

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 :	Ceramic Technology 06th May 2025 Shift 1
Subject Name :	Ceramic Technology
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Ceramic Technology

Group Number :	1
Group Id :	89040170
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
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Break time :	0
Group Marks :	200

Mathematics

Section Id :	890401271
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 :	890401295
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 89040113813 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 : 89040113814 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 : 89040113815 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the matrix A is of order 3×3 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 : 89040113816 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 : 89040113817 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 : 89040113818 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 : 89040113819 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 : 89040113820 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 : 89040113821 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 : 89040113822 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 $\frac{\operatorname{Cosec} \theta - \cot \theta}{\operatorname{Cosec} \theta + \cot \theta}$ is

Options :

1. ✖ $-1/4$

2. ✖ $-1/2$

3. ✖ $1/2$

4. ✔ $1/4$

Question Number : 11 Question Id : 89040113823 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 : 89040113824 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✔ 1

3. ✖ 2

4. ✖ -1

Question Number : 13 Question Id : 89040113825 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 : 89040113826 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 $0 \leq x \leq \frac{\pi}{2}$ is

Options :

1. ✖ $\frac{\pi}{6}$

2. ✔ $\frac{\pi}{3}$

3. ✖ $\frac{\pi}{12}$

4. ✖ $\frac{\pi}{4}$

Question Number : 15 Question Id : 89040113827 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 : 89040113828 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 : 89040113829 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 : 89040113830 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 : 89040113831 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 : 89040113832 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 : 89040113833 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 : 89040113834 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 : 89040113835 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 : 89040113836 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 : 89040113837 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 : 89040113838 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0

2. ✔ 1

3. ✖ -1

4. ✖ ∞

Question Number : 27 Question Id : 89040113839 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✖ 0
2. ✖ 1
3. ✔ 3
4. ✖ Limit does not exist

Question Number : 28 Question Id : 89040113840 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The derivative of x^x with respect to x is

Options :

1. ✖ $x^x(x + \log x)$
2. ✖ $x^x(x - \log x)$
3. ✖ $x^x(1 - \log x)$
4. ✔ $x^x(1 + \log x)$

Question Number : 29 Question Id : 89040113841 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

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

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 : 89040113842 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $y = \sqrt{\sin x + \sqrt{\sin x + \sqrt{\sin x + \dots \infty}}}$ then $\frac{dy}{dx} =$

Options :

1. ✖ $\frac{\cos x}{1-2y}$

2. ✖ $\frac{\sin x}{1-2y}$

3. ✖ $\frac{-\sin x}{1-2y}$

4. ✔ $\frac{-\cos x}{1-2y}$

Question Number : 31 Question Id : 89040113843 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 : 89040113844 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 : 89040113845 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. ✔

4. ✖ 1

Question Number : 34 Question Id : 89040113846 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 : 89040113847 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 : 89040113848 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The value of $\int (\log \sec x) \tan x \, dx$ 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 : 89040113849 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 : 89040113850 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 : 89040113851 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 : 89040113852 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 : 89040113853 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 : 89040113854 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. ✖ $\frac{2}{3}$

3. ✖ $\frac{1}{3}$

4. ✔ $\frac{4}{3}$

Question Number : 43 Question Id : 89040113855 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 : 89040113856 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 : 89040113857 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 : 89040113858 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 : 89040113859 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. ✖ $y = \tan x + c$
2. ✔ $y = \tan (x + c)$
3. ✖ $y = \tan x$
4. ✖ $y = -\tan (x + c)$

Question Number : 48 Question Id : 89040113860 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 : 89040113861 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 : 89040113862 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 :

890401272

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 :	890401296
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 89040113863 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 : 89040113864 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 : 89040113865 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 : 89040113866 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 : 89040113867 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 $g = 10 \text{ ms}^{-2}$)

Options :

- 1. ✗ 10 m/s
- 2. ✗ 20 m/s
- 3. ✓ 25 m/s
- 4. ✗ 30 m/s

Question Number : 56 Question Id : 89040113868 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 : 89040113869 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 : 89040113870 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 : 89040113871 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 : 89040113872 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 $1/4^{\text{th}}$ 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 : 89040113873 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 $(3\mathbf{i} - 4\mathbf{j})$ m/s to $(6\mathbf{j} + 2\mathbf{k})$ 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 : 89040113874 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 : 89040113875 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 : 89040113876 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 : 89040113877 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 : 89040113878 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 : 89040113879 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 : 89040113880 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 : 89040113881 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 : 89040113882 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 : 89040113883 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 : 89040113884 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 : 89040113885 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 : 89040113886 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 : 89040113887 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Light of wavelength $5000 \text{ \AA}$ 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 :	890401273
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 :	890401297

