Question Paper Preview

Question Paper Name: Ceramic Technology
Subject Name: Ceramic Technology

Mathematics

Number of Questions: 50
Display Number Panel: Yes
Group All Questions: No

Question Number : 1 Question Id : 6780944204 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the traces of A and B are 20 and -8 then the trace of (A+B) is ___

Options :

1. 12
2. -12
3. 28
4. -28

Question Number : 2 Question Id : 6780944205 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $A=\begin{bmatrix} x & 1 \\ 1 & 0 \end{bmatrix}$ is an involutory matrix then x=

Options :

1. 0
2. –2
3. –1
4. 2

Question Number : 3 Question Id : 6780944206 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The determinant of $\begin{bmatrix} \log e & \log e^2 & \log e^3 \\ \log e^2 & \log e^3 & \log e^4 \\ \log e^3 & \log e^4 & \log e^5 \end{bmatrix}$ is ___

Options :

1. 0
2. 1
3. $4\log e$
4. $5\log e$

Question Number : 4 Question Id : 6780944207 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $A=\begin{bmatrix} 1 & 1 & 0 \\ 2 & 1 & 3 \\ 0 & 1 & 2 \end{bmatrix}$ then $\det(adjA) =$ ___

Options :

1. $\det A$
2. $\det A^2$
3. $-\det A$
4. $(\det A)^2$

Question Number : 5 Question Id : 6780944208 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If A, B are two matrices and $AB=B$, $BA=A$ then $A^2+B^2=$

Options :

1. $A+B$
2. $A-B$
3. AB
4. 0

Question Number : 6 Question Id : 6780944209 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\frac{3x+2}{(x+1)(2x^2+3)}=\frac{A}{x+1}+\frac{Bx+C}{2x^2+3}$, then $A+C-B=$ ___

Options :

1. 0
2. 2
3. 3
4. 5

Question Number : 7 Question Id : 6780944210 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\frac{3x}{(x-a)(x-b)}=\frac{2}{x-a}+\frac{1}{x-b}$ then $a:b=$ ___

Options :

1. $-2:1$
2. $2:1$
3. $1:2$
4. $3:1$

Question Number : 8 Question Id : 6780944211 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\tan 855°=$ ____

Options :

1. 1
2. $\frac{1}{\sqrt{2}}$
3. -1
4. $-\frac{1}{\sqrt{2}}$

Question Number : 9 Question Id : 6780944212 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\tan\alpha=\frac{m}{m+1}$ and $\tan\beta=\frac{1}{2m+1}$ then $\tan(\alpha+\beta)=$ ____

Options :

1. -1

2. 0

3. 1

4. 2

Question Number : 10 Question Id : 6780944213 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $6\sin 20° - 8\sin^3 20° =$

Options :

1. 2

2. $\frac{1}{\sqrt{2}}$

3. $\sqrt{3}$

4. $\frac{1}{\sqrt{3}}$

Question Number : 11 Question Id : 6780944214 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $3\sin\theta + 4\cos\theta = 5$ then the value of $4\sin\theta - 3\cos\theta =$

Options :

1. 0

2. -1

3. 1

4. 2

Question Number : 12 Question Id : 6780944215 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The sine function with period 3 is

Options :

1. $sin\frac{2\pi x}{3}$

2. $sin\frac{\pi x}{3}$

3. $sin\ 3\pi x$

4. $sin\frac{3\pi x}{2}$

Question Number : 13 Question Id : 6780944216 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The maximum value of $3\sin^2 x+5\cos^2 x$ is ____

Options :

1. 8

2. 3

3. 5

4. 34

Question Number : 14 Question Id : 6780944217 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation $\sqrt{3}\sin x+\cos x=4$ has ____

Options :

1. Only one solution

2. two solutions

3. Infinite solutions

4. no solution

Question Number : 15 Question Id : 6780944218 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The solution of $\mathrm{Cos}^{-1}\left(\sqrt{3}x\right)+\mathrm{Cos}^{-1}x=\frac{\pi}{2}$ is ___

Options :

1. $\frac{1}{2}$

2. $\frac{1}{5}$

3. $-\frac{1}{2}$

4. $-\frac{1}{5}$

Question Number : 16 Question Id : 6780944219 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of $\sin\theta+\sin(\theta+120°)-\sin(120°-\theta)=$ _____

Options :

1. 0

2. $\sin\theta$

3. 1

4. $-\sin\theta$

Question Number : 17 Question Id : 6780944220 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The principal solution of $3\text{Cosec}A = 4\text{Sin}A$ is ____

Options :

1. $\frac{\pi}{4}$

2. $\pm\frac{\pi}{3}$

3. $\pm\frac{\pi}{6}$

4. $\pm 2\pi$

Question Number : 18 Question Id : 6780944221 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\left|z^2-1\right|=\left|z\right|^2+1.$ then z lies in ____

Options :

1. The real axis

2. a circle

3. The imaginary axis

4. a parabola

Question Number : 19 Question Id : 6780944222 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\left(\frac{1+i}{1-i}\right)^3-\left(\frac{1-i}{1+i}\right)^3=a+ib$, then *a* an *b* are ____

Options :

1. 1,1
2. 2,-2
3. 0,-2
4. 0,-1

Question Number : 20 Question Id : 6780944223 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the line $y=2x+c$ is a tangent to $x^2+y^2=5$ then the value of *c* is ____

Options :

1. 2
2. 3
3. 4
4. 5

Question Number : 21 Question Id : 6780944224 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The vertex of the parabola $x^2+8x+12y+4=0$ is

Options :

1. $(-4,1)$
2. $(4,-1)$
3. $(-4,-1)$
4. $(4,1)$

Question Number : 22 Question Id : 6780944225 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of tangents to the ellipse $\frac{x^2}{4}+\frac{y^2}{2}=1$ through (2,1) is ____

Options :

