Telangana State Council 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 :	CHEMICAL ENGINEERING 06th May 2024 Shift1
Subject Name :	Chemical Engineering
Creation Date :	2024-05-06 19:15:09
Duration :	180
Total Marks :	200
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No

Help Button :	No
Show Reports :	No
Show Progress Bar :	No

CHEMICAL ENGINEERING

Group Number :	1
Group Id :	7614465
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Mathematics

Section Id :	76144615
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Sub-Section Number : 1

Sub-Section Id : 76144629

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 1 Question Id : 761446811 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $A=\begin{pmatrix} k & 1 \\ 1 & k \end{pmatrix}$ and $\left|A^3\right|=27$, then $k=$

Options :

7614463201. ✖ ± 1

7614463202. ✔ ± 2

7614463203. ✖ ± 4

7614463204. ✖ ± 5

Question Number : 2 Question Id : 761446812 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $A=\begin{pmatrix} 1 & -1 \\ 2 & 1 \end{pmatrix}$ satisfies $aA^2+bA+cI=0$, then $b+2c=$

Options :

7614463205. ✔ 4

7614463206. ✖ 2

7614463207. ✖ -4

7614463208. ✖ 3

Question Number : 3 Question Id : 761446813 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let (x, y, z) be the solution of the system of equations $x+3y+z=3$, $x+4y+2z=3, -x-2y+3z=-6$ .Then $x^2+y^2+z^2=$

Options :

7614463209. ✖ 12

7614463210. ✖ 9

7614463211. ✖ 6

7614463212. ✔ 3

Question Number : 4 Question Id : 761446814 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $A=\begin{pmatrix}2 & x+9\\ 1 & 2x\end{pmatrix}$ is invertible,then $x\neq$

Options :

7614463213. ✖ 4

7614463214. ✖ 1

7614463215. ✔ 3

7614463216. ✖ 5

Question Number : 5 Question Id : 761446815 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of x satisfying $3^{\log_5(x-5)}=\log_5(125)$ is

Options :

7614463217. ✔ 10

7614463218. ✖ 5

7614463219. ✖ 9

7614463220. ✖ 3

Question Number : 6 Question Id : 761446816 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\frac{4x^2+1}{x^3-1}=\frac{A}{x-1}+\frac{Bx+C}{x^2+x+1}$, then $A-B+C=$

Options :

7614463221. ✖ -3

7614463222. ✔ 0

7614463223. ✖ 2

7614463224. ✖ 1

Question Number : 7 Question Id : 761446817 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The diameter of the circle $(x-1)^2+(y+3)^2=3$ is

Options :

7614463225. ✖ $\sqrt{3}$

7614463226. ✖ $4\sqrt{3}$

7614463227. ✔ $2\sqrt{3}$

7614463228. ✖ 3

Question Number : 8 Question Id : 761446818 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the circle $x^2+y^2-3x-2y+c=0$ passes through origin, then $c=$

Options :

7614463229. ✖ -1

7614463230. ✖ 1

7614463231. ✔ 0

7614463232. ✖ ∞

Question Number : 9 Question Id : 761446819 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The latus rectum of parabola $x^2=4y$ is

Options :

7614463233. ✔ 4

7614463234. ✖ 8

7614463235. ✖ 12

7614463236. ✖ 2

Question Number : 10 Question Id : 761446820 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The centre of the circle $45x^2+45y^2-60x+36y+19=0$ is

Options :

7614463237. ✖ $(0,0)$

7614463238. ✖ $(60,36)$

7614463239. ✖ $(-60,36)$

7614463240. ✔ $(\frac{2}{3},-\frac{2}{5})$

Question Number : 11 Question Id : 761446821 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Homogeneous second degree equation $a x^2 + 2hxy + by^2 = 0$ represents two real and distinct lines through origin if

Options :

7614463241. ✔ $h^2 > ab$

7614463242. ✖ $h^2 = ab$

7614463243. ✖ $h^2 < ab$

7614463244. ✖ $h^2 = a + b$

Question Number : 12 Question Id : 761446822 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The equation of the circle with extremities (1,3) and (5, 7) of the diameter is

Options :

7614463245. ✖ $x^2 + y^2 + 6x + 10y + 26 = 0$

7614463246. ✔ $x^2 + y^2 - 6x - 10y + 26 = 0$

7614463247. ✖ $x^2 + y^2 - 6x + 10y + 26 = 0$

7614463248. ✖ $x^2 + y^2 - 6x - 10y - 26 = 0$

Question Number : 13 Question Id : 761446823 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the line passing through the points (a,6a) and (5,6) is perpendicular to the line $3x+4y+5 = 0$, then $7a =$

Options :

7614463249. ✖ -5

7614463250. ✖ -3

7614463251. ✔ -1

7614463252. ✖ -2

Question Number : 14 Question Id : 761446824 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If (0, k), (1,3) and (82,30) are collinear ,then k =

Options :

7614463253. ✔ $\frac{8}{3}$

7614463254. ✖ $\frac{9}{4}$

7614463255. ✖ $\frac{10}{7}$

7614463256. ✖ $\frac{11}{6}$

Question Number : 15 Question Id : 761446825 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the two parallel sides of a square are $2x+y+7 = 0, 2x+y+5=0$, then the area of that square is (in square units is)

Options :