Question Shuffling Allowed :

Yes

Question Number : 76 Question Id : 89040113888 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 : 89040113889 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 : 89040113890 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 : 89040113891 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 : 89040113892 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 : 89040113893 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 : 89040113894 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 : 89040113895 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 ($N = 6 \times 10^{23} \text{ mol}^{-1}$)

Options :

1. ✖ 0.1 N

2. ✔ 0.2 N

3. ✖ 0.4 N

4. ✖ 0.05 N

Question Number : 84 Question Id : 89040113896 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 : 89040113897 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 : 89040113898 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 : 89040113899 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 : 89040113900 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 ($A_g=108$ u) ($1F=96500$ C mol⁻¹)

Options :

1. ✗ 16.2
2. ✗ 21.2
3. ✓ 10.8
4. ✗ 6.4

Question Number : 89 Question Id : 89040113901 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 : 89040113902 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 : 89040113903 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 : 89040113904 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. ✖ CaCl₂, KCl

3. ✖ AlCl₃, MgCl₂

4. ✔ MgCl₂, CaCl₂

Question Number : 93 Question Id : 89040113905 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 : 89040113906 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 : 89040113907 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 : 89040113908 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. ✖ $\text{CH}_2 = \text{CH} - \text{Cl}$

2. ✖ $\text{CH}_2 = \text{CH} - \text{CN}$

3. ✔ $\text{CH}_2 = \text{CH} - \text{C}_6\text{H}_5$

4. ✖ $\text{CH}_2 = \text{CH} - \text{CH}_3$

Question Number : 97 Question Id : 89040113909 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 : 89040113910 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 : 89040113911 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Greenhouse effect is caused by

Options :

1. ✖ NO₂

2. ✖ CO

3. ✖ NO

4. ✔ CO₂

Question Number : 100 Question Id : 89040113912 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. ✖ CO₂

2. ✖ CH₄

3. ✖ CH₃OH

4. ✔ CF₂Cl₂

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 :	890401298
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 89040113913 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The Earth's core is primarily composed of

Options :

1. ✖ Carbon and Hydrogen
2. ✖ Magnesium and Calcium
3. ✖ Iron and Nickel
4. ✔ Silicon and Oxygen

Question Number : 102 Question Id : 89040113914 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which type of rock is formed from cooling Lava or Magma ?

Options :

1. ✖ Sedimentary
2. ✖ Metamorphic

3. ✓ Igneous

4. ✗ Fossiliferous

Question Number : 103 Question Id : 89040113915 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Granite is an example of

Options :

1. ✓ Intrusive igneous rock

2. ✗ Extrusive igneous rock

3. ✗ Sedimentary rock

4. ✗ Metamorphic rock

Question Number : 104 Question Id : 89040113916 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is a Metamorphic rock ?

Options :

1. ✗ Sandstone

2. ✗ Lime stone

3. ✓ Marble

4. ✖ Basalt

Question Number : 105 Question Id : 89040113917 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The hardest mineral on the Moh's scale is

Options :

1. ✖ Corundum

2. ✖ Topaz

3. ✖ Quartz

4. ✔ Diamond

Question Number : 106 Question Id : 89040113918 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The mineral that shows perfect cleavage in one direction is

Options :

1. ✖ Quartz

2. ✔ Mica

3. ✖ Feldspar

4. ✖ Pyrite

Question Number : 107 Question Id : 89040113919 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which mineral is the primary source of clay formation ?

Options :

1. ✓ Feldspar

2. ✗ Quartz

3. ✗ Halite

4. ✗ Gypsum

Question Number : 108 Question Id : 89040113920 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The process of clay formation due to prolonged exposure of rocks to water and atmospheric condition is called

Options :

1. ✗ Lithification

2. ✓ Hydrolysis

3. ✗ Cementation

4. ✗ Calcination

Question Number : 109 Question Id : 89040113921 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which type of clay mineral is known for its high swelling and shrinkage ?