1. 0

2. 1

3. 2

4. 3

Question Number : 23 Question Id : 6780944226 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The length of the latus rectum of the hyperbola $x^2-4y^2=4$ is ____

Options :

1. 2

2. 1

3. 4

4. 3

Question Number : 24 Question Id : 6780944227 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The length of the diameter of the circle $x^2+y^2-6x-8y=0$ is _____

Options :

1. 10

2. 15

3. 5

4. 20

Question Number : 25 Question Id : 6780944228 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the line $2y=5x+k$ touches the parabola $y^2=6x$ then k= ___

Options :

1. $\frac{2}{3}$

2. $\frac{4}{3}$

3. $\frac{3}{5}$

4. $\frac{6}{5}$

Question Number : 26 Question Id : 6780944229 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$$\lim_{x\to 2+} \frac{x|x-2|}{x-2} = \_\_\_\_\_$$

Options :

1. 1
2. −1
3. 2
4. −2

Question Number : 27 Question Id : 6780944230 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $f(x) = (1+x)^{\frac{2}{x}}$ is continuous at $x = 0$ then $f(0) = \_\_\_$

Options :

1. e
2. e^2
3. e^3
4. e^4

Question Number : 28 Question Id : 6780944231 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $x = a\sec\theta, y = b\tan\theta$ then $\frac{dy}{dx} = \_\_\_\_$

Options :

1. $\frac{b}{a}\sec\theta$
2. $\frac{b}{a}\text{cosec}\,\theta$
3. $\frac{a}{b}\sec\theta$
4. $\frac{a}{b}\text{cosec}\,\theta$

Question Number : 29 Question Id : 6780944232 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $x^y = e^{x-y}$ then $\frac{dy}{dx} =$ ____

Options :

1. $\frac{\log x}{(1+\log x)^2}$

2. $\frac{\log x}{(1-\log x)^2}$

3. $\frac{-\log x}{(1+\log x)^2}$

4. $\frac{-1}{(1+\log x)^2}$

Question Number : 30 Question Id : 6780944233 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $y = \sin^{-1}\left(\frac{x}{\sqrt{1+x^2}}\right)$ then $\frac{dy}{dx} =$ ____

Options :

1. $-\frac{1}{1+x^2}$

2. $\frac{1}{1+x^2}$

3. $\frac{2}{1+x^2}$

4. $-\frac{2}{1+x^2}$

Question Number : 31 Question Id : 6780944234 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The slope of the normal to the curve $x = a\sec\theta, y = a\tan\theta$ at $\theta = \frac{\pi}{6}$ is ____

Options :

1. 2
2. 0
3. $-\frac{1}{2}$
4. 1

Question Number : 32 Question Id : 6780944235 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The rate of change of area of a circle with respect to radius when r=5cm is

Options :

1. 2π sq.cm/sec
2. 10π sq.cm/sec
3. 100π sq.cm/sec
4. 20π sq.cm/sec

Question Number : 33 Question Id : 6780944236 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following function has maxima or minima?

Options :

1. e^x
2. $\log x$
3. x^3+x^2+x+1
4. $\sin x$

Question Number : 34 Question Id : 6780944237 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the increase in the side of a square is 2% then the approximate percentage increase in the area of the square is _____

Options :

1. 2
2. 4
3. 6
4. 8

Question Number : 35 Question Id : 6780944238 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For the function $f(x)=\log(x^2+y^2)$, which of the following is true?

Options :

1. $f_x+f_y=0$

2. $f_{xx}+f_{yy}=0$

3. $f_x-f_y=0$

4. $f_{xx}-f_{yy}=0$

Question Number : 36 Question Id : 6780944239 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\int \text{cosec}^5\theta\cot\theta d\theta =$ _____

Options :

1. $\frac{\cot^2\theta}{2}$

2. $\frac{-\text{cosec}^5\theta}{5}$

3. $\frac{\text{cosec}^6\theta}{6}$

4. $\frac{-\text{cosec}^6\theta}{6}$

Question Number : 37 Question Id : 6780944240 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\int_2^3 \frac{dx}{x^2-x} =$ ____

Options :

1. $\log\frac{2}{3}$

2. $\log\frac{4}{3}$

3. $\log\frac{8}{3}$

4. $\log\frac{1}{4}$

Question Number : 38 Question Id : 6780944241 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $a<0<b$ then $\int_a^b \frac{|x|}{x}dx =$ _____

Options :

1. $b-a$

2. $a-b$

3. $a+b$

4. 0

Question Number : 39 Question Id : 6780944242 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\int_0^1 x\tan^{-1}x dx =$ _____

Options :

1. $\frac{\pi}{4}-\frac{1}{2}$

2. $\frac{\pi}{8}-\frac{1}{2}$

3. $\frac{\pi}{4}+\frac{1}{2}$

4. $\frac{\pi}{8}+\frac{1}{2}$

Question Number : 40 Question Id : 6780944243 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\lim_{n\to\infty}\sum_{r=1}^{n}\frac{1}{n}e^{\frac{r}{n}} =$ _____

Options :

1. e

2. $(1+e)$

3. $(1-e)$

4. $(e-1)$

Question Number : 41 Question Id : 6780944244 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$$\int_0^{\pi/4} \sec^6 x dx = \_\_\_\_\_$$

Options :

1. $\frac{8}{3}$

2. $\frac{28}{15}$

3. $-\frac{28}{15}$

4. $\frac{4}{5}$

Question Number : 42 Question Id : 6780944245 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The area bounded by the curve $y = \log x$, x-axis and the straight line $x - e = 0$ is _____square units

Options :

1. e

2. $(e-1)$

3. 0

4. $(1-e)$

Question Number : 43 Question Id : 6780944246 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The volume of the solid generated by rotating one arch of the curve $y = Sin3x$ about the x-axis is----

Options :

