y^2 = 4(x + 1)$

4. ✖ $y^2 = -4(x - 1)$

Question Number : 24 Question Id : 89040116036 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ (2, 0)

2. ✖ (-2, 0)

3. ✔ (4, 0)

4. ✖ (-4, 0)

Question Number : 25 Question Id : 89040116037 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $\frac{4}{3}$

2. ✖ $\frac{7}{16}$

3. ✖ $\frac{3}{\sqrt{7}}$

4. ✔ $\frac{3}{4}$

Question Number : 26 Question Id : 89040116038 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✔ 1

3. ✖ -1

4. ✖ ∞

Question Number : 27 Question Id : 89040116039 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✖ 1

3. ✔ 3

4. ✖ Limit does not exist

Question Number : 28 Question Id : 89040116040 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The derivative of x^x with respective to x is

Options :

1. ✖ $x^x(x+logx)$

2. ✖ $x^x(x-logx)$

3. ✖ $x^x(1-logx)$

4. ✔ $x^x(1+logx)$

Question Number : 29 Question Id : 89040116041 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $\frac{a}{a^2-x^2}$

2. ✖ $\frac{1}{a^2+x^2}$

3. ✖ $\frac{1}{a^2-x^2}$

4. ✔ $\frac{a}{a^2+x^2}$

Question Number : 30 Question Id : 89040116042 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$If\ y = \sqrt{sinx + \sqrt{sinx + \sqrt{sinx + ----\infty}}} \quad \text{then } \frac{dy}{dx} =$$

Options :

1. ✖ $\frac{cosx}{1-2y}$

2. ✖ $\frac{sinx}{1-2y}$

3. ✖ $\frac{-sinx}{1-2y}$

4. ✔ $\frac{-cosx}{1-2y}$

Question Number : 31 Question Id : 89040116043 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ -1

2. ✔ 1

3. ✖ $1/2$

4. ✖ $-1/2$

Question Number : 32 Question Id : 89040116044 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $3x - y + 2 = 0$

2. ✖ $x - 10y - 50 = 0$

3. ✔ $3x - y - 2 = 0$

4. ✖ $x - 10y + 50 = 0$

Question Number : 33 Question Id : 89040116045 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ - 2

2. ✖ - 3

3. ✔

2

4. ✖ 1

Question Number : 34 Question Id : 89040116046 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 1

2. ✖ $2x + 2y$

3. ✔ 0

4. ✖ $2x - 2y$

Question Number : 35 Question Id : 89040116047 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ e

2. ✔ $2e$

3. ✖ 1

4. ✖ 0

Question Number : 36 Question Id : 89040116048 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The value of $\int (\log secx) \tan x \ dx$ *is*

Options :

1. ✖ $\sec x + c$

2. ✖ $\log \sec x + c$

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

4. ✖ $\log (\log \sec x)$

Question Number : 37 Question Id : 89040116049 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$\int sin^2 x \ dx =$

Options :

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

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

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

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

Question Number : 38 Question Id : 89040116050 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Question Number : 39 Question Id : 89040116051 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $\frac{1}{110}$

2. ✖ $\frac{1}{120}$

3. ✖ $\frac{-1}{110}$

4. ✖ $\frac{-1}{120}$

Question Number : 40 Question Id : 89040116052 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ a

2. ✖ $2a$

3. ✖ 0

4. ✔ a^2

Question Number : 41 Question Id : 89040116053 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$\int_{0}^{\pi/2} \frac{\cos 2x}{\sin x + \cos x} \, dx =$

Options :

1. ✖ -1

2. ✔ 0

3. ✖ 1

4. ✖ $\frac{\pi}{2}$

Question Number : 42 Question Id : 89040116054 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 2

2. ✖ $2/3$

3. ✖ $1/3$

4. ✔ $4/3$

Question Number : 43 Question Id : 89040116055 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $\frac{1}{\sqrt{5}}$

2. ✖ $\frac{1}{5}$

3. ✖ $\frac{1}{\sqrt{3}}$

4. ✖ $\frac{1}{3}$

Question Number : 44 Question Id : 89040116056 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 45 Question Id : 89040116057 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

(where a and b are arbitrary constants)

Options :

1. ✔ 2

2. ✖ 4

3. ✖ 1

4. ✖ 3

Question Number : 46 Question Id : 89040116058 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ of Variable separable form

2. ✔ First order Linear equation

3. ✖ Homogeneous

4. ✖ Exact differentia Equation

Question Number : 47 Question Id : 89040116059 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $y = tanx + c$

2. ✔ $y = \tan(x + c)$

3. ✖ $y = tanx$

4. ✖ $y = -\tan(x + c)$

Question Number : 48 Question Id : 89040116060 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $4xy = x^3 + 3$

2. ✔ $4xy = x^4 + 3$

3. ✖ $4xy = x^3 - 3$

4. ✖ $4xy = x^4 - 3$

Question Number : 49 Question Id : 89040116061 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $y = a + be^{-x} + ce^{-2x}$

2. ✖ $y = a + be^{x} + ce^{2x}$

3. ✖ $y = ae^{-x} + be^{-2x} + ce^{x}$

4. ✖ $y = a + be^{-2x} + ce^{-3x}$

Question Number : 50 Question Id : 89040116062 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $-xe^{-2x}$

2. ✖ xe^{-2x}

3. ✖ $-\frac{x}{2}e^{-2x}$

4. ✖ $\frac{x}{2}e^{-2x}$

Physics

Section Id :	890401316
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	890401340
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 89040116063 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If we choose velocity V, length L and force F as fundamental physical quantities

then how would you express power in terms of V, L and F ?