7614463257. ✖ $\frac{3}{5}$

7614463258. ✔ $\frac{4}{5}$

7614463259. ✖ $\frac{6}{5}$

7614463260. ✖ $\frac{7}{5}$

Question Number : 16 Question Id : 761446826 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The point at two circles $x^2+y^2-4x-2y-4=0, x^2+y^2-12x-8y-12=0$ touches is

Options :

7614463261. ✔ $\left(\frac{-2}{5},\frac{-4}{5}\right)$

7614463262. ✖ $\left(\frac{2}{5},\frac{4}{5}\right)$

7614463263. ✖ $\left(\frac{2}{5},\frac{-4}{5}\right)$

7614463264. ✖ $\left(\frac{-2}{5},\frac{4}{5}\right)$

Question Number : 17 Question Id : 761446827 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $x+y=k$ is a normal to the parabola $y^2=12x$,then k =

Options :

7614463265. ✖ 5

7614463266. ✔ 9

7614463267. ✖ 7

7614463268. ✖ 3

Question Number : 18 Question Id : 761446828 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The set of all points where the function $f(x) = x|x|$ is differentiable is

Options :

7614463269. ✖ $(0, \infty)$

7614463270. ✔ $(-\infty, \infty)$

7614463271. ✖ $(-\infty, 0) \cup (0, \infty)$

7614463272. ✖ $(-\infty, 0)$

Question Number : 19 Question Id : 761446829 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \to 1} \frac{1 + x + x^2 + \ldots + x^{n-1} - n}{x - 1} =$$

Options :

7614463273. ✖ $n^2 + n$

7614463274. ✖ $\frac{n^2+n}{2}$

7614463275. ✔ $\frac{n^2-n}{2}$

7614463276. ✖ n^2-n

Question Number : 20 Question Id : 761446830 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $x=2\cos t, y=2\sin t$,then $\frac{d^2y}{dx^2}$ at $t=\frac{\pi}{4}$ is

Options :

7614463277. ✖ $\frac{1}{\sqrt{2}}$

7614463278. ✔ $-\sqrt{2}$

7614463279. ✖ $\sqrt{3}$

7614463280. ✖ $-\frac{1}{\sqrt{3}}$

Question Number : 21 Question Id : 761446831 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The equation of the tangent to the curve $y = x^3 - 3x + 2$ at the point $(2, 4)$ is

Options :

7614463281. ✔ $9x - y - 14 = 0$

7614463282. ✖ $9x + y - 14 = 0$

7614463283. ✖ $9x - y + 14 = 0$

7614463284. ✖ $9x + y = 0$

Question Number : 22 Question Id : 761446832 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $y = a\log x + bx^2 + x$ has its extreme values at $x = -1$ and $x = 2$, then the values of a and b are respectively are

Options :

7614463285. ✖ $-2, 2$

7614463286. ✖ $-4, 4$

7614463287. ✖

$-\frac{1}{3}, 4$

7614463288. ✔ $-\frac{1}{2}, 2$

Question Number : 23 Question Id : 761446833 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the curves $y^2 = 2x$ and $2xy = k$ cut at right angle,then $k^2 =$

Options :

7614463289. ✖ 4

7614463290. ✔ 8

7614463291. ✖ 16

7614463292. ✖ 9

Question Number : 24 Question Id : 761446834 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $x^y y^x = 1$,then $\frac{dy}{dx} =$

Options :

7614463293. ✖ $-\frac{y}{x}\left(\frac{x+y\log x}{y+x\log y}\right)$

7614463294. ✖ $\frac{y}{x}\left(\frac{x-\log x}{y+\log y}\right)$

7614463295. ✖ $\frac{y}{x}\left(\frac{y-x\log y}{x+y\log x}\right)$

7614463296. ✔ $-\frac{y}{x}\left(\frac{y+x\log y}{x+y\log x}\right)$

Question Number : 25 Question Id : 761446835 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $u=\tan^{-1}\left(\frac{x^3+y^3}{x-y}\right), x\neq y$ and if $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial y}-\sin ku=0$,then $k=$

Options :

7614463297. ✖ 3

7614463298. ✖ 4

7614463299. ✔ 2

7614463300. ✖ 5

Question Number : 26 Question Id : 761446836 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The slope of the tangent to the curve xy=1 at (1,1) is

Options :

7614463301. ✖ -2

7614463302. ✔ -1

7614463303. ✖ 1

7614463304. ✖ 2

Question Number : 27 Question Id : 761446837 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The function $f(x) = xe^{-x}$ $(x \in R)$ attains a maximum value at $x =$

Options :

7614463305. ✖ 2

7614463306. ✖ 1/e

7614463307. ✔ 1

7614463308. ✖ 3

Question Number : 28 Question Id : 761446838 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The integral value of $\int \frac{Cos2x}{sin^2x\,Cos^2x}dx =$

Options :

7614463309. ✖ $Cosec^2x - Sec^2x + c$

7614463310. ✖ $Cotx + Tanx + c$

7614463311. ✔ $-Cotx - tanx + c$

7614463312. ✖ $Cosecx - Secx + c$

Question Number : 29 Question Id : 761446839 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int e^{xCosecx}\,Cosecx(1 - x\,Cotx)dx =$

Options :

7614463313. ✖ $e^{xCotx} + c$

7614463314. ✔ $e^{xCosecx} + c$

7614463315. ✖ $e^{-xCotx} + c$

7614463316. ✖ $e^{-xCos\ ecx} + c$

Question Number : 30 Question Id : 761446840 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The integral value of $\int_0^{\pi} x\ Sinx\ Cos^4x\ dx$ is

Options :