1. π^2

2. $\frac{\pi^2}{2}$

3. $\frac{\pi^2}{4}$

4. $\frac{\pi^2}{6}$

Question Number : 44 Question Id : 6780944247 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$y = cx - c^2$ is the general solution of the differential equation

Options :

1. $\left(\frac{dy}{dx}\right)^2 - x\left(\frac{dy}{dx}\right) + y = 0$

2. $\frac{d^2y}{dx^2} = 0$

3. $\frac{dy}{dx} = c$

4. $\left(\frac{dy}{dx}\right)^2 + x\left(\frac{dy}{dx}\right) + y = 0$

Question Number : 45 Question Id : 6780944248 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of the differential equation $\frac{dy}{dx} + \frac{y}{3} = 1$ is

Options :

1. $y = 3 + ce^{\frac{x}{3}}$

2. $y = 3 + ce^{-\frac{x}{3}}$

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

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

Question Number : 46 Question Id : 6780944249 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The differential equation corresponding to the family of curves $y = ae^{bx}$, where *a* and *b* are arbitrary constants, is ____

Options :

1. $\frac{d^2y}{dx^2} = y\frac{dy}{dx}$

2. $y\frac{d^2y}{dx^2} - \frac{dy}{dx} = 0$

3. $y\frac{d^2y}{dx^2} = \left(\frac{dy}{dx}\right)^2$

4. $\frac{dy}{dx} - y^2 = 0$

Question Number : 47 Question Id : 6780944250 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An integrating factor of the differential equation $(x^2y + y + 1)dx + (x + x^3)dy = 0$ is __

Options :

1. e^x

2. x^2

3. $\frac{1}{x}$

4. x

Question Number : 48 Question Id : 6780944251 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The differential equation whose solution is $Ax^2 + By^2$, where A,B are arbitrary constants are of ----

Options :

1. 1^{st} order and 1^{st} degree

2. 2^{nd} order and 1^{st} degree

3. 2^{nd} order and 2^{nd} degree

4. 1^{st} order and 2^{nd} degree

Question Number : 49 Question Id : 6780944252 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of the differential equation $\frac{d^2x}{dt^2}-4\frac{dx}{dt}+5x=0$ is

Options :

1. $x=(c_1\cos t+c_2\sin t)e^{2t}$

2. $t=(c_1\cos x+c_2\sin x)e^{2x}$

3. $x=(c_1\cos 2t+c_2\sin 2t)e^{t}$

4. $t=(c_1\cos 2x+c_2\sin 2x)e^{x}$

Question Number : 50 Question Id : 6780944253 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The particular integral of $(D-2)^2y=\sin 2x$ is

Options :

1. $\frac{\cos 2x}{8}$

2. $\frac{\sin 2x}{8}$

3. $\frac{-\cos 2x}{2}$

4. $\frac{-\sin 2x}{2}$

Physics

Number of Questions:	25
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 51 Question Id : 6780944254 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The unit of impulse is the same as that of

Options :

1. moment of force

2. linear momentum

3. force

4. pressure

Question Number : 52 Question Id : 6780944255 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the force is given by $F = at+bt^2$ where t is the time. The dimensions of a and b are

Options :

1. MLT^{-4}, MLT^{-2}

2. MLT^{-3}, MLT^{-4}

3. ML^2T^{-3}, ML^2T^{-2}

4. ML^2T^{-3}, ML^3T^{-4}

Question Number : 53 Question Id : 6780944256 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Vector parallel to $6\hat{i} + 8\hat{j}$ and having a magnitude of 5 is

Options :

1. $4\hat{i} + 3\hat{j}$

2. $12\hat{i} + 16\hat{j}$

3. $16\hat{i} +8\hat{j}$

4. $3\hat{i} + 4\hat{j}$

Question Number : 54 Question Id : 6780944257 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $|\vec{A} \times \vec{B}| = K(AB)$ then angle between $\vec{A}$ and $\vec{B}$ is

Options :

1. $\cos^{-1}K$

2. $\cos^{-1}(1/K)$

3. $\sin^{-1}K$

4. $\sin^{-1}(1/K)$

Question Number : 55 Question Id : 6780944258 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A cricket ball is thrown at a speed of 28 m/s in a direction 30^0 above the horizontal. The maximum height reached by the ball is

Options :

1. 10 m

2. 20 m

3. 30 m

4. 40 m

Question Number : 56 Question Id : 6780944259 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Two bodies are projected at angles of 45^0 and 60^0 with the horizontal with same velocity simultaneously. Ratio of their horizontal ranges is

Options :

1. $\sqrt{3}:2$

2. $2:\sqrt{3}$

3. 1:2

4. 2:1

Question Number : 57 Question Id : 6780944260 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A ball thrown by a boy is caught 2 seconds later by another at some distance away on the same level. If the angle of projection is 30^0, the velocity of projection is

Options :

1. 19.6 m/sec

2. 9.8 m/sec

3. 4.9 m/sec

4. 5.2 m/sec

Question Number : 58 Question Id : 6780944261 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A 200 m wide river flows with a velocity of 5 m/sec. A man crosses the river in the shortest time of 25 sec. If there is no flow and he swims with the same velocity, the time taken to cross the river is

Options :

1. $\frac{200}{5\sqrt{3}}$ sec

2. 20 sec

3. 25 sec

4. $25\sqrt{2}$ sec

Question Number : 59 Question Id : 6780944262 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A body of mass 1 Kg lies on an inclined plane of angle 60^0 to the horizontal. If the coefficient of friction is 0.4, the frictional force along the inclined plane is

Options :

1. 1.96 N

2. 0.98 N

3. 0.49 N

4. 0.245 N

Question Number : 60 Question Id : 6780944263 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A force of 20 Kg weight is required to just slide a wooden box weighing 50 Kg over ice. Then coefficient of static friction between the surfaces in contact is

Options :

1. 0.2

2. 0.4

3. 0.8

4. 0.1

Question Number : 61 Question Id : 6780944264 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A cyclist comes to a skidding stop in 10m. During this process, the force on the cycle due to the road is 200N and is directly opposed to the motion. The work done by the road on the cycle is

Options :

1. 1000 J

2. 2000J

3. -1000J

4. -2000J

Question Number : 62 Question Id : 6780944265 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A sphere of mass 4 Kg is dropped from a certain height. After 5s, its kinetic energy is ($g=10\ m/s^2$)

Options :

1. 5J

2. 50 J

3. 5 KJ

4. 50 KJ

Question Number : 63 Question Id : 6780944266 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An elevator weighing 500 kg is to be lifted up at a constant velocity of 0.20 m/s. What would be the minimum power of the motor to be used?