Options :

1. ✔ $F^1 L^0 V^1$

2. ✖ $F^1 L^{-1} V^1$

3. ✖ $F^1 L^{-1} V^2$

4. ✖ $F^1 L^{-2} V^3$

Question Number : 52 Question Id : 89040116064 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which pair of physical quantities have same dimensional formula

Options :

1. ✖ Torque and momentum

2. ✖ Surface tension and tension

3. ✔ Pressure and modulus of elasticity

4. ✖ Force constant and Planck's constant

Question Number : 53 Question Id : 89040116065 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $0°$

2. ✖ $60°$

3. ✔ $90°$

4. ✖ $120°$

Question Number : 54 Question Id : 89040116066 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $5\sqrt{10}$ units

2. ✖ 10 units

3. ✖ $2\sqrt{10}$ units

4. ✖ $10\sqrt{5}$ units

Question Number : 55 Question Id : 89040116067 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 10 m/s

2. ✖ 20 m/s

3. ✔ 25 m/s

4. ✖ 30 m/s

Question Number : 56 Question Id : 89040116068 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $\frac{H}{2}$

2. ✖ $\frac{H}{4}$

3. ✔ $\frac{3H}{4}$

4. ✖ $\frac{2H}{3}$

Question Number : 57 Question Id : 89040116069 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $y = x$

2. ✖ $y = 2x$

3. ✔ $y = 3x$

4. ✖ $y = 4x$

Question Number : 58 Question Id : 89040116070 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ $\frac{g}{2n^2}$

2. ✖ $\frac{g}{n}$

3. ✖ $\frac{g}{2n}$

4. ✖ $\frac{n^2}{g}$

Question Number : 59 Question Id : 89040116071 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $mg \sin\theta - \mu mg \cos\theta$

2. ✔ $mg \sin\theta + \mu mg \cos\theta$

3. ✖ $mg \cos\theta - \mu mg \sin\theta$

4. ✖ $mg \cos\theta + \mu mg \sin\theta$

Question Number : 60 Question Id : 89040116072 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 1 sec

2. ✔ 2 sec

3. ✖ 3 sec

4. ✖ 0.5 sec.

Question Number : 61 Question Id : 89040116073 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

what is the change in kinetic energy of the body?

Options :

1. ✔ 15 J

2. ✖ 12 J

3. ✖ 18 J

4. ✖ 20 J

Question Number : 62 Question Id : 89040116074 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $\sqrt{29.4}$ m/s

2. ✖ $\sqrt{9.8}$ m/s

3. ✔ $\sqrt{19.6}$ m/s

4. ✖ 9.8 m/s

Question Number : 63 Question Id : 89040116075 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 800 W

2. ✖ 1000 W

3. ✔ 1250 W

4. ✖ 1500 W

Question Number : 64 Question Id : 89040116076 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 2 sec

2. ✖ 4 sec

3. ✖ $4\sqrt{2}$ sec

4. ✔ $2\sqrt{2}$ sec

Question Number : 65 Question Id : 89040116077 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ $\frac{A}{2}$

2. ✖

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

3. ✖ $\frac{A}{4}$

4. ✔ $\frac{\sqrt{3}\,A}{2}$

Question Number : 66 Question Id : 89040116078 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

The amplitude of particle is

Options :

1. ✖ 7

2. ✖ 3

3. ✖ 4

4. ✔ 5

Question Number : 67 Question Id : 89040116079 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ Same

2. ✖ Double

3. ✔ Four times

4. ✖ Eight times

Question Number : 68 Question Id : 89040116080 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 286.5 Hz

2. ✖ 418.2 Hz

3. ✔ 733.3 Hz

4. ✖ 644.5 Hz

Question Number : 69 Question Id : 89040116081 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

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

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

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

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

Question Number : 70 Question Id : 89040116082 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ Increases by 400 J

2. ✖ Increases by 200 J

3. ✖ Increases by 100 J

4. ✖ Decreases by 200 J

Question Number : 71 Question Id : 89040116083 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ 400 mm of Hg

2. ✖ 1440 mm of Hg

3. ✖ 40 mm of Hg

4. ✖ 760 mm of Hg

Question Number : 72 Question Id : 89040116084 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ The glass jar remains as it is with ice

2. ✖ The glass jar remains as it is with water

3. ✖ Glass jar contains half the amount of ice mixed with water

4. ✔ The glass jar breaks due to the formation of ice

Question Number : 73 Question Id : 89040116085 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 4 times

2. ✖ 8 times

3. ✔ 10 times

4. ✖ 3 times

Question Number : 74 Question Id : 89040116086 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ Refraction

2. ✖ Reflection

3. ✖ Dispersion

4. ✔ Total internal reflection

Question Number : 75 Question Id : 89040116087 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Light of wavelength 5000 A° falls on a sensitive plate with photo electric work function of 1.9 eV. The kinetic energy of the emitted photoelectron will be

Options :

1. ✔ 0.58 eV

2. ✖ 2.48 eV

3. ✖ 1.24 eV

4. ✖ 1.16 eV

Chemistry

Section Id :	890401317
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	890401341