7614463317. ✖ $\frac{\pi}{10}$

7614463318. ✔ $\frac{\pi}{5}$

7614463319. ✖ $-\frac{\pi}{5}$

7614463320. ✖ $-\frac{\pi}{10}$

Question Number : 31 Question Id : 761446841 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

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

Options :

7614463321. ✖ $1/3$

7614463322. ✖ 1

7614463323. ✖ $2/3$

7614463324. ✔ $1/6$

Question Number : 32 Question Id : 761446842 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The differential equation of the family of curves $xy = c_1e^x + c_2e^{-x}$ is

Options :

7614463325. ✖ $\frac{d^2y}{dx^2} - 2\frac{dy}{dx} - y = 0$

7614463326. ✔ $x\frac{d^2y}{dx^2} + 2\frac{dy}{dx} - xy = 0$

7614463327. ✖ $x\frac{d^2y}{dx^2} - 2\frac{dy}{dx} - y = 0$

7614463328. ✖ $x^2\frac{d^2y}{dx^2}+2\frac{dy}{dx}-y=0$

Question Number : 33 Question Id : 761446843 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $\frac{dy}{dx}-x\tan(y-x)=1$ is

Options :

7614463329. ✔ $\sin(y-x)=ce^{\frac{x^2}{2}}$

7614463330. ✖ $\cos(y-x)=ce^{\frac{-x^2}{2}}$

7614463331. ✖ $\sin(y+x)=ce^{\frac{-x^2}{2}}$

7614463332. ✖ $\tan(y-x)=ce^{\frac{x^2}{2}}$

Question Number : 34 Question Id : 761446844 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

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

Options :

7614463333. ✖ $(1+x)(1+y)=cx^2y^2$

7614463334. ✔ $(1+x^2)(1+y^2)=cx^2$

7614463335. ✖ $(1+x^2)(1+y^2)=cy$

7614463336. ✖ $(1+x^2)(1+y^2)=cxy$

Question Number : 35 Question Id : 761446845 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $\frac{dy}{dx}-\frac{2}{x}y=2x^3+x$ is

Options :

7614463337. ✔ $y=x^4+x^2\log x+cx^2$

7614463338. ✖ $y=x^3+x^2\log x+cx^2$

7614463339. ✖ $y=x^3+x\log x+cx^2$

7614463340. ✖ $y=x^2+x\log x+cx^3$

Question Number : 36 Question Id : 761446846 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $\sec^2 y\frac{dy}{dx}+x\tan y=x^3$ is

Options :

7614463341. ✖ $\sin y=x^2+2+ce^{\frac{-x^2}{2}}$

7614463342. ✖ $\cos y=2x^2-1+ce^{\frac{-x^2}{2}}$

7614463343. ✖ $\cot y=x^2-2+ce^{\frac{-x^2}{2}}$

7614463344. ✔ $\tan y=x^2-2+ce^{\frac{-x^2}{2}}$

Question Number : 37 Question Id : 761446847 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The particular integral of the differential equation $\frac{d^2y}{dx^2}+16y=e^{-3x}+\cos 4x$ is

Options :

7614463345. ✖ $\frac{1}{7}e^{-3x}+\frac{x}{8}\cos 4x$

7614463346. ✖ $\frac{1}{23}e^{-3x}+\frac{x}{8}\cos 4x$

7614463347. ✔ $\frac{1}{25}e^{-3x}+\frac{x}{8}\sin 4x$

7614463348. ✖ $\frac{1}{36}e^{-3x}+\frac{x}{9}\sin 4x$

Question Number : 38 Question Id : 761446848 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

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

Options :

7614463349. ✖ x^2+4x

7614463350. ✖ $2x^2-x$

7614463351. ✖ x^2-8x

7614463352. ✔ x^2-2x

Question Number : 39 Question Id : 761446849 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The solution of the differential equation $\frac{d^2y}{dx^2}-2\frac{dy}{dx}-15y=0$ subject to the conditions $y'(0)=0, y''(0)=2$ is

Options :

7614463353. ✖ $y=\frac{1}{20}e^{3x}+\frac{1}{12}e^{5x}$

7614463354. ✔ $y=\frac{1}{20}e^{5x}+\frac{1}{12}e^{-3x}$

7614463355. ✖ $y=\frac{1}{12}e^{5x}+\frac{1}{20}e^{-3x}$

7614463356. ✖ $y=\frac{1}{20}e^{-5x}+\frac{1}{12}e^{-3x}$

Question Number : 40 Question Id : 761446850 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$L\left\{\int_0^t e^{-u}\sin u\,du\right\}=$

Options :

7614463357. ✖ $\frac{1}{s^2+2s+2}$

7614463358. ✖

$$\frac{s}{s^2+2s+2}$$

7614463359. ✔ $\frac{1}{s\left(s^2+2s+2\right)}$

7614463360. ✖ $\frac{1}{s\left(s^2+2\right)}$

Question Number : 41 Question Id : 761446851 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $L\{f(t)\}=\log\left(\frac{s-1}{s}\right)$,then $f(1)=$

Options :

7614463361. ✔ $1-e$

7614463362. ✖ $e-1$

7614463363. ✖ e

7614463364. ✖ $e+1$

Question Number : 42 Question Id : 761446852 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

$$\int_0^{\infty} \frac{\sin 2t}{t} dt =$$

Options :

7614463365. ✖ π

7614463366. ✖ 0

7614463367. ✖ 2π

7614463368. ✔ $\frac{\pi}{2}$

Question Number : 43 Question Id : 761446853 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$\text{If } L\{t\sinh kt\} = \frac{4s}{\left(s^2-4\right)^2}, \text{then } k =$$

Options :

7614463369. ✖ 1

7614463370. ✖ 4

7614463371. ✔ 2

7614463372.