Options :

1. 100 W

2. 500 W

3. 980 W

4. 900 W

Question Number : 64 Question Id : 6780944267 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

At t=0, the displacement of a particle in SHM is half its amplitude. Its initial phase is (referring to mean position)

Options :

1. $\frac{\pi}{6}$

2. $\frac{\pi}{3}$

3. $\frac{2\pi}{3}$

4. $\frac{\pi}{2}$

Question Number : 65 Question Id : 6780944268 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The length of seconds pendulum is 100 cm. To have a period half of this value, the length is to be reduced by

Options :

1. 25 cm

2. 75 cm

3. 50 cm

4. 100 cm

Question Number : 66 Question Id : 6780944269 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Inside a big hall, the reverberation time is

Options :

1. directly proportional to volume

2. inversely proportional to sound absorption

both directly proportional to volume

and

inversely proportional to sound absorption

3.

depends on temperature

4.

Question Number : 67 Question Id : 6780944270 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The voice of lion is different from that of a mosquito because

Options :

1. the sounds have different pitch

2. they are of different size

3. the two voices travel with different velocities

4. the sounds have different phases

Question Number : 68 Question Id : 6780944271 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A car is travelling at $\frac{v}{10}$ m/s and sounds horn of frequency 990 Hz. The apparent frequency heard by a police chasing the car at $\frac{v}{9}$ m/s (v is the velocity of sound) is

Options :

1. 990 Hz

2. 900 Hz

3. 100 Hz

4. 1000Hz

Question Number : 69 Question Id : 6780944272 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When ice cube melts and becomes water, the ice-water system undergoes a change such that

Options :

1. entropy of the system decreases and internal energy decreases

2. entropy of the system decreases and internal energy increases

3. entropy of the system increases and internal energy increases

4. entropy of the system increases and internal energy decreases

Question Number : 70 Question Id : 6780944273 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A mass of 300 gm falls from a height of 3 m(g=9.8 m/s^2). Assuming that the whole energy is converted into heat, the amount of heat produced is

Options :

1. 2 cal

2. 2.1 cal

3. 4 cal

4. 4.2 cal

Question Number : 71 Question Id : 6780944274 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

During an adiabatic expansion of 2 moles of a gas, the change in internal energy was found to be equal to 100 J. The work done during the process will be equal to

Options :

1. zero

2. -100 J

3. 200 J

4. 100 J

Question Number : 72 Question Id : 6780944275 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The pressure and density of a diatomic gas ($\gamma = \frac{7}{5}$) change adiabatically from (P,d) to (P^1,d^1). If $\frac{d^1}{d} = 32$, then $\frac{P^1}{P}$ is

Options :

1. 128

2. 32

3. 256

4. 64

Question Number : 73 Question Id : 6780944276 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Boyle's law holds good for an ideal gas during

Options :

1. isobaric changes

2. isothermal changes

3. isochoric changes

4. isotopic changes

Question Number : 74 Question Id : 6780944277 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The threshold frequency of metal is υ_0. When a light of frequency 4 υ_0 is incident on metal then the $K.E_{max}$ of emitted electrons is

Options :

1. $2\upsilon_0 h$

2. $3\upsilon_0 h$

3. $4\upsilon_0 h$

4. $\upsilon_0 h$

Question Number : 75 Question Id : 6780944278 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Superconductors are _____ materials

Options :

1. dielectric

2. paramagnetic

3. ferromagnetic

4. diamagnetic

Number of Questions:	25
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 76 Question Id : 6780944279 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Pauli exclusion principle is concerned with

Options :

1. Energy of orbital.
2. Spin of electron.
3. Energy of electron
4. Angular momentum of electron

Question Number : 77 Question Id : 6780944280 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

According to Bohr's model of hydrogen atom, the following is quantized

Options :

1. Linear momentum
2. Linear velocity
3. Angular momentum
4. Angular velocity

Question Number : 78 Question Id : 6780944281 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How many 'd' – orbitals have two perpendicular nodal planes

Options :

1. Two
2. Three
3. Four
4. Five

Question Number : 79 Question Id : 6780944282 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In sodium chloride crystal, each Na^+ ion is surrounded by

Options :

1. Two Cl^- ions
2. Four Cl^- ions
3. Six Cl^- ions
4. Eight Cl^- ions

Question Number : 80 Question Id : 6780944283 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which among the following molecule contains a π – bond

Options :

1. H_2
2. O_2
3. F_2
4. HCl

Question Number : 81 Question Id : 6780944284 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which among the following is insoluble in water?

Options :

1. Alcohol
2. Ammonia
3. Benzene
4. Acetone

Question Number : 82 Question Id : 6780944285 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The normality of 2.3 M H_2SO_4 solution is

Options :

1. 0.46N
2. 0.23 N
3. 2.3 N

4. 4.6N

Question Number : 83 Question Id : 6780944286 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

8 grams of substance of molecular weight 40 is dissolved in 250 g of water. Then the **molality** of the solution is

Options :

1. 0.4

2. 0.8

3. 0.2

4. 0.6

Question Number : 84 Question Id : 6780944287 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The pH value of 0.05M $Ba(OH)_2$ solution is

Options :

1. 10

2. 12

3. 13

4. 11

Question Number : 85 Question Id : 6780944288 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following molecule is not a Lewis Base?