Question Shuffling Allowed : Yes

Question Number : 76 Question Id : 89040116088 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Consider the elements with atomic numbers Z = 1 to Z=20. The number of

elements with only one unpaired electron in their ground state is

Options :

1. ✖ 10

2. ✖ 6

3. ✔ 8

4. ✖ 12

Question Number : 77 Question Id : 89040116089 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Identify the orbital which has lobes not orienting on the axis

Options :

1. ✖ P_x

2. ✖ P_y

3. ✖ $d_{x^2-y^2}$

4. ✔ d_{yz}

Question Number : 78 Question Id : 89040116090 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ 2, 0, -1, +1/2

2. ✖ 3, 0, 0, -1/2

3. ✖ 4, 1, +1, +1/2

4. ✖ 3, 2, -1, -1/2

Question Number : 79 Question Id : 89040116091 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ 6

2. ✖ 5

3. ✖ 10

4. ✖ 8

Question Number : 80 Question Id : 89040116092 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ Cl_2

2. ✖ O_2

3. ✖ HCl

4. ✔ N_2

Question Number : 81 Question Id : 89040116093 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0.03

2. ✖ 0.04

3. ✔ 0.05

4. ✖ 0.06

Question Number : 82 Question Id : 89040116094 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

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

The value of x (in ml) is

Options :

1. ✖ 12.5

2. ✔ 25

3. ✖ 37.5

4. ✖ 50

Question Number : 83 Question Id : 89040116095 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

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

Options :

1. ✖ 0.1 N

2. ✔ 0.2 N

3. ✖ 0.4 N

4. ✖ 0.05 N

Question Number : 84 Question Id : 89040116096 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Identify the pair containing only Lewis acids

Options :

1. ✔ BF_3, NH_3

2. ✖ H^+, BF_3

3. ✖ F^-, H_2O

4. ✖ NH_4^+, NH_3

Question Number : 85 Question Id : 89040116097 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ 13

2. ✖ 1

3. ✖ 12

4. ✖ 7.4

Question Number : 86 Question Id : 89040116098 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 1.93×10^5

2. ✔ 9.65×10^4

3. ✖ 1.93×10^4

4. ✖ 9.65×10^5

Question Number : 87 Question Id : 89040116099 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ Urea

2. ✖ Copper Sulphate

3. ✖ Silver Nitrate

4. ✖ Sodium Chloride

Question Number : 88 Question Id : 89040116100 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The amount of silver (in mg) deposited when 9.65 coulombs of electricity is passed through an aqueous solution of silver nitrate is (Ag=108 u) (1F=96500 C mol^{-1})

Options :

1. ✖ 16.2

2. ✖ 21.2

3. ✔ 10.8

4. ✖ 6.4

Question Number : 89 Question Id : 89040116101 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ Ag can oxidize Zn and Cu

2. ✖ Ag can reduce Zn^{2+} and Cu^{2+}

3. ✔ Zn can reduce Ag^{+} and Cu^{2+}

4. ✖ Cu can oxidize Zn and Ag

Question Number : 90 Question Id : 89040116102 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ K^{+}, Ba^{2+}

2. ✖ Fe^{2+}, K^{+}

3. ✔ Ca^{2+}, Mg^{2+}

4. ✖ Zn^{2+}, Cu^{2+}

Question Number : 91 Question Id : 89040116103 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✔ 10

2. ✖ 20

3. ✖ 30

4. ✖ 40

Question Number : 92 Question Id : 89040116104 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ NaCl, KCl

2. ✖ $CaCl_2$, KCl

3. ✖ $AlCl_3$, $MgCl_2$

4. ✔ $MgCl_2$, $CaCl_2$

Question Number : 93 Question Id : 89040116105 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The cell formed in bent pipes is an example of

Options :

1. ✖ Concentration Cell

2. ✖ Composition Cell

3. ✔ Stress Cell

4. ✖ Electrolytic Cell

Question Number : 94 Question Id : 89040116106 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Tarnishing of silver is due to formation of

Options :

1. ✖ Its sulphate layer

2. ✖ Its nitrate layer

3. ✔ Its sulphide layer

4. ✖ Its chloride layer

Question Number : 95 Question Id : 89040116107 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a co-polymer?

Options :

1. ✖ Buna-S rubber

2. ✔ Neoprene rubber

3. ✖ Bakelite

4. ✖ Urea – Formaldehyde

Question Number : 96 Question Id : 89040116108 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The monomer involved in the formation of polystyrene is

Options :

1. ✖ $CH_2 = CH - Cl$

2. ✖ $CH_2 = CH - CN$

3. ✔ $CH_2 = CH - C_6H_5$

4. ✖ $CH_2 = CH - CH_3$

Question Number : 97 Question Id : 89040116109 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ Carbon

2. ✔ Sulphur

3. ✖ Phosphorus

4. ✖ Silicon

Question Number : 98 Question Id : 89040116110 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Liquefied petroleum gas (LPG) mainly contains

Options :

1. ✖ Methane, Ethane

2. ✖ Ethane, Propane

3. ✔ Butane, Isobutane

4. ✖ Ethene, Ethyne

Question Number : 99 Question Id : 89040116111 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Greenhouse effect is caused by

Options :

1. ✖ NO_2

2. ✖ CO

3. ✖ NO

4. ✔ CO_2

Question Number : 100 Question Id : 89040116112 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ CO_2

2. ✖ CH_4

3. ✖ CH_3OH

4. ✔ CF_2Cl_2

Agricultural Engineering

Section Id : 890401318

Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	890401342
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 89040116113 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following equipment is used for the determination of specific gravity of granular agricultural materials?