Options :

1. ✖ Kaolinite
2. ✔ Montmorillonite
3. ✖ Illite
4. ✖ Chlorite

Question Number : 110 Question Id : 89040113922 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Potash Feldspar is also known as

Options :

1. ✔ Orthoclase
2. ✖ Albite
3. ✖ Anorthite
4. ✖ Dickite

Question Number : 111 Question Id : 89040113923 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Biotite is known as

Options :

1. ✖

Brown mica

2. ✖ White mica

3. ✖ Red mica

4. ✔ Black mica

Question Number : 112 Question Id : 89040113924 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The chemical formula of Litharge is

Options :

1. ✔ PbO

2. ✖ PbO_2

3. ✖ Pb_3O_4

4. ✖ $\text{Pb}(\text{NO}_3)_2$

Question Number : 113 Question Id : 89040113925 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Wallostanite is mainly used in

Options :

1. ✔ Wall tiles

2. ✖ Insulating bricks

3. ✖ Cement

4. ✖ Glass making

Question Number : 114 Question Id : 89040113926 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The chemical formula of Potash Feldspar is

Options :

1. ✖ $\text{K}_2\text{O Al}_2\text{O}_3 \text{SiO}_2$

2. ✖ $\text{K}_2\text{O } 2\text{Al}_2\text{O}_3 \text{ } 2\text{SiO}_2$

3. ✖ $\text{K}_2\text{O Al}_2\text{O}_3 \text{ } 4\text{SiO}_2$

4. ✔ $\text{K}_2\text{O Al}_2\text{O}_3 \text{ } 6\text{SiO}_2$

Question Number : 115 Question Id : 89040113927 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The chemical formula of Rutile is

Options :

1. ✔ TiO_2

2. ✖ SiO_2

3. ✖ Na_2O

4. ✖ K_2O

Question Number : 116 Question Id : 89040113928 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

A white translucent porcelain consist of minimum 25% of Bone ash is called

Options :

1. ✖ Belleek china

2. ✖ Alumina porcelain

3. ✔ Bone china

4. ✖ Cordierite porcelain

Question Number : 117 Question Id : 89040113929 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is not a Triaxial material in white ware ?

Options :

1. ✖ Clay

2. ✖ Quartz

3. ✖ Feldspar

4. ✔ Titania

Question Number : 118 Question Id : 89040113930 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following acts as Flux ?

Options :

1. ✖ Clay
2. ✖ Quartz
3. ✔ Feldspar
4. ✖ Zircon

Question Number : 119 Question Id : 89040113931 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... is used to prepare granules

Options :

1. ✖ Filter press
2. ✔ Spray dryer
3. ✖ Blunger
4. ✖ Ball mill

Question Number : 120 Question Id : 89040113932 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Jigger- Jolly machines are used to make

Options :

1. ✓ Cups
2. ✗ Tubes
3. ✗ Tiles
4. ✗ Decorative articles

Question Number : 121 Question Id : 89040113933 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is non-porous ?

Options :

1. ✗ Earthen ware
2. ✗ Flower pots
3. ✓ Porcelain
4. ✗ Common bricks

Question Number : 122 Question Id : 89040113934 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... imparts blue color in glaze

Options :

1. ✓ Cobalt oxide
2. ✗ Chromium oxide
3. ✗ Iron oxide
4. ✗ Nickel oxide

Question Number : 123 Question Id : 89040113935 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

..... defects occurs when thermal expansion of the body is much higher than that of the glaze

Options :

1. ✗ Crawling
2. ✗ Crazing
3. ✗ Dunting
4. ✓ Peeling

Question Number : 124 Question Id : 89040113936 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

.....glazes are used on high tension ceramic insulators

Options :

1. ✗ Opaque
2. ✓

Semiconducting

3. ✖ Transparent

4. ✖ Translucent

Question Number : 125 Question Id : 89040113937 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Roller hearth kiln is used for firing of

Options :

1. ✔ Ceramic tiles

2. ✖ Clinkers

3. ✖ Refractory bricks

4. ✖ Sanitary ware

Question Number : 126 Question Id : 89040113938 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... contains high percentage of Feldspar

Options :

1. ✖ Soft porcelain

2. ✖ Hard porcelain

3. ✖

Jasper porcelain

4. ✓ Dental porcelain

Question Number : 127 Question Id : 89040113939 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The Bristol glaze contains

Options :

1. ✗ Sb_2O_3

2. ✓ ZnO

3. ✗ SnO_2

4. ✗ ZrO_2

Question Number : 128 Question Id : 89040113940 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The firing temperature of soft porcelain is

Options :

1. ✗ 1000°C

2. ✓ 1250°C

3. ✗ 1100°C

4. ✗ 1350°C

Question Number : 129 Question Id : 89040113941 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Filter press is used in

Options :

1. ✖ Cement making
2. ✖ Glass making
3. ✖ Refractory making
4. ✔ Ceramic insulator making

Question Number : 130 Question Id : 89040113942 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which of the following is a Glaze defect ?