✖ $\frac{1}{2}$

Question Number : 44 Question Id : 761446854 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let $L^{-1}\left\{\frac{e^{-s}}{s^2+4s+5}\right\}=f(t)$. If $t>1$,then $f(t)=$

Options :

7614463373. ✖ $e^{-2t}\sin t$

7614463374. ✔ $e^{-2(t-1)}\sin(t-1)$

7614463375. ✖ $e^{-2(t+1)}\sin(t+1)$

7614463376. ✖ $e^{2t}\sin t$

Question Number : 45 Question Id : 761446855 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $L\{f(t)\}=\frac{2s-1}{(s+1)(s-2)}$, then $L\{f(4t)\}=$

Options :

7614463377. ✖ $\frac{2(s+2)}{(s-4)(s+8)}$

7614463378. ✖ $\frac{2(s-1)}{(4s+1)(4s-2)}$

7614463379. ✖ $\frac{s-2}{(s-4)(s+8)}$

7614463380. ✔ $\frac{2(s-2)}{(s+4)(s-8)}$

Question Number : 46 Question Id : 761446856 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $Y(s)$ is the Laplace transform of the solution $y(t)$ of $y''+y=\sin 3t$, $y(0)=0, y'(0)=0$, then $Y(0)=$

Options :

7614463381. ✖ 0

7614463382. ✖ 3

7614463383. ✔ $\frac{1}{3}$

7614463384. ✖ $\frac{1}{9}$

Question Number : 47 Question Id : 761446857 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of the Fourier coefficient a_n in the series expansion of $f(x) = |x|$ in $(-\pi, \pi)$ when n is odd is

Options :

7614463385. ✖ $\frac{4}{\pi n^2}$

7614463386. ✔ $\frac{-4}{\pi n^2}$

7614463387. ✖ $\frac{2}{\pi n^2}$

7614463388. ✖ 0

Question Number : 48 Question Id : 761446858 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of the Fourier coefficient b_0 in the series expansion of $f(x) = |x\ Sinx|$ in $(-\pi, \pi)$ is

Options :

7614463389. ✔ 0

7614463390. ✖ -2

7614463391. ✖ 2

7614463392. ✖ -1

Question Number : 49 Question Id : 761446859 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(x) = Sinx$ is expressed as Fourier Cosine series in the interval $(0, \pi)$, then the value of a_0 is

Options :

7614463393. ✖ $\frac{2}{\pi}$

7614463394. ✖ $\frac{1}{\pi}$

7614463395. ✔ $\frac{4}{\pi}$

7614463396. ✖ $\frac{-2}{\pi}$

Question Number : 50 Question Id : 761446860 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\int_0^{\pi} sin6x\ sin4x\ dx =$

Options :

7614463397. ✖ $\frac{\pi}{2}$

7614463398. ✖ π

7614463399. ✖ 1

7614463400. ✔ 0

Physics

Section Id :	76144616
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0

Sub-Section Number : 1

Sub-Section Id : 76144630

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 51 Question Id : 761446861 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following equation is dimensionally incorrect for the expression representing displacement 'y' and amplitude 'A' of a particle executing Simple Harmonic Motion with time period 'T'?

Options :

7614463401. ✖ $y = \frac{A}{\sqrt{2}}(\text{Sin}\omega t + \text{Cos}\omega t)$

7614463402. ✖ $y = A\ \text{Sin}\omega t$

7614463403. ✔ $y = \frac{A}{T}\ \text{Sin}(\frac{t}{A})$

7614463404. ✖ $y = A\ \text{Sin}(\frac{4\pi t}{T})$

Question Number : 52 Question Id : 761446862 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The resultant of two equal forces acting at right angles to each other is 1224 N. Then the magnitude of each force in Newtons.

Options :

7614463405. ✖ 612, 612

7614463406. ✖ 1224, 1224

7614463407. ✔ 865, 865

7614463408. ✖ 432, 432

Question Number : 53 Question Id : 761446863 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The magnitude of three vectors $\vec{A}, \vec{B}$ & $\vec{C}$ are in order 12,5,13 units and $\vec{A} + \vec{B} = \vec{C}$, then what will be the angle between the vectors $\vec{A}$ & $\vec{B}$

Options :

7614463409. ✔ 90^0

7614463410. ✖ 60^0

7614463411. ✖ 30^0

7614463412. ✖ 45^0

Question Number : 54 Question Id : 761446864 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A boy pulls a body of mass 50 kg resting on a flat horizontal surface. Calculate the frictional force if the coefficient of friction is 0.2

Options :

7614463413. ✔ $98.1\ kg.m.s^{-2}$

7614463414. ✖ 15 kg

7614463415. ✖ $98.1 \times 10^3\ g.cm.s^{-2}$

7614463416. ✖ 1500 g

Question Number : 55 Question Id : 761446865 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If a projectile is thrown with a velocity u at an angle of θ with the horizontal, then the velocity at maximum height during the projectile motion will be:

Options :

7614463417. ✖ $2u \sin\theta$

7614463418. ✖ $u \sin\theta$

7614463419. ✖ $2u \cos\theta$

7614463420. ✔ u cosθ

Question Number : 56 Question Id : 761446866 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A child of mass 5 kg is going round a merry-go-round that makes 1 rotation in 3.14 seconds. If the radius of the merry-go-round is 2 m then the centrifugal force on the child will be