Options :

1. ✖ Distillation unit

2. ✖ Platform scale

3. ✔ Pycnometer

4. ✖ Particle analyzer

Question Number : 102 Question Id : 89040116114 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In pneumatic conveying and separation processes, the material is lifted only when the air velocity is greater than its

Options :

1. ✖ Drag coefficient

2. ✖ Bulk density

3. ✖ Angle of repose

4. ✔ Terminal velocity

Question Number : 103 Question Id : 89040116115 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The friction forces existing between the surfaces in relative motion is known as

Options :

1. ✖ Static friction

2. ✖ Angle of Repose

3. ✔ Kinetic friction

4. ✖ Rolling resistance

Question Number : 104 Question Id : 89040116116 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Newton's law of viscosity and a simple dashpot represent rheological model for

Options :

1. ✖ St.Venant body

2. ✖ Hookean body

3. ✖ Non Newtonian liquid

4. ✔ Newtonian liquid

Question Number : 105 Question Id : 89040116117 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The ability of a screen in closely separating the feed into overflow and underflow according to its size is known as

Options :

1. ✖ Ideal screen

2. ✔ Screen effectiveness

3. ✖ Rotary screen

4. ✖ Screening

Question Number : 106 Question Id : 89040116118 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The shape of a unit hydrograph depends on

Options :

1. ✖ Rainfall intensity only

2. ✔ Catchment characteristics

3. ✖ Only the duration of rainfall

4. ✖ Wind speed

Question Number : 107 Question Id : 89040116119 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Inflation pressure of front wheel tyre of tractor ranges from ____ kg/cm^2

Options :

1. ✖ 0.8 – 1.2

2. ✖ 0.8 – 1.5

3. ✖ 1.2 – 2.0

4. ✔ 1.5 – 2.5

Question Number : 108 Question Id : 89040116120 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

It is the relative movement of the wheel or track in the direction of travel for a given distance under load

and at no load condition is known as

Options :

1. ✖ Rolling resistance

2. ✖ Rim pull

3. ✔ Wheel slip

4. ✖ Tractive efficiency

Question Number : 109 Question Id : 89040116121 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The oil pressure in the hydraulic pump of the tractor varies from

Options :

1. ✖ 70 to 80 kg/cm^2

2. ✖ 100 to 120 kg/cm^2

3. ✔ 150 to 200 kg/cm^2

4. ✖ 200 to 250 kg/cm^2

Question Number : 110 Question Id : 89040116122 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which of the following equipment/machinery best suited for puddling operation in paddy ?

Options :

1. ✖ Tractor with cage wheels

2. ✖ Walking type tractor with rotary tiller

3. ✖ Crawler tractor

4. ✔ Tractor with rotavator

Question Number : 111 Question Id : 89040116123 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

On an average, a woman agricultural worker develops nearly____power for an 8-10 hours work per day.

Options :

1. ✖ 55W

2. ✔ 60W

3. ✖ 70W

4. ✖ 75W

Question Number : 112 Question Id : 89040116124 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A medium size bullock can develop power in the range of

Options :

1. ✖ 100-150W

2. ✖ 150-200W

3. ✖ 250-300W

4. ✔ 360-550W

Question Number : 113 Question Id : 89040116125 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The instrument which measures total or global radiation over a hemispherical field of view is

Options :

1. ✔ Pyranometer

2. ✖ Pyrheliometer

3. ✖ Solarimeter

4. ✖ Sunshine recorder

Question Number : 114 Question Id : 89040116126 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A natural or artificial body of water for collecting and absorbing solar radiation energy and storing it as heat is known as

Options :

1. ✖ Solar cell

2. ✖ Solar collector

3. ✖ Solar still

4. ✔ Solar pond

Question Number : 115 Question Id : 89040116127 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In Trombe wall arrangement of thermal storage wall design, the distance between glazing and concrete wall is

Options :

1. ✔ 10 to 20 cm

2. ✖ 20 to 30 cm

3. ✖ 30 to 40 cm

4. ✖ 40 to 50 cm

Question Number : 116 Question Id : 89040116128 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following windmill has good power coefficient, high starting torque and low cost ?

Options :

1. ✖ Horizontal axis single blade type

2. ✔

Horizontal axis multibladed type

3. ✖ Sail type

4. ✖ Darrieus type

Question Number : 117 Question Id : 89040116129 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The self starting wind mill is

Options :

1. ✔ Darrieus rotor wind mill

2. ✖ Savonius rotor wind mill

3. ✖ Turbine tower wind mill

4. ✖ Dutch type horizontal axis wind mill

Question Number : 118 Question Id : 89040116130 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The biomass gasifier is most versatile and any biomass (including seweage sludge;

pulping effluents) can be gasified by

Options :

1. ✖ Up draught gasifier

2. ✖ Down-draught gasifier

3. ✖

Cross draught gasifier

4. ✔ Fluidized bed gasifier

Question Number : 119 Question Id : 89040116131 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The process which produces high quality fuel with very low ash content (2-5 %) is

Options :

1. ✖ Gasification

2. ✔ Briquetting

3. ✖ Extrusion

4. ✖ Pelleting

Question Number : 120 Question Id : 89040116132 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The biogas production starts falling very steeply when the temperature is below