Options :

1. ✖ Peeling
2. ✖ Crazing
3. ✖ Spitout
4. ✔ Blackspots

Question Number : 131 Question Id : 89040113943 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not an Opacifier ?

Options :

1. ✖ As_2O_3

2. ✖ Sb_2O_3

3. ✔ ZnO

4. ✖ TiO_2

Question Number : 132 Question Id : 89040113944 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What happens to the drying rate when it reaches critical moisture content ?

Options :

1. ✖ Declines

2. ✖ Increases gradually

3. ✖ Stops

4. ✔ Becomes constant

Question Number : 133 Question Id : 89040113945 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... is used as deffloculent in slip

Options :

1. ✖ Limes tone

2. ✖ Dolomite

3. ✔ Sodium silicate

4. ✖ Sodium Nitrate

Question Number : 134 Question Id : 89040113946 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In process a stiffer plastic mass is forced through a nozzle ending in a die to produce a column of uniform cross section

Options :

1. ✖ Throwing

2. ✖ Jiggering

3. ✖ Slip casting

4. ✔ Extrusion

Question Number : 135 Question Id : 89040113947 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The picnometer is used

Options :

1. ✔ To determine density of slip

2. ✖ To determine viscosity of slip
3. ✖ To determine residue of slip
4. ✖ To determine flowability of slip

Question Number : 136 Question Id : 89040113948 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Super refractories should have fusion temperature above

Options :

1. ✖ 1580°C
2. ✖ 1780°C
3. ✔ 2000°C
4. ✖ 1600°C

Question Number : 137 Question Id : 89040113949 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

..... is not a Alumino-silicate refractory

Options :

1. ✖ Andalusite
2. ✔ Corundum

3. ✖ Silimanite

4. ✖ Kyanite

Question Number : 138 Question Id : 89040113950 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Tabular Alumina contains phase

Options :

1. ✔ α

2. ✖ β

3. ✖ γ

4. ✖ δ

Question Number : 139 Question Id : 89040113951 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Dead burning of Magnesite is done at a temperature of

Options :

1. ✖ 1525°C

2. ✖ 1100°C

3. ✖ 1700°C

4. ✔

1925°C

Question Number : 140 Question Id : 89040113952 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Silica brick contains

Options :

1. ✖ 85-90% SiO₂

2. ✖ 90-92% SiO₂

3. ✔ 93-98% SiO₂

4. ✖ 80-85% SiO₂

Question Number : 141 Question Id : 89040113953 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The density of Corundum is

Options :

1. ✖ 2.5 gm/cc

2. ✔ 4 gm/cc

3. ✖ 3gm/cc

4. ✖ 5 gm/cc

Question Number : 142 Question Id : 89040113954 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The chemical nature of Silica bricks is

Options :

1. ✖ Neutral
2. ✖ Basic
3. ✔ Acidic
4. ✖ Super

Question Number : 143 Question Id : 89040113955 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Plumbago crucible is

Options :

1. ✖ Lead crucible
2. ✔ Graphite crucible
3. ✖ Silicon carbide crucible
4. ✖ Alumina crucible

Question Number : 144 Question Id : 89040113956 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The common defect that observe in shaped refractories due to improper grading of particles and faulty pressing operation is

Options :

1. ✖ Bursting
2. ✖ Black core
3. ✔ Lamination
4. ✖ Chip off

Question Number : 145 Question Id : 89040113957 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Impingement test is done to find

Options :

1. ✔ Slag resistance
2. ✖ Thermal shock resistance
3. ✖ Thermal expansion
4. ✖ Thermal conductivity

Question Number : 146 Question Id : 89040113958 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

_____ is used as mineralizer in Silica refractories

Options :

1. ✓ Lime
2. ✗ Soda ash
3. ✗ Magnesite
4. ✗ Chromite

Question Number : 147 Question Id : 89040113959 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... refractories are used in roof of Open-hearth furnace

Options :

1. ✗ Magnesite
2. ✗ Chromite
3. ✓ Silica
4. ✗ Dolomite

Question Number : 148 Question Id : 89040113960 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Alumina silicate group of refractories should have more than of Alumina

Options :

- 1. ✓ 45%
- 2. ✗ 25%
- 3. ✗ 10%
- 4. ✗ 30%

Question Number : 149 Question Id : 89040113961 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not allotropic modification of Zirconia ?