Options :

7614463421. ✖ 10 Newton

7614463422. ✖ 20 Newton

7614463423. ✖ 30 Newton

7614463424. ✔ 40 Newton

Question Number : 57 Question Id : 761446867 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A metal plate of area 100 cm^2 is placed on the surface of a liquid and a force of $1\mu N$ is required to move the plate so as to produce a velocity change 1 cms^{-1} between two successive layers separated by 1 cm. The coefficient of viscosity of the liquid is

Options :

7614463425. ✔ $10^{-4}\ Pa\ s$

7614463426. ✖ $10^{-3}\ Pa\ s$

7614463427. ✖ $10^{-1}\ Pa\ s$

7614463428. ✖ $10\ Pa\ s$

Question Number : 58 Question Id : 761446868 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Water rises to a height 'h' in a capillary tube of radius 'r' when immersed in water. The mass of the water in the capillary tube is 'm'. The mass of water that will rise in another capillary tube of radius $\frac{r}{2}$ when immersed in water is

Options :

7614463429. ✖ m

7614463430. ✖ 2m

7614463431. ✔ $\frac{m}{2}$

7614463432. ✖ 4m

Question Number : 59 Question Id : 761446869 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The continuity equation for compressible fluid is (the quantities carry their usual meaning)

Options :

7614463433. ✖ $\rho_2 A_1 v_1 = \rho_1 A_2 v_2$

7614463434. ✖ $A_1 v_1 = A_2 v_2$

7614463435. ✖ $\rho_1 v_1 = \rho_2 v_2$

7614463436. ✔ $\rho_1 A_1 v_1 = \rho_2 A_2 v_2$

Question Number : 60 Question Id : 761446870 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A block of mass 'm' is moving on frictionless horizontal surface with velocity 5m/sec, compresses an ideal spring by 2m and comes to rest. The ratio of mass 'm' of the block to spring constant 'k' is.

Options :

7614463437. ✖ $25:4$

7614463438. ✔ $4:25$

7614463439. ✖ 1: 25

7614463440. ✖ 4 : 1

Question Number : 61 Question Id : 761446871 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following:

a) Adiabatic Process	i) no volume change takes place.
b) Isochoric Process	ii) no pressure change takes place.
c) Isobaric Process	iii) no temperature change takes place.
d) Isothermal Process	iv) no heat transfer takes place.

Options :

7614463441. ✖ a-iv, b-iii, c-ii, d-i

7614463442. ✖ a-i, b-iv, c-ii, d-iii

7614463443. ✔ a-iv, b-i, c-ii, d-iii

7614463444. ✖ a-i, b-ii, c-iii, d-iv

Question Number : 62 Question Id : 761446872 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

First law of thermodynamics represents conservation of

Options :

7614463445. ✖ Pressure

7614463446. ✖ Momentum

7614463447. ✖ Entropy

7614463448. ✔ Energy

Question Number : 63 Question Id : 761446873 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The displacement of a particle executing Simple Harmonic Motion is given by $x = a\,Cos\frac{\pi t}{2}$ where 'x' and 'a' are in metre. The distance covered by it in the time interval between t = 0 sec to t = 4 sec in metre is

Options :

7614463449. ✖ 0

7614463450. ✖ 2a

7614463451. ✔ 4a

7614463452. ✖ 3a

Question Number : 64 Question Id : 761446874 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

A simple pendulum 80 cm long oscillates with amplitude of 0.02 m. The acceleration at the ends of its path is (take g = 10 ms^{-2})

Options :

7614463453. ✖ 0 ms^{-2}

7614463454. ✔ 0.25 ms^{-2}

7614463455. ✖ 2.5 ms^{-2}

7614463456. ✖ 10 ms^{-2}

Question Number : 65 Question Id : 761446875 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A particle undergoing Simple Harmonic Motion passes through the mean position with a velocity of 2 ms^{-1}. The velocity of the particle at the point where its displacement is half the amplitude is

Options :

7614463457. ✖ $2\sqrt{3}\,ms^{-1}$

7614463458. ✖ $4\sqrt{3}\,ms^{-1}$

7614463459. ✖ $0\,ms^{-1}$

7614463460. ✔ $\sqrt{3}\, ms^{-1}$

Question Number : 66 Question Id : 761446876 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A boy standing between two parallel walls fires a gun. He hears the first echo after 4 sec and next after 6 sec. The distance between the two walls is (take velocity of sound in air as 340 m/s)

Options :

7614463461. ✖ 680 m

7614463462. ✖ 1020 m

7614463463. ✔ 1700 m

7614463464. ✖ 340 m

Question Number : 67 Question Id : 761446877 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a good acoustic hall the distribution of sound should be

Options :

7614463465. ✖ Gradually increasing

7614463466. ✖ Exponentially increasing

7614463467. ✖ Randomly change

7614463468. ✔ Uniform

Question Number : 68 Question Id : 761446878 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two magnetic poles placed 5cm apart in air attract each other with a force of 100 dyne. How far from each other should they be placed to get the force of attraction 25 dyne?