Options :

1. ✖ 35°C

2. ✖ 30°C

3. ✖ 25°C

4. ✔ 20°C

Question Number : 121 Question Id : 89040116133 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The temperature at which an oil starts to solidify is known as

Options :

1. ✖ Flash point

2. ✔ Cloud point

3. ✖ Pour point

4. ✖ Aniline point

Question Number : 122 Question Id : 89040116134 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Ethanol is a much more superior fuel for diesel engines as its cetane number is

Options :

1. ✔ 8

2. ✖ 10

3. ✖ 12

4. ✖ 14

Question Number : 123 Question Id : 89040116135 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The process which involves both heat and mass transfer operations simultaneously is

Options :

1. ✖ Milling

2. ✔ Drying

3. ✖ Size reduction

4. ✖ Decortication

Question Number : 124 Question Id : 89040116136 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The dryer used for drying of parboiled paddy is

Options :

1. ✔ LSU dryer

2. ✖ Sack dryer

3. ✖ Vacuum dryer

4. ✖ Bin dryer

Question Number : 125 Question Id : 89040116137 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The purpose of steaming in paddy parboiling process is

Options :

1. ✖ Hydration

2. ✖ Drying

3. ✔ Starch gelatinization

4. ✖ Starch retrogradation

Question Number : 126 Question Id : 89040116138 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The size reduction mill where the grains are rubbed between the grooved flat faces of rotating circular disks is

Options :

1. ✖ Colloid mill

2. ✖ Ball mill

3. ✖ Hammer mill

4. ✔ Attrition mill

Question Number : 127 Question Id : 89040116139 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The peripheral surface speed of faster roll in rubber-roll sheller is

Options :

1. ✖ 8 to 10m/s

2. ✔ 10 to 13m/s

3. ✖ 13 to 16m/s

4. ✖ 16 to 20m/s

Question Number : 128 Question Id : 89040116140 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The storage structures that are used for storing different varieties of grain are

Options :

1. ✔ Cylindrical grain bins

2. ✖ Rectangular grain bins

3. ✖ Pusa grain bins

4. ✖ Silos

Question Number : 129 Question Id : 89040116141 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The capacity of a power operated groundnut decorticator is

Options :

1. ✖ 1000 to 1500 kg/h

2. ✔ 1875 to 2000 kg/h

3. ✖ 2000 to 2500 kg/h

4. ✖ 2500 to 3000 kg/h

Question Number : 130 Question Id : 89040116142 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The percentage of un-threshed grains from all outlets with respect to total grain input in the thresher by weight is called

Options :

1. ✔ cylinder loss

2. ✖ Blower loss

3. ✖ Sieve loss

4. ✖ Visible damage loss

Question Number : 131 Question Id : 89040116143 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The separator used specially for removing dissimilar material like wheat, rye, mustard, barley from oats is

Options :

1. ✖ Cylinder separator

2. ✖ Spiral separator

3. ✖ Specific gravity separator

4. ✔ Disk separator

Question Number : 132 Question Id : 89040116144 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The cleaner used for cleaning, grading and separation of agricultural granular materials is

Options :

1. ✔ Vibratory screen

2. ✖ Ideal screen

3. ✖ Horizontal screen

4. ✖ Rotary screen

Question Number : 133 Question Id : 89040116145 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The length of cylinder in pedal operated thresher when it is operated by two persons is

Options :

1. ✖ 450 mm

2. ✖ 600 mm

3. ✔ 700 mm

4. ✖ 800 mm

Question Number : 134 Question Id : 89040116146 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In Horizonal Air Flow (HAF) cooling system, the fans are placed at an interval of

Options :

1. ✖ 5m

2. ✖ 10m

3. ✔ 15m

4. ✖ 20m

Question Number : 135 Question Id : 89040116147 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The greenhouse is suitable for low growing crops, such as lettuce is

Options :

1. ✖ Straight side wall structure type

2. ✔ Hoop type

3. ✖ Gable roof

4. ✖ Gothic arch frame structure type

Question Number : 136 Question Id : 89040116148 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The most widely used coating with a low emissivity to greenhouse glass for saving of energy is

Options :

1. ✔ Metal oxide

2. ✖ Silicon oxide

3. ✖ Tin dioxide

4. ✖ Indium oxide

Question Number : 137 Question Id : 89040116149 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The total heat loss from a structurally tight glass greenhouse occurs through infiltration is

Options :

1. ✔ 10%

2. ✖ 20%

3. ✖ 30%

4. ✖ 40%

Question Number : 138 Question Id : 89040116150 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following helps in collection of current from the armature conductors and converts the induced alternating current of the armature into direct current ?

Options :

1. ✖ Pole shoes

2. ✖ Field coil

3. ✖ Brushes

4. ✔ Commutator

Question Number : 139 Question Id : 89040116151 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which is the most popular type of motor used in agricultural purposes, having constant speed and variable horse power ?