Options :

1. H_2O

2. BF_3

3. NH_3

4. CO

Question Number : 86 Question Id : 6780944289 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

During the electrolysis of brine, 710 g of Cl_2 was liberated at anode. The weight of NaOH formed

Options :

1. 800 g

2. 400 g

3. 80 g

4. 40 g

Question Number : 87 Question Id : 6780944290 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In the Danniel cell, which electrode acts as anode?

Options :

1. Cu

2. Hg

3. Zn

4. Pt

Question Number : 88 Question Id : 6780944291 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The molar conductance of HCl is more than that of NaCl because

Options :

1. NaCl is more polar than KCl

2. NaCl is ionic while HCl is covalent

3. Ionic mobility of H^+ is more than that of Na^+

4. H^+ get hydrated.

Question Number : 89 Question Id : 6780944292 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The units for electrochemical equivalent are

Options :

1. grams

2. grams ampere

3. Coulomb

4. Grams per coulomb

Question Number : 90 Question Id : 6780944293 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Zeolite softening process removes

Options :

1. Only permanent hardness of water
2. Only temporary hardness of water
3. Both temporary and permanent hardness of water
4. The dissolved gases in permanent hard water.

Question Number : 91 Question Id : 6780944294 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The permanent hardness of water is caused by the presence of

Options :

1. Bicarbonates of Ca and Mg
2. Carbonates of Na and K
3. Chlorides and Sulphates of Ca and Mg.
4. Phosphates of Na and K

Question Number : 92 Question Id : 6780944295 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The secondary treatment of water uses _____ to consume wastes in water.

Options :

1. Filtration
2. Sedimentation
3. Chemicals
4. Microorganisms

Question Number : 93 Question Id : 6780944296 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Difficult to monitor and very dangerous form of corrosion is

Options :

1. Galvanic
2. Pitting

3. Crevice

4. Stress

Question Number : 94 Question Id : 6780944297 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When Pt and Co are electrically connected, which one gets corroded?

Options :

1. Co

2. Pt

3. None

4. both

Question Number : 95 Question Id : 6780944298 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What rubber was invented when Dr. Joseph C. Patrick tried to make antifreeze?

Options :

1. Methyl rubber

2. Chloroprene

3. Bruna N

4. Thiokol

Question Number : 96 Question Id : 6780944299 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The first plastic ever synthesized was called _____.

Options :

1. Bakelite

2. Nylon

3. Dacron

4. Cellulose

Question Number : 97 Question Id : 6780944300 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

_____ is a brand of polyester textile fiber that is wrinkle resistant and strong

Options :

1. Cellulose

2. Dacron

3. Bakelite

4. Nylon

Question Number : 98 Question Id : 6780944301 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Water gas is a mixture of

Options :

1. $H_2 + CO$

2. $N_2 + CO$

3. $H_2 + CO_2$

4. $H_2 + CH_4$

Question Number : 99 Question Id : 6780944302 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a greenhouse gas?

Options :

1. CO

2. CO_2

3. water vapour

4. CH_4

Question Number : 100 Question Id : 6780944303 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Burning of fossil fuels causes

Options :

1. Global warming

2. Ozone depletion

3. Acid rain

4. Eutrophication

Number of Questions:	100
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 101 Question Id : 6780944304 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The total number of polymorphic form of TITANIA is

Options :

1. 4
2. 3
3. 2
4. 1

Question Number : 102 Question Id : 6780944305 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Molecular formula of TALC is

Options :

1. $MgO.H_2O$
2. $MgO.SiO_2.H_2O$
3. $3MgO.SiO_2.H_2O$
4. $3MgO.4SiO_2.H_2O$

Question Number : 103 Question Id : 6780944306 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Muscovite is known as

Options :

1. White Mica
2. Black Mica
3. Red Mica
4. Brown Mica

Question Number : 104 Question Id : 6780944307 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Non-Clay plastic material is

Options :

1. Steatite

2. Zircon

3. Corundum

4. Vermiculite

Question Number : 105 Question Id : 6780944308 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is used as a binder

Options :

1. Dextrin

2. Colex

3. Starch

4. All three

Question Number : 106 Question Id : 6780944309 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a member of beach sand minerals?

Options :

1. Zircon

2. Sillimanite

3. Andalusite

4. Rutile

Question Number : 107 Question Id : 6780944310 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The material used in sand blasting as a substitute of Silica to reduce dangers of Silicosis is

Options :

1. Emery

2. Corundum

3. Garnet

4. Boron Nitride

Question Number : 108 Question Id : 6780944311 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Fuller's earth is

Options :

1. Kaolinite
2. Montmorrilonite
3. Mica
4. Diatomaceous earth

Question Number : 109 Question Id : 6780944312 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following clay is used as drilling fluid for petroleum:

Options :

1. Kaolinite
2. Illite
3. Montmorrilonite
4. Vermiculite

Question Number : 110 Question Id : 6780944313 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The chemical formula of Flourspar is

Options :

1. CaF_2
2. BeF_2
3. MgF_2
4. BaF_2

Question Number : 111 Question Id : 6780944314 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Monazite sand available in India, mainly consist of

Options :

1. Chabazite
2. Zirconia
3. Sillimanite
4. Monticillite

Question Number : 112 Question Id : 6780944315 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is Oligoclase ?