Options :

7614463469. ✔ 10 cm

7614463470. ✖ 4 cm

7614463471. ✖ 2 cm

7614463472. ✖ 6 cm

Question Number : 69 Question Id : 761446879 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a Wheatstone bridge, the four arms have each a resistance of 50 ohm. The galvanometer current is:

Options :

7614463473. ✖ 0.05 A

7614463474. ✖ 0.5 A

7614463475. ✔ 0 A

7614463476. ✖ 5 A

Question Number : 70 Question Id : 761446880 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a transformer, the number of turns in secondary and primary coils are 50 and 200 respectively. If 4 A of current is flowing through the primary, the current flowing through the secondary coil is

Options :

7614463477. ✔ 1 A

7614463478. ✖ 2 A

7614463479. ✖ 3 A

7614463480. ✖ 4 A

Question Number : 71 Question Id : 761446881 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Electrons are ejected when a photosensitive material is illuminated by violet light but not by blue light. Would electrons come out from the same material when it is illuminated by red light?

Options :

7614463481. ✖ Yes

7614463482. ✔ No

7614463483. ✖ Yes, if intensity of incident light is increased

7614463484. ✖ Yes, if material is illuminated for a long time

Question Number : 72 Question Id : 761446882 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Optical fibres are electrically

Options :

7614463485. ✖ Conductors

7614463486. ✖ Superconductors

7614463487. ✖ Semiconductors

7614463488. ✔ Insulators

Question Number : 73 Question Id : 761446883 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In superconducting state the material behaves as

Options :

7614463489. ✔ Perfect diamagnetic

7614463490. ✖ Weak diamagnetic

7614463491. ✖ Perfect ferromagnetic

7614463492. ✖ Weak paramagnetic

Question Number : 74 Question Id : 761446884 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In semiconductors at room temperature

Options :

7614463493. ✖ The conduction band is completely empty

7614463494. ✔ The valence band is partially empty and the conduction band is partially filled

The valence band is completely filled and the conduction band is partially filled

7614463495. ✖

7614463496. ✖ The valence band is completely filled

Question Number : 75 Question Id : 761446885 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Semiconductors are doped

Options :

7614463497. ✖ To increase the resistivity

7614463498. ✔ To get the desired level of conductivity

7614463499. ✖ To reduce the conductivity

7614463500. ✖ To get the positive temperature coefficient of resistance

Chemistry

Section Id :	76144617
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	76144631
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 76 Question Id : 761446886 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Number of neutrons present in an element with atomic number 19 and mass number 39.

Options :

7614463501. ✖ 19

7614463502. ✖ 58

7614463503. ✖ 39

7614463504. ✔ 20

Question Number : 77 Question Id : 761446887 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The dative bond is present in

Options :

7614463505. ✖ Ammonia

7614463506. ✔ Ammonium ion

7614463507. ✖ Urea

7614463508. ✖ Nitrogen

Question Number : 78 Question Id : 761446888 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following molecules contains coordinate covalent bond?

Options :

7614463509. ✖ NH_2^-

7614463510. ✖ N_2H_4

7614463511. ✔ H_3O^+

7614463512. ✖ H_2O_2

Question Number : 79 Question Id : 761446889 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Concentrated hydrochloric acid contains 37% (by mass) HCl. The density of its solution is 1.18 g/mL. The molarity of HCl is

Options :

7614463513. ✔ 12.0

7614463514. ✖ 16.03

7614463515. ✖ 6.0

7614463516. ✖ 1.20

Question Number : 80 Question Id : 761446890 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A colloidal solution can be purified by the method of

Options :

7614463517. ✖ Peptization

7614463518. ✔ Dialysis

7614463519. ✖ Mechanical Dispersion

7614463520. ✖ Oxidation

Question Number : 81 Question Id : 761446891 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The compound that does not act as a Lewis acid.

Options :

7614463521. ✔ $BaCl_2$

7614463522. ✖ $AlCl_3$

7614463523. ✖ BF_3

7614463524. ✖ $BeCl_2$

Question Number : 82 Question Id : 761446892 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The pH value of 0.001 M NaOH solution is

Options :

7614463525. ✖ 3

7614463526. ✖ 9

7614463527. ✖ 7

7614463528. ✔ 11

Question Number : 83 Question Id : 761446893 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The solvent not used for green synthesis is

Options :

7614463529. ✔ Aniline

7614463530. ✖ Room temperature ionic liquids

7614463531. ✖ Bio solvents

7614463532. ✖ Supercritical fluids

Question Number : 84 Question Id : 761446894 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of these days is celebrated in the form of World Environment Day all around the world?

Options :

7614463533. ✖ July 5th

7614463534. ✖ June 10th

7614463535. ✖ October 20th

7614463536. ✔ June 5th

Question Number : 85 Question Id : 761446895 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Extra pure water can be obtained by using

Options :

7614463537. ✖ Lime – Soda process

7614463538. ✖ Permutit process

7614463539. ✖ Ion-exchange process

7614463540. ✔ Electrodialysis process

Question Number : 86 Question Id : 761446896 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Sterilization of water can be done by using

Options :

7614463541. ✔ Ozone

7614463542. ✖ Oxygen

7614463543. ✖ Caustic Potash

7614463544. ✖ Hydrogen peroxide

Question Number : 87 Question Id : 761446897 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The product formed at cathode when Pt electrodes are used in the electrolysis of Fused NaCl.

Options :

7614463545. ✖ Cl_2

7614463546. ✖ NaOH

7614463547. ✖ HCl

7614463548. ✔ Na

Question Number : 88 Question Id : 761446898 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What is the electrochemical equivalent (z) of copper, when 0.3950 g of copper is deposited by a current of 0.5 amperes in 40 minutes.