Options :

1. ✖ Synchronous motor

2. ✖ Series type motor

3. ✔ Induction motor

4. ✖ Repulsion motor

Question Number : 140 Question Id : 89040116152 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The device used for changing voltage from one value to another value without change in frequency is known as

Options :

1. ✖ Starter

2. ✔ Transformer

3. ✖ Dynamo

4. ✖ Alternator

Question Number : 141 Question Id : 89040116153 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a semiconductor, conductivity can be increased by

Options :

1. ✖ Cooling it to a very low temperature

2. ✖ Applying a strong magnetic field

3. ✔ Doping with impurities

4. ✖ Removing free electrons

Question Number : 142 Question Id : 89040116154 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

According to Ohm's Law, if the voltage is doubled while the resistance remains constant,

the current will

Options :

1. ✖ Be the same

2. ✖ Be halved

3. ✔ Be doubled

4. ✖ Be reduced to zero

Question Number : 143 Question Id : 89040116155 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The tillage system in which, a crop is planted directly into a untilled seedbed after harvesting

of the previous crop is known as

Options :

1. ✖ Minimum tillage

2. ✔ Zero tillage

3. ✖ Mulch tillage

4. ✖ Deep tillage

Question Number : 144 Question Id : 89040116156 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The size of light duty animal drawn mouldboard plough is

Options :

1. ✔ 100 mm

2. ✖ 150 mm

3. ✖ 200 mm

4. ✖ 250 mm

Question Number : 145 Question Id : 89040116157 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The edge of the share which forms joint between mould board and the share on the frog is known as

Options :

1. ✖ Cutting edge

2. ✖ Gunnel

3. ✖ Wing of the share

4. ✔ Cleavage edge

Question Number : 146 Question Id : 89040116158 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The device to make lateral adjustment of the plough relative to the line of pull is known as

Options :

1. ✖ Landside

2. ✖ Frog

3. ✔ Horizontal clevis

4. ✖ Tail piece

Question Number : 147 Question Id : 89040116159 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The plough which combines the principle of the regular disc plough and the disc harrow, used for shallow ploughing is

Options :

1. ✔ Harrow plough

2. ✖ Chisel plough

3. ✖ Subsoiler

4. ✖ Rotary plough

Question Number : 148 Question Id : 89040116160 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The tractor drawn implement used for seed bed preparation, weed control, mixing of soil with crop residue and fertilizer and puddling of the soil is known as

Options :

1. ✖ Reversible M B Plough

2. ✔ Rotavator

3. ✖ Disc harrow

4. ✖ Disc cultivator

Question Number : 149 Question Id : 89040116161 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The animal drawn implement which cuts and turns the soil in two opposite directions simultaneously for forming ridges is

Options :

1. ✖ Bund former

2. ✔ Furrower

3. ✖ Soil scoop

4. ✖ Clod crusher

Question Number : 150 Question Id : 89040116162 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The furrow openers works well in trashy soils where the seed beds are not smoothly prepared are

Options :

1. ✖ Disc type

2. ✖ Shovel type

3. ✔ Shoe type

4. ✖ Tine type

Question Number : 151 Question Id : 89040116163 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The seed metering mechanism of a seed drill which consists of a toothed wheel rotating in a horizontal plane and conveying the fertilizer through a feed gate is

Options :

1. ✖ Auger feed mechanism

2. ✖ Cell feed mechanism

3. ✖ Picker wheel mechanism

4. ✔ Star wheel mechanism

Question Number : 152 Question Id : 89040116164 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The functions of tractor mounted ridger type sugarcane cutter planter are

Options :

1. ✖ Formation of furrows and Cutting the sugarcane setts

2. ✖ Cutting the sugarcane setts and planting the setts

3. ✖ planting the setts and application of granular fertilizer in the furrows

4. ✔ Formation of furrows, cutting setts, planting setts and dropping of fertilizer

Question Number : 153 Question Id : 89040116165 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The nozzle in hydraulic field sprayers does not work satisfactorily if the operating pressure is below

Options :

1. ✔ $1.5\ kg/cm^2$

2. ✖ $2.5\ kg/cm^2$

3. ✖ $3.5\ kg/cm^2$

4. ✖ $4.5\ kg/cm^2$

Question Number : 154 Question Id : 89040116166 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The duster used for spraying tall crops is

Options :

1. ✖ Plunger type

2. ✖ Knapsack type

3. ✔ Rotary

4. ✖ Power operated

Question Number : 155 Question Id : 89040116167 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The component provided at the cutter end of the mower which causes the cut plants to fall

towards the cut material is

Options :

1. ✖

Ledger plate

2. ✖ Shoe

3. ✖ Knife back

4. ✔ Grass board

Question Number : 156 Question Id : 89040116168 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The minimum thickness of the blade in chaff cutter is

Options :

1. ✖ 1.4 mm

2. ✔ 2.4 mm

3. ✖ 3.4 mm

4. ✖ 4.4 mm

Question Number : 157 Question Id : 89040116169 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The instrument whose telescope can be revolved in both horizontal and vertical planes is known as

Options :

1. ✖ Wye level

2. ✖ Dumpy level

3. ✔

Theodolite

4. ✖ Farm level

Question Number : 158 Question Id : 89040116170 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The size of a leveling instrument is specified by the focal length of the objective.

The common focal length is

Options :

1. ✔ 30 cm

2. ✖ 40 cm

3. ✖ 50 cm

4. ✖ 60 cm

Question Number : 159 Question Id : 89040116171 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A compact hand instrument used in setting out right angles with greater accuracy is known as

Options :

1. ✖ Cross staff

2. ✔ Optical square

3. ✖ Stadia

4. ✖ Compass

Question Number : 160 Question Id : 89040116172 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A simple wooden instrument used for laying out field structures such as bunds and terraces in soil conservation works is known as

Options :

1. ✖ Hand level

2. ✖ Abney hand level

3. ✔ A-frame level

4. ✖ Prismatic compass

Question Number : 161 Question Id : 89040116173 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The coefficient of thermal expansion of invar tape for 1°C rise is

Options :

1. ✔ 0.6×10^{-4}

2. ✖ 0.7×10^{-4}

3. ✖ 0.8×10^{-4}

4. ✖ 0.9×10^{-4}

Question Number : 162 Question Id : 89040116174 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following rule is more accurate for measurement of areas of irregularly bounded fields ?