Options :

- 1. ✗ Cubic
- 2. ✗ Tetragonal
- 3. ✓ Triclinic
- 4. ✗ Monoclinic

Question Number : 150 Question Id : 89040113962 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

.....refractories are used for Hearth of Blast furnace

Options :

- 1. ✗ Magnesite

2. ✓ Carbon

3. ✗ Dolomite

4. ✗ Silica

Question Number : 151 Question Id : 89040113963 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which oxide promotes 'Periclase' formation during the burning of Magnesite ?

Options :

1. ✗ B_2O_3

2. ✓ Fe_2O_3

3. ✗ SiO_2

4. ✗ CaO

Question Number : 152 Question Id : 89040113964 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Silica bricks show good thermal shock resistance above

Options :

1. ✓ $600^{\circ}C$

2. ✗ $800^{\circ}C$

3. ✗ $400^{\circ}C$

4. ✖ 900°C

Question Number : 153 Question Id : 89040113965 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... refractories are used in burning zone of cement kilns

Options :

1. ✖ Alumina

2. ✔ Dolomite

3. ✖ Silica

4. ✖ Fire clay

Question Number : 154 Question Id : 89040113966 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... refractories burst in presence of Iron oxide under oxidizing condition

Options :

1. ✖ Dolomite

2. ✖ Silica

3. ✖ Fire clay

4. ✔ Chromite

Question Number : 155 Question Id : 89040113967 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The cement content in Low cement castables is

Options :

1. ✓ Not more than 2 %

2. ✗ Not more than 5%

3. ✗ Note more than 7%

4. ✗ Not more than 10%

Question Number : 156 Question Id : 89040113968 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The process of slow cooling of glass to relieve internal stress is called

Options :

1. ✓ Annealing

2. ✗ Tempering

3. ✗ Quenching

4. ✗ Sintering

Question Number : 157 Question Id : 89040113969 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

..... is a property of glass

Options :

1. ✓ Brittle
2. ✗ Ductile
3. ✗ Tough
4. ✗ Malleability

Question Number : 158 Question Id : 89040113970 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Pyrex glass contains

Options :

1. ✗ Aluminum oxide
2. ✗ Lead oxide
3. ✗ Zinc oxide
4. ✓ Boron Trioxide

Question Number : 159 Question Id : 89040113971 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following oxide is not Network former ?

Options :

1. ✗ SiO_2

2. ✖ GeO_2

3. ✔ Cr_2O_3

4. ✖ P_2O_5

Question Number : 160 Question Id : 89040113972 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following glasses are not prepared by Pressing ?

Options :

1. ✖ Dishes

2. ✖ Tumblers

3. ✔ Bottles

4. ✖ TV picture tubes

Question Number : 161 Question Id : 89040113973 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

_____ is used for boosting of glass batch by electrical heating

Options :

1. ✔ Mo electrode

2. ✖ Ag electrode

3. ✖ Pt electrode

4. ✖ C electrode

Question Number : 162 Question Id : 89040113974 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

..... method is used for making wide neck bottles

Options :

1. ✖ Blow & Blow

2. ✔ Press & Blow

3. ✖ Pressing

4. ✖ Centrifugal casting

Question Number : 163 Question Id : 89040113975 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which type of glass is commonly used for Optical lenses ?

Options :

1. ✖ Alumino-silicate glass

2. ✔ Lead glass

3. ✖ Borosilicate glass

4. ✖ Laminated glass

Question Number : 164 Question Id : 89040113976 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which of the following is not a characteristic of Laminated glass ?