Options :

1. Lime-Soda Feldspar
2. Lime-Potash Feldspar
3. Lime Feldspar
4. Soda Feldspar

Question Number : 113 Question Id : 6780944316 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fumed Silica is widely used in making

Options :

1. Glass
2. Castable Refractories
3. Ceramic Tiles
4. Cement

Question Number : 114 Question Id : 6780944317 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Hardness of Pyrophillite in Moh's scale of hardness is

Options :

1. 5-6
2. 8-9
3. 1-2
4. 4-5

Question Number : 115 Question Id : 6780944318 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wallostonite is mainly used in

Options :

1. Wall Tiles
2. Insulation Bricks
3. Cement
4. Glass making

Question Number : 116 Question Id : 6780944319 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wall Tile is a class of

Options :

1. Earthen ware

2. Stone ware

3. Hard Porcelain

4. Soft Porcelain

Question Number : 117 Question Id : 6780944320 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Roller Hearth Kiln is used for firing

Options :

1. Ceramic Tiles

2. Cement Clinker

3. High Alumina Bricks

4. Sanitary ware

Question Number : 118 Question Id : 6780944321 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Dental Porcelain contains

Options :

1. High percentage of Feldspar

2. Low percentage of Feldspar

3. High Percentage of Quartz

4. Low Percentage of Quartz

Question Number : 119 Question Id : 6780944322 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The filter press is mainly used in the making of

Options :

1. Ceramic insulators

2. Cement

3. Glass

4. Refractory

Question Number : 120 Question Id : 6780944323 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not used as a raw material in engobe?

Options :

1. China Clay
2. Quartz
3. Rutile
4. Feldspar

Question Number : 121 Question Id : 6780944324 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is the Dunting of white ware bodies?

Options :

1. Deformation after firing
2. Cracking due to thermally induced stress
3. Rolling out of glaze after firing
4. None of these

Question Number : 122 Question Id : 6780944325 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a glaze defect:

Options :

1. Crack
2. Dunting
3. Glaze specks
4. Black core

Question Number : 123 Question Id : 6780944326 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For coloured glazes, which of the following does not affect the color:

Options :

1. Colouring Agent
2. Kiln atmosphere
3. Firing temperature
4. Humidity

Question Number : 124 Question Id : 6780944327 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The consistometer is used to determine

Options :

1. Specific gravity of slip
2. Viscosity of slip
3. Flow of slip per minute
4. Density of slip

Question Number : 125 Question Id : 6780944328 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following oxide is a must for Blue stain:

Options :

1. NiO
2. MnO
3. ZnO
4. CoO

Question Number : 126 Question Id : 6780944329 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not an opacifier?

Options :

1. AS_2O_3
2. Sb_2O_3
3. ZnO
4. Al_2O_3

Question Number : 127 Question Id : 6780944330 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not used in photosensitive glasses:

Options :

1. Cu
2. Pb
3. Ag
4. Au

Question Number : 128 Question Id : 6780944331 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the operating temperature of Spray dryer for ceramic precursor powder drying?

Options :

1. 700-900 ^{0}C
2. 450-650 ^{0}C
3. 200-300 ^{0}C
4. 900-1100 ^{0}C

Question Number : 129 Question Id : 6780944332 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The kiln furniture for firing HT Porcelain Insulators is made of

Options :

1. Mullite
2. Alumina-SiC
3. Clay bonded SiC
4. Cordierite

Question Number : 130 Question Id : 6780944333 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

During burning white colour of the body suggests a temperature of

Options :

1. 500-600 ^{0}C
2. 700-800 ^{0}C
3. 900-1000 ^{0}C
4. 1300-1400 ^{0}C

Question Number : 131 Question Id : 6780944334 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Vitreous China is a

Options :

1. Moderately vitrified body
2. Fully vitrified body

3. Porous body

4. Fully fused body

Question Number : 132 Question Id : 6780944335 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pin holes are caused due to

Options :

1. Excessive Heating

2. Porous Body

3. Excessive Cooling

4. Incorrect firing cycle

Question Number : 133 Question Id : 6780944336 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A silica brick contains

Options :

1. 85-90 %SiO_2

2. 90-92 %SiO_2

3. 95-98 %SiO_2

4. 80-85 %SiO_2

Question Number : 134 Question Id : 6780944337 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A fire brick contains Al_2O_3

Options :

1. Less than 60%

2. Less than 40%

3. Less than 50%

4. Less than 30%

Question Number : 135 Question Id : 6780944338 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The theoretical density of Corundum is

Options :

1. 4 Gms/cc

2. 3.5 gms/cc

3. 5.0 Gms /cc

4. 3.0 gms/cc

Question Number : 136 Question Id : 6780944339 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Silica bricks show good thermal shock resistance above

Options :

1. 600 ^{0}C

2. 800 ^{0}C

3. 400 ^{0}C

4. 900 ^{0}C

Question Number : 137 Question Id : 6780944340 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The nature of Chromite refractory is

Options :

1. Neutral

2. Acidic

3. Basic

4. Super

Question Number : 138 Question Id : 6780944341 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The melting point of Mullite is

Options :

1. 1723 ^{0}C

2. 2050 ^{0}C

3. 2300 ^{0}C

4. 1810^{0}C

Question Number : 139 Question Id : 6780944342 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A good quality Mullite refractory shall contain Mullite percent of

Options :

1. 85
2. 80
3. 60
4. 70

Question Number : 140 Question Id : 6780944343 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Carbon Monoxide disintegration test is is important for refractories used in

Options :

1. Steel Making Converter lining
2. Ladle lining
3. Blast Furnace top lining
4. Soaking pit

Question Number : 141 Question Id : 6780944344 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Maximum temperature attainable for continuous heating for SiC heating element is

Options :

1. 1450 ^{0}C
2. 1600^{0}C
3. 1200^{0}C
4. 1700^{0}C

Question Number : 142 Question Id : 6780944345 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The grain sizes of refractory mortars generally do not exceed

Options :

1. 2mm
2. 1mm
3. 0.5 mm
4. 5mm

Question Number : 143 Question Id : 6780944346 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The breaking/cracking of refractory brick in service, to such an extent that pieces are separated leaving the new surface of the brick exposed. This definition pertains to

Options :

1. Erosion
2. Abrasion
3. Corrosion
4. Spalling

Question Number : 144 Question Id : 6780944347 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which type of refractory is used as refractory lining for coke oven

Options :

1. Fire Clay Bricks(25% Alumina)
2. Zirconia Bricks
3. Silica Bricks
4. Carbon blocks

Question Number : 145 Question Id : 6780944348 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

To make Silica brick, about 2% of this substance is added as a bond, identify:

Options :

1. Lime
2. Titania
3. Zirconia
4. Magnesia

Question Number : 146 Question Id : 6780944349 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following contains highest Alumina?