Options :

1. ✖ The Mid-ordinate Rule

2. ✖ The Average Ordinate Rule

3. ✔ Simpson's Rule

4. ✖ The Trapezoidal Rule

Question Number : 163 Question Id : 89040116175 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The contour interval for construction of reservoirs and town planning is in the range of

Options :

1. ✖ 0.15 to 0.50 m

2. ✔ 0.5 to 2m

3. ✖ 2 to 3 m

4. ✖ 3m to 25m

Question Number : 164 Question Id : 89040116176 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The terraces generally constructed in high rainfall areas with steep slopes are

Options :

1. ✖ Outward sloping bench terrace

2. ✖ Level bench terrace

3. ✔ Inward sloping bench terrace

4. ✖ Tati terrace

Question Number : 165 Question Id : 89040116177 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Weibull Method is used for

Options :

1. ✔ Estimating return period of a flood event

2. ✖ Measuring infiltration rates

3. ✖ Calculating surface runoff

4. ✖ Determining groundwater recharge

Question Number : 166 Question Id : 89040116178 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The terrace constructed where the rainfall is low, soil is very permeable and moisture conservation is important are

Options :

1. ✔ Level terrace

2. ✖ Graded terrace

3. ✖ Channel type terrace

4. ✖ Ridge type terrace

Question Number : 167 Question Id : 89040116179 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The percentage of area lost and not suitable for cultivation under contour bunds is

Options :

1. ✖ 2

2. ✔ 5

3. ✖ 7

4. ✖ 10

Question Number : 168 Question Id : 89040116180 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The smallest unit of a watershed is called a

Options :

1. ✖ Catchment area

2. ✔ Micro-watershed

3. ✖ River basin

4. ✖ Flood plain

Question Number : 169 Question Id : 89040116181 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The erosion takes place, when the scouring of material from the water channel and the cutting of banks by running water is known as

Options :

1. ✖ Channel erosion

2. ✖ Gully erosion

3. ✔ Stream Channel erosion

4. ✖ Rill erosion

Question Number : 170 Question Id : 89040116182 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The removal of a fairly uniform layer of soil from the land surface by the action of rainfall and runoff is known as

Options :

1. ✔ Sheet erosion

2. ✖ Splash erosion

3. ✖ Coastal erosion

4. ✖ Geological erosion

Question Number : 171 Question Id : 89040116183 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Zeroth law of thermodynamics is concerned with

Options :

1. ✖ Thermal conductivity

2. ✖ Thermal diffusivity

3. ✖ Thermal resistivity

4. ✔ Thermal equilibrium

Question Number : 172 Question Id : 89040116184 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The calorific value of High Speed Diesel Oil (HSD) is

Options :

1. ✖ 10300 kcal/kg

2. ✔ 10550 kcal/kg

3. ✖ 10850 kcal/kg

4. ✖ 11100 kcal/kg

Question Number : 173 Question Id : 89040116185 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The shaft which raises and lowers the inlet and exhaust valves at proper time is

Options :

1. ✖ Connecting rod

2. ✖ Crankshaft

3. ✔ Camshaft

4. ✖ Timing gear

Question Number : 174 Question Id : 89040116186 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The fuel injection pump supplies fuel to the injectors according to the firing order of the engine and used to create pressure varying from

Options :

1. ✖ 50 to 100 kg/cm^2

2. ✔ 120 to 300 kg/cm^2

3. ✖ 320 to 400 kg/cm^2

4. ✖ 420 to 500 kg/cm^2

Question Number : 175 Question Id : 89040116187 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The device used for interrupting the low voltage primary current and distributing the resulting high voltage current to the engine cylinder in proper sequence and in proper time is

Options :

1. ✖ Condenser

2. ✔ Distributor

3. ✖ Dynamo

4. ✖ Ignition coil

Question Number : 176 Question Id : 89040116188 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The weir, which commonly used to measure medium discharges is

Options :

1. ✔ Cipolletti weir

2. ✖ Contracted weir

3. ✖ Rectangular weir

4. ✖ V-notch weir

Question Number : 177 Question Id : 89040116189 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The diameter of opening in Orifices ranges from

Options :

1. ✖ 1 to 2.5 cm

2. ✔ 2.5 to 7.5 cm

3. ✖ 8.0 to 9.5 cm

4. ✖ 10.0 to 11.5 cm

Question Number : 178 Question Id : 89040116190 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The water measuring device which does not get clogged due to suspended silt or floating debris during measurement is

Options :

1. ✖ Orifice

2. ✖ Weirs

3. ✔ Parshall flume

4. ✖ Water meter

Question Number : 179 Question Id : 89040116191 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The permanent irrigation channels should not usually have side slopes steeper than

Options :

1. ✖ ½ to 1

2. ✔ 1 ½ to 1

3. ✖ 2 to 1

4. ✖ 3 to 1

Question Number : 180 Question Id : 89040116192 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The safety measure provides against overtopping of channels due to wave action or other unforeseen reasons is