Options :

1. ✖ It consists of multilayers
2. ✖ It holds together when broken
3. ✔ It shatters into sharp pieces
4. ✖ It is used in car windshields

Question Number : 165 Question Id : 89040113977 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

..... refractories are used in tank of continuous glass melting furnace

Options :

1. ✖ Silica
2. ✖ Magnesite
3. ✖ Dolomite
4. ✔ Electrocast AZS

Question Number : 166 Question Id : 89040113978 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The presence of following ions have a large effect on the color of glass

Options :

1. ✖ Na^+ ions

2. ✖ Ca^{2+} ions

3. ✔ Fe^{2+} ions

4. ✖ K^+ ions

Question Number : 167 Question Id : 89040113979 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which sequence of steps are correct for glass manufacturing process ?

Options :

1. ✖ Batch, shaping, melting, annealing

2. ✔ Batch, melting, shaping, annealing

3. ✖ Annealing, batch, melting, shaping

4. ✖ Annealing, shaping, Batch, melting

Question Number : 168 Question Id : 89040113980 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The temperature at which non-crystalline material transforms from a supercooled liquid to rigid glass is

Options :

1. ✖ Melting point
2. ✖ Boiling point
3. ✖ Softening point
4. ✔ Glass transition temperature

Question Number : 169 Question Id : 89040113981 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following

- | | |
|-------------|------------------|
| a) Blowing | i) Tubes |
| b) Floating | ii) Bottles |
| c) Pressing | iii) Sheet glass |
| d) Drawing | iv) Table ware |

Options :

1. ✔ a-ii, b-iii, c-iv, d-i
2. ✖ a-iii, b-ii, c-i, d-iv
3. ✖ a-ii, b-iv, c-iii, d-i
4. ✖ a-iv, b-ii, c-iii, d-i

Question Number : 170 Question Id : 89040113982 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... oxide promotes Devitrification

Options :

1. ✖ SiO_2

2. ✖ Na_2O

3. ✔ CaO

4. ✖ K_2O

Question Number : 171 Question Id : 89040113983 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a Zachariasen's rule

Options :

1. ✖ Oxygen polyhedral share only corners

2. ✔ The oxygen should link more than four glass forming atoms

3. ✖ Three-dimensional network should form

4. ✖ Co-ordination number of glass forming atom should be small

Question Number : 172 Question Id : 89040113984 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Crown types of glasses are

Options :

1. ✖ Laboratory apparatus grade
2. ✔ Optical grade
3. ✖ Sealing type
4. ✖ Ultraviolet transmitting type

Question Number : 173 Question Id : 89040113985 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the main purpose of Photochromatic glasses ?

Options :

1. ✔ To change tint according to lighting conditions
2. ✖ To protect from UV rays
3. ✖ To enhance color vision
4. ✖ To magnify objects

Question Number : 174 Question Id : 89040113986 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... type of glass fiber is commonly used in fiber reinforced composites

Options :

1. ✔ E

2. ✖ A

3. ✖ S

4. ✖ C

Question Number : 175 Question Id : 89040113987 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... is a primary material used to manufacture glass fibers

Options :

1. ✖ Carbon

2. ✔ Silica

3. ✖ Iron

4. ✖ Copper

Question Number : 176 Question Id : 89040113988 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... Phase is responsible for quick setting of cement

Options :

1. ✖ C_3S

2. ✖ C_2S

3. ✔ C_3A

C₃AF

4. ✖

Question Number : 177 Question Id : 89040113989 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the % CaO in Portland cement ?

Options :

40-45

1. ✖

60-65

2. ✔

50-55

3. ✖

70-75

4. ✖

Question Number : 178 Question Id : 89040113990 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... is used to control the setting time of cement

Options :

Lime

1. ✖

Silica

2. ✖

Gypsum

3. ✔

Magnesia

4. ✖

Question Number : 179 Question Id : 89040113991 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The vicat apparatus is used to measure

Options :

1. ✓ ☒ Setting time
2. ✗ ☐ Particle size
3. ✗ ☐ Soundness
4. ✗ ☐ Strength

Question Number : 180 Question Id : 89040113992 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which type of cement is best suited for underwater construction ?

Options :

1. ✗ ☐ Ordinary Portland cement
2. ✓ ☒ Quick setting cement
3. ✗ ☐ Sulphate resistance cement
4. ✗ ☐ Pozzolanitic cement

Question Number : 181 Question Id : 89040113993 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The total amount of heat or energy produced by one kg of fuel is the

Options :

- 1. ✖ Heat content
- 2. ✖ Net calorific value
- 3. ✔ Gross calorific value
- 4. ✖ Specific heat

Question Number : 182 Question Id : 89040113994 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following fuel has the highest calorific value ?