Options :

1. Sillimanite

2. Kyanite

3. Andalusite

4. Mullite

Question Number : 147 Question Id : 6780944350 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Blast furnace hearth should preferably made of

Options :

1. Fire Clay (40% Alumina) bricks

2. Carbon Bricks

3. Zircon Bricks

4. Vermiculite bricks

Question Number : 148 Question Id : 6780944351 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which Oxide promotes the growth of Periclase during the burning of Magnesite?

Options :

1. B_2O_3

2. Fe_2O_3

3. SiO_2

4. CaO

Question Number : 149 Question Id : 6780944352 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Dead burning of Magnesite is carried out at a temperature ^0C of

Options :

1. 1200-1350

2. 800-950

3. 1600-1750

4. 1300-1450

Question Number : 150 Question Id : 6780944353 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Bridge wall is observed in

Options :

1. Blast furnace

2. Glass tank furnace

3. Annealing furnace

4. Reheating furnace

Question Number : 151 Question Id : 6780944354 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a common type of Devitrification stone?

Options :

1. Tridymite

2. Quartz

3. Cristoballite

4. Wallastonite

Question Number : 152 Question Id : 6780944355 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For repairing damaged furnace walls by Ceramic welding, which of the following powder is normally used along with refractory powders?

Options :

1. Charcoal

2. Aluminium

3. Iron

4. Silicon

Question Number : 153 Question Id : 6780944356 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the average temperature range maintained in a Glass Tank Furnace in ^{0}C

Options :

1. 1500-1550

2. 1400-1450

3. 1300-1350

4. 1600-1650

Question Number : 154 Question Id : 6780944357 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The E-Glass, S-Glass and Z-Glass are

Options :

1. Fibre Glass
2. Optical Glass
3. Sheet Glass
4. Toughened Glass

Question Number : 155 Question Id : 6780944358 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a network former?

Options :

1. B_2O_3
2. GeO_2
3. P_2O_5
4. ZrO_2

Question Number : 156 Question Id : 6780944359 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a Nucleating Agent?

Options :

1. TiO_2
2. ZrO_2
3. ZnO
4. Er_2O_3

Question Number : 157 Question Id : 6780944360 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Chalcogenide Glasses are used as

Options :

1. I.R.transmitting Glass
2. Photo Chromatic Glass
3. Laser Glass

4. Radiation Shield Glass

Question Number : 158 Question Id : 6780944361 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following element is not a Glass former?

Options :

1. S

2. Se

3. Te

4. As

Question Number : 159 Question Id : 6780944362 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following Oxide is not a Glass former?

Options :

1. B_2O_3

2. SiO_2

3. GeO_2

4. Cr_2O_3

Question Number : 160 Question Id : 6780944363 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not used as a Refining agent during Glass melting?

Options :

1. As_2O_3

2. Sb_2O_3

3. $NaNO_3$

4. TiO_2

Question Number : 161 Question Id : 6780944364 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is used to remove green tint in molten Glass?

Options :

1. Manganese Dioxide

2. Chromic Oxide

3. Ferric Oxide

4. Cobalt Oxide

Question Number : 162 Question Id : 6780944365 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Dog House is found in

Options :

1. Glass Tank Furnace

2. Tunnel Kiln

3. Converter Furnace

4. Roller Hearth Kiln

Question Number : 163 Question Id : 6780944366 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is used to impart Amber colour in Glass?

Options :

1. Excess of Pyrolusite and ferric Oxide

2. Carbonaceous material with Sulphur or Iron Sulfide

3. Flourspar with Feldspar

4. Ferric Oxide with a reducing agent

Question Number : 164 Question Id : 6780944367 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Jena Glass contains

Options :

1. Beryllium and Magnesium Oxide

2. Zinc and Barium Oxide

3. Lead and Bismuth Oxide

4. None of the above

Question Number : 165 Question Id : 6780944368 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Signal Traffic Lights make use of Red coloured Glass containing

Options :

1. Selenium

2. Copper

3. Chromium

4. Cobalt

Question Number : 166 Question Id : 6780944369 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one is not a Zachariasen's rule for glass formation of oxide RxOy:

Options :

1. An Oxygen atom is not linked to more than two atoms

2. The number of Oxygen atoms surrounding a Central atom must be small(3 or 4)

3. The oxygen Polyhedra share corner with each other, not edges or faces

4. At least four corners of each oxygen polyhedron must be shared

Question Number : 167 Question Id : 6780944370 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following phase occurs in maximum amount in Portland cement

Options :

1. C_3S

2. C_2S

3. C_3A

4. C_4AF

Question Number : 168 Question Id : 6780944371 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

C_3S, C_2S, C_3A and C4AF are major compounds of Portland cement. The rate of hydration of C_4AF is

Options :

1. Greater than C_3A

2. Slower than C_3A

3. Equal to that of C_3A

4. Zero

Question Number : 169 Question Id : 6780944372 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Gehelenite is

Options :

1. C_3S
2. C_2S
3. C_2AS
4. C_4AF

Question Number : 170 Question Id : 6780944373 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a Pozzolona

Options :

1. Calcined clay
2. Rice Husk
3. Fly Ash
4. Zerconia powder

Question Number : 171 Question Id : 6780944374 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following additive is used to control the setting of Portland cement?