Options :

1. ✔ Free board

2. ✖ Hydraulic slope

3. ✖ Hydraulic radius

4. ✖ Wetted perimeter

Question Number : 181 Question Id : 89040116193 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The ratio of the volume of water discharged by the drain during a certain period to the precipitation generated in that period is known as

Options :

1. ✔ Drainage efficiency

2. ✖ Drainage coefficient

3. ✖ Hydraulic conductivity

4. ✖ Drainage porosity

Question Number : 182 Question Id : 89040116194 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In mole drainage system, mole drains are commonly installed at depths between

Options :

1. ✖ 0.2 and 0.3 m

2. ✔ 0.4 and 0.7 m

3. ✖ 0.8 and 1.0 m

4. ✖

1.1 m and 1.3 m

Question Number : 183 Question Id : 89040116195 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Exchangeable sodium percentage (ESP) of an alkali soil is

Options :

1. ✖ 10

2. ✖ 12

3. ✖ 14

4. ✔ >15

Question Number : 184 Question Id : 89040116196 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Plantation of high water consuming trees for withdrawal of groundwater is termed as

Options :

1. ✖ Surface drainage

2. ✖ Sub- Surface drainage

3. ✔ Bio-drainage

4. ✖ Vertical drainage

Question Number : 185 Question Id : 89040116197 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The field level application efficiency of conventional surface irrigation method is

Options :

1. ✖ 20 to 25%

2. ✖ 30 to 35%

3. ✔ 40 to 50%

4. ✖ 55 to 60%

Question Number : 186 Question Id : 89040116198 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The sprinkler system is not usually suitable for heavy clay soils where the infiltration rate is less than

Options :

1. ✔ 4 mm per hour

2. ✖ 6 mm per hour

3. ✖ 8 mm per hour

4. ✖ 10 mm per hour

Question Number : 187 Question Id : 89040116199 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In drip system, the pressure ratings of lateral pipes are usually _____ kg/cm^2

Options :

1. ✖ 1.0

2. ✔ 2.5

3. ✖ 3.5

4. ✖ 4.0

Question Number : 188 Question Id : 89040116200 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which of the following drippers are most suitable on slopes and difficult topographic terrains ?

Options :

1. ✖ Online non-pressure compensating drippers

2. ✖ In line drippers

3. ✔ Online pressure compensating drippers

4. ✖ Adjustable discharge type drippers

Question Number : 189 Question Id : 89040116201 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The sprinkler heads commonly used to irrigate small lawns and gardens are

Options :

1. ✖ Rotating type

2. ✔ Pop-up type

3. ✖ Perforated pipe system

4. ✖ Pendent sprinkler

Question Number : 190 Question Id : 89040116202 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following are used to irrigate a particular portion of the command area at a time directly from the flow through the pipe without the use of any field channel ?

Options :

1. ✖ Gate stands

2. ✖ Air vents

3. ✖ End plug

4. ✔ Hydrants

Question Number : 191 Question Id : 89040116203 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The least count of micro meter is

Options :

1. ✔ 0.01 mm

2. ✖ 0.02 mm

3. ✖ 0.1 mm

4. ✖ 0.2 mm

Question Number : 192 Question Id : 89040116204 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The device used to hold round material of small diameter such as wire and pins is

Options :

1. ✖ Leg vice

2. ✖ Hand vice

3. ✔ Pin vice

4. ✖ Tool vice

Question Number : 193 Question Id : 89040116205 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Arc welding is carried out with a voltage of

Options :

1. ✖ 30-40V

2. ✔ 80-100V

3. ✖ 120-150V

4. ✖ 400-440V

Question Number : 194 Question Id : 89040116206 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The machine used for producing cylindrical, conical (tapered) and spherical components is

Options :

1. ✖ Band saw

2. ✖

Circular saw

3. ✖ Wood planer

4. ✔ Wood turning lathe

Question Number : 195 Question Id : 89040116207 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The instrument used for testing flatness of surface, marking parallel lines and also for marking and testing of right angles is

Options :

1. ✖ Straight edge

2. ✔ Try square

3. ✖ Mortise gauge

4. ✖ Calipers

Question Number : 196 Question Id : 89040116208 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The process of finding a single force that can replace multiple forces acting on a body is called

Options :

1. ✔ Composition of forces

2. ✖ Equilibrium

3. ✖ Friction

4. ✖ Resolution of forces

Question Number : 197 Question Id : 89040116209 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Lami's theorem is applicable to

Options :

1. ✖ Two concurrent forces

2. ✖ Three non-coplanar forces

3. ✔ Three concurrent forces in equilibrium

4. ✖ Any number of forces

Question Number : 198 Question Id : 89040116210 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The moment of a couple is given by

Options :

1. ✖ Force × Area

2. ✖ Force × Time

3. ✖ Force × Inertia

4. ✔ Force × Perpendicular distance

Question Number : 199 Question Id : 89040116211 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Darcy's equation is applicable for

Options :

1. ✖ Laminar flow only

2. ✔ Both laminar and turbulent flows

3. ✖ Turbulent flow only

4. ✖ Open channel flow only

Question Number : 200 Question Id : 89040116212 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In Chezy's equation, 'R' stands for

Options :

1. ✔ Hydraulic radius

2. ✖ Reynolds number

3. ✖ Radius of curvature

4. ✖ Coefficient of roughness