Options :

7614463549. ✔ 0.0003292 g

7614463550. ✖ 0.003950 g

7614463551. ✖ 0.0001646 g

7614463552. ✖ 0.00164 g

Question Number : 89 Question Id : 761446899 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Extraction of zinc from zinc blende is achieved by

Options :

7614463553. ✖ Electrolytic reduction

7614463554. ✔ Roasting followed by reduction with carbon

7614463555. ✖ Roasting followed by reduction with another metal

7614463556. ✖ Roasting followed by self-reduction

Question Number : 90 Question Id : 761446900 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In blast furnace iron oxide is reduced by

Options :

7614463557. ✖ Silica

7614463558. ✔ Carbon monoxide

7614463559. ✖ Carbon

7614463560. ✖ Limestone

Question Number : 91 Question Id : 761446901 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During electrochemical corrosion in acidic environment

Options :

7614463561. ✖ Oxygen evolution occurs

7614463562. ✔ Hydrogen evolution takes place

7614463563. ✖ Oxygen absorption occurs

7614463564. ✖ Hydrogen absorption takes place

Question Number : 92 Question Id : 761446902 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

The process of cementation of iron with zinc powder is known as

Options :

7614463565. ✔ Sheradising

7614463566. ✖ Galvanizing

7614463567. ✖ Zincing

7614463568. ✖ Tinning

Question Number : 93 Question Id : 761446903 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Bakelite is manufactured by the reaction between

Options :

7614463569. ✖ Urea and formaldehyde

7614463570. ✖ Phthalic acid and ethylene glycol

7614463571. ✖ Ethylene glycol and formaldehyde

7614463572. ✔ Phenol and formaldehyde

Question Number : 94 Question Id : 761446904 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is an elastomer

Options :

7614463573. ✖ Polystyrene

7614463574. ✔ Buna-S rubber

7614463575. ✖ Melamine

7614463576. ✖ Dacron

Question Number : 95 Question Id : 761446905 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A good fuel has

Options :

7614463577. ✔ Moderate ignition temperature and high calorific value

7614463578. ✖ High ignition temperature and high calorific value

7614463579. ✖ Low ignition temperature and low calorific value

7614463580. ✖ Low ignition temperature and high calorific value

Question Number : 96 Question Id : 761446906 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The best example of splash lubrication is

Options :

7614463581. ✖ Wick feed lubricator

7614463582. ✔ Ring lubricator

7614463583. ✖ Grease Gun

7614463584. ✖ Pump lubricator

Question Number : 97 Question Id : 761446907 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Saturated calomel electrode standard reduction potential value in Volts is

Options :

7614463585. ✖ 0

7614463586. ✖ 0.6990

7614463587. ✖ − 0. 242

7614463588. ✔ + 0.242

Question Number : 98 Question Id : 761446908 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For the following cell reaction, E° for the cell is

$$Zn_{(s)} + 2Fe^{3+}_{(aq)} \rightleftharpoons 2Fe^{2+}_{(aq)} + Zn^{2+}_{(aq)}$$

(Standard Reduction potentials of Zn and Fe electrodes are – 0.76V and + 0.77V respectively)

Options :

7614463589. ✔ 1.53 V

7614463590. ✖ 0.01 V

7614463591. ✖ − 1.53 V

7614463592. ✖ 0.78 V

Question Number : 99 Question Id : 761446909 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The gas that is responsible for Bhopal gas tragedy is

Options :

7614463593. ✔ Methyl isocyanate

7614463594. ✖ Methyl chloroformate

7614463595. ✖ Methyl isopropyl ether

7614463596. ✖ Methyl isobutyrate

Question Number : 100 Question Id : 761446910 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following gases is largely responsible for acid – rain?

Options :

7614463597. ✖ CO and CO_2

7614463598. ✖ NO and NO_2

7614463599. ✔ SO_2 and NO_2

7614463600. ✖ N_2 and O_2

CHEMICAL ENGINEERING

Section Id : 76144618

Section Number : 4

Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	76144632
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 101 Question Id : 761446911 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The purest form of iron is

Options :

7614463601. ✖ Cast iron

7614463602. ✔ Wrought iron

7614463603. ✖ Pig iron

7614463604. ✖ Steel

Question Number : 102 Question Id : 761446912 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

Stainless steel contains

Options :

7614463605. ✖ Copper and Nickel

7614463606. ✖ Aluminium and Nickel

7614463607. ✔ Chromium and Nickel

7614463608. ✖ Zink and Nickel

Question Number : 103 Question Id : 761446913 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Auto reduction process is used for the extraction of

Options :

7614463609. ✔ Cu and Hg

7614463610. ✖ Cu and Al

7614463611. ✖ Zn and Hg

7614463612. ✖ Fe and Pb

Question Number : 104 Question Id : 761446914 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The electrolysis of pure alumina is not feasible because

Options :

7614463613. ✖ Alumina is volatile in nature

7614463614. ✔ Fusion temperature of alumina is very high

7614463615. ✖ Alumina is decomposed when fused

7614463616. ✖ Alumina is amphoteric

Question Number : 105 Question Id : 761446915 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is an ore of lead?