Options :

- 1. ✖ Peat
- 2. ✖ Coke
- 3. ✔ Bituminous coal
- 4. ✖ Anthracite

Question Number : 183 Question Id : 89040113995 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following temperature measurement device operates on the voltage produced by two dissimilar metals ?

Options :

1. ✓ Thermocouple
2. ✗ Thermistor
3. ✗ Mercury thermometer
4. ✗ Resistance temperature detector

Question Number : 184 Question Id : 89040113996 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Which type of kiln is used in cement making ?

Options :

1. ✓ Rotary kiln
2. ✗ Roller hearth kiln
3. ✗ Shuttle kiln
4. ✗ Tunnel kiln

Question Number : 185 Question Id : 89040113997 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

..... is used for annealing of glass

Options :

1. ✗ Pot furnace
2. ✓ Annealing furnace

3. ✖ Tunnel kiln

4. ✖ Blast furnace

Question Number : 186 Question Id : 89040113998 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... materials exhibits Meissner effect

Options :

1. ✖ Insulator

2. ✖ Conductor

3. ✖ Semiconductor

4. ✔ Superconductor

Question Number : 187 Question Id : 89040113999 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not an electrical insulator ?

Options :

1. ✖ Al_2O_3

2. ✔ Graphite

3. ✖ Nylon

4. ✖ Si_3N_4

Question Number : 188 Question Id : 89040114000 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The formation of electrical dipole is called

Options :

1. ✔ Polarization

2. ✖ Polymerization

3. ✖ Magnetization

4. ✖ Semiconducting

Question Number : 189 Question Id : 89040114001 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following material has high dielectric constant ?

Options :

1. ✖ NaCl

2. ✖ Mica

3. ✖ Diamond

4. ✔ BaTiO_3

Question Number : 190 Question Id : 89040114002 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Nickel Zinc Ferrite is a

Options :

- 1. ✖ Microwave ferrite
- 2. ✔ Soft Ferrite
- 3. ✖ Hard Ferrite
- 4. ✖ Square loop ferrite

Question Number : 191 Question Id : 89040114003 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

..... is used as sparkplug of Automobiles

Options :

- 1. ✖ Silicoon carbide
- 2. ✔ Alumina
- 3. ✖ Zirconia
- 4. ✖ Magnesia

Question Number : 192 Question Id : 89040114004 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Thin ceramic sheets are made by

Options :

1. ✖ Extrusion
2. ✖ Slip casting
3. ✔ Tape casting
4. ✖ Plastic forming

Question Number : 193 Question Id : 89040114005 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The BCS theory explains

Options :

1. ✖ Laser action
2. ✖ Pyroplasticity
3. ✔ Semiconductivity
4. ✖ Superconductivity

Question Number : 194 Question Id : 89040114006 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Advanced ceramics are characterized by

Options :

1. ✖ Low thermal shock resistance
2. ✖ High thermal expansion
3. ✖ Low load bearing capacity
4. ✔ Greater temperature resistance

Question Number : 195 Question Id : 89040114007 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

..... is a Non-oxide ceramic

Options :

1. ✖ Alumina
2. ✖ Zirconia
3. ✔ Silicon carbide
4. ✖ Magnesita

Question Number : 196 Question Id : 89040114008 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Hydrogen bonds are stronger than

Options :

1. ✖ Ionic bonds

2. ✖ Metallic bonds

3. ✖ Covalent bonds

4. ✔ Vander waals bond

Question Number : 197 Question Id : 89040114009 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The number of atoms per unit cell in FCC is

Options :

1. ✔ 4

2. ✖ 2

3. ✖ 1

4. ✖ 6

Question Number : 198 Question Id : 89040114010 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

A cation vacancy and an anion vacancy in a crystal of type AB is called

Options :

1. ✖ Frenkel defect

2. ✔ Schottky defect

3. ✖ Pairs of vacancies

4. ✖ Line imperfection

Question Number : 199 Question Id : 89040114011 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The reaction that yields two solid phases on cooling a liquid phase is called

Options :

1. ✖ Eutectoid

2. ✖ Peritectoid

3. ✔ Eutectic

4. ✖ Peritectic

Question Number : 200 Question Id : 89040114012 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following has spinel crystal structure ?

Options :

1. ✖ Fe_2O_3

2. ✔ MgAl_2O_4

3. ✖ CoO

4. ✖ Na_2O