Options :

1. Lime
2. Gypsum
3. Sodium Chloride
4. Silica

Question Number : 172 Question Id : 6780944375 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The soundness of cement is measured by

Options :

1. Vicat's apparatus
2. Blain's apparatus

3. Autoclave expansion

4. None of these

Question Number : 173 Question Id : 6780944376 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the burning temperature of Portland cement?

Options :

1. 1400-1500 ^{0}C

2. 1200-1300 ^{0}C

3. 1600-1700 ^{0}C

4. 1100-1200 ^{0}C

Question Number : 174 Question Id : 6780944377 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which phase in Portland cement gives ultimate strength?

Options :

1. C_3S

2. C_2S

3. C_3A

4. C_4AF

Question Number : 175 Question Id : 6780944378 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following Oxide is responsible for the soundness of the cement?

Options :

1. ZnO

2. MgO

3. NiO

4. BeO

Question Number : 176 Question Id : 6780944379 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Fullerene can be used as

Options :

1. Semiconductor

2. Bio-Ceramics

3. Super conductor

4. Optical ceramics

Question Number : 177 Question Id : 6780944380 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fulleren is available in Andhra Pradesh at

Options :

1. Gudur

2. Mangmpeta

3. Cheemakurti

4. Jaggayyapeta

Question Number : 178 Question Id : 6780944381 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following natural mineral is used as a dielectric?

Options :

1. Vermiculite

2. Bentonite

3. Halloysite

4. Mica

Question Number : 179 Question Id : 6780944382 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a low loss ceramic?

Options :

1. Steatite

2. Forsterite

3. Wallastonite

4. Rutile

Question Number : 180 Question Id : 6780944383 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following materials is known as Ceramic steel?

Options :

1. ZrO_2

2. Al_2O_3

3. MgO

4. Cr_2O_3

Question Number : 181 Question Id : 6780944384 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a permanent magnet?

Options :

1. Zinc Ferrite

2. Barium Ferrite

3. Nickel Ferrite

4. Manganese ferrite

Question Number : 182 Question Id : 6780944385 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following materials is not a Piezoelectric?

Options :

1. Quartz

2. Rochelle salt

3. Rutile

4. Barium titanate

Question Number : 183 Question Id : 6780944386 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of these ceramic is used in sparkplugs of automobiles?

Options :

1. Alumina

2. Silicon carbide

3. Zirconia

4. Magnesia

Question Number : 184 Question Id : 6780944387 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The thread guides are made of

Options :

1. ZrO_2
2. SiC
3. MgO
4. Al_2O_3

Question Number : 185 Question Id : 6780944388 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following ceramic is not used as an abrasive?

Options :

1. Boron Nitride
2. Emery
3. Boron carbide
4. Silicon carbide

Question Number : 186 Question Id : 6780944389 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pyrometric cones, also known as Segar cones are used to measure

Options :

1. A range of temperature
2. Exact temperature
3. Rate of temperature raise
4. None of these

Question Number : 187 Question Id : 6780944390 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The gas produced as a Bye product of coke oven battery consist of

Options :

1. CO
2. Methane

3. Nitrogen

4. CO_2

Question Number : 188 Question Id : 6780944391 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What metal combinations are used to measure high temperatures using thermocouples?

Options :

1. Chromel-Alumel

2. Iron-Constantan

3. Copper-Constantan

4. Platinum-Pt Rhodium

Question Number : 189 Question Id : 6780944392 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Temperature measurement device which uses Non-Contact method

Options :

1. Thermometer

2. Pt-PtRh thermo couple

3. Alcohol Thermometer

4. Radiation Pyrometer

Question Number : 190 Question Id : 6780944393 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The fast firing technology used to fire Ceramiic tiles uses the fuel

Options :

1. Gas

2. Coal

3. Liquid fuel

4. None of these

Question Number : 191 Question Id : 6780944394 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following materials is used as an opacifier in Enamels?

Options :

1. Synthetic Cryolite

2. Borax

3. Orthoclase

4. Pegmatite

Question Number : 192 Question Id : 6780944395 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The discharge of molten enamel from the furnace with the formation of small pieces is known as granulation and granulated enamel is called

Options :

1. Frit

2. Fettle

3. Flux

4. Fugacity

Question Number : 193 Question Id : 6780944396 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Ground coat enamel for steel is melted at the temperature range of

Options :

1. 500-550 ^{0}C

2. 700-750 ^{0}C

3. 900-950^{0}C

4. 1200-1250 ^{0}C

Question Number : 194 Question Id : 6780944397 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following Oxide when present in ground coat improves the adhesion of the enamel coating?

Options :

1. ZnO

2. SnO_2

3. CoO

4. Fe_2O_3

Question Number : 195 Question Id : 6780944398 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The acid resistance of enamel ware is tested with

Options :

1. Hydrochloric acid
2. Citric acid
3. Sulphuric acid
4. Tartaric acid

Question Number : 196 Question Id : 6780944399 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not an opacifier in Porcelain enamel?

Options :

1. MgF_2
2. CaF_2
3. NaF
4. Sb_2O_3

Question Number : 197 Question Id : 6780944400 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The copper head defect is observed in

Options :

1. Cover coat enamel
2. Ground Coat enamel
3. Base metal
4. None of these

Question Number : 198 Question Id : 6780944401 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The enameling iron is

Options :

1. Low carbon steel
2. Cold rolled steel
3. Both Low carbon steel & Cold rolled steel

4. None

Question Number : 199 Question Id : 6780944402 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Feldspar is used extensively in Enamels as

Options :

1. An opacifier

2. A colorant

3. A raw material

4. an agent which increases refractive index

Question Number : 200 Question Id : 6780944403 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The adhesion of fired enamel to metal base is tested by

Options :

1. Scratch Test

2. Tensile test

3. Impact test

4. Compression test