Options :

7614463617. ✔ Galena

7614463618. ✖ Bauxite

7614463619. ✖ Hematite

7614463620. ✖ Chalcopyrite

Question Number : 106 Question Id : 761446916 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Magnalium is an alloy of Aluminium with Magnesium and small amounts of

Options :

7614463621. ✖ Nickel and Zinc

7614463622. ✔ Nickel and Tin

7614463623. ✖ Zirconium and Zinc

7614463624. ✖ Zinc and Tin

Question Number : 107 Question Id : 761446917 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Crevice corrosion takes place due to

Options :

7614463625. ✖ Concentration difference of ions in the solution

7614463626. ✖ High stresses at localized portion

7614463627.

✔ Localized peeling of oxide layer

7614463628. ✖ Alloying of two different type of materials

Question Number : 108 Question Id : 761446918 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is an example of elastomers?

Options :

7614463629. ✖ Polythene

7614463630. ✔ Vulcanized rubber

7614463631. ✖ Polyvinyl Chloride

7614463632. ✖ Rayon

Question Number : 109 Question Id : 761446919 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The average molecular weight of air is

Options :

7614463633. ✖ 42

7614463634. ✖ 21

7614463635. ✔ 29

7614463636. ✖ 38

Question Number : 110 Question Id : 761446920 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Cox chart is a graph drawn between logarithm of vapor pressure versus

Options :

7614463637. ✖ Pressure

7614463638. ✖ Concentration

7614463639. ✔ Temperature

7614463640. ✖ Enthalpy

Question Number : 111 Question Id : 761446921 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Molar concentration of chemical species i(C_i) is defined as the ratio of number of mole of species i in a mixture to its

Options :

7614463641. ✖ Partial pressure

7614463642. ✔ Molar volume

7614463643. ✖ Density

7614463644. ✖ Total pressure

Question Number : 112 Question Id : 761446922 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of gram moles of solute dissolved in one kilogram of solvent is called

Options :

7614463645. ✖ Molarity

7614463646. ✖ Normality

7614463647. ✔ Molality

7614463648. ✖ Mole fraction

Question Number : 113 Question Id : 761446923 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The enthalpy change in a particular reaction is the same whether the reaction takes place in one or in several steps is called

Options :

7614463649. ✖ Raoult's law

7614463650. ✖ Henry's law

7614463651. ✔ Hess's law

7614463652. ✖ Amagat's law

Question Number : 114 Question Id : 761446924 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The amount of heat required to vaporize a unit amount of solid at constant temperature and pressure is known as

Options :

7614463653. ✖ Latent heat of vaporization

7614463654. ✔ Latent heat of sublimation

7614463655. ✖ Latent heat of fusion

7614463656. ✖ Heat of generation

Question Number : 115 Question Id : 761446925 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

When 1 mole of a substance is formed from its constituent elements, then heat is either evolved or released. The enthalpy change occurring in this process is called

Options :

7614463657. ✖ Heat of reaction

7614463658. ✔ Heat of formation

7614463659. ✖ Heat of combustion

7614463660. ✖ Heat of sublimation

Question Number : 116 Question Id : 761446926 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A process step whereby a part or fraction of the products from the reactor is returned and mixed with the incoming fresh feed to the reactor is known as

Options :

7614463661. ✖ Purge stream

7614463662. ✔ Recycle

7614463663. ✖ Bypass stream

7614463664. ✖ Feed stream

Question Number : 117 Question Id : 761446927 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of mean specific heat is given by

Options :

7614463665. ✖ $\frac{C_{P1} + C_{P2}}{2}$

7614463666. ✔ $\frac{\int_{T_1}^{T_2} C_p dT}{T_1 - T_2}$

7614463667. ✖ $\sqrt{c_{p1} c_{p2}}$

7614463668. ✖ $\sqrt{c_{p1}/c_{p2}}$

Question Number : 118 Question Id : 761446928 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number moles of a particular chemical species in a mixture to the total number of moles of mixture is called

Options :

7614463669. ✖ Mass fraction

7614463670. ✖ Molar mass

7614463671. ✔ Mole fraction

7614463672. ✖ Weight fraction

Question Number : 119 Question Id : 761446929 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Black liquor is converted into white liquor by

Options :

7614463673. ✔ Evaporation and burning the concentrate followed by causticisation of products

7614463674. ✖ Multi- effect evaporation only

7614463675. ✖ Selective liquid extraction

7614463676. ✖ Extractive distillation

Question Number : 120 Question Id : 761446930 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following acids is present in vinegar?

Options :

7614463677. ✖ Citric acid

7614463678. ✖ Tartaric acid

7614463679. ✖ Lactic acid

7614463680. ✔ Acetic acid

Question Number : 121 Question Id : 761446931 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A detergent

Options :

7614463681. ✖ Is a soap

7614463682. ✖ Can be used as a catalyst

7614463683. ✖ Is used as a water- softener

7614463684. ✔ Is a cleansing agent

Question Number : 122 Question Id : 761446932 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Kaoline is

Options :

7614463685. ✔ Refractory material

7614463686. ✖ Synthetic resin

7614463687. ✖ Artificial abrasive

7614463688. ✖ Blue pigment

Question Number : 123 Question Id : 761446933 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Tallow refers to

Options :

7614463689. ✔ Oil of animal origin

7614463690. ✖ Oil derived from soya bean

7614463691. ✖ Oil derived from groundnut

7614463692. ✖ A mixture of vegetable oils

Question Number : 124 Question Id : 761446934 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

Tetrafluoroethylene is known as

Options :

7614463693. ✖ Perspex

7614463694. ✖ Nylon-66

7614463695. ✖ Polyester

7614463696. ✔ Teflon

Question Number : 125 Question Id : 761446935 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is monosaccharide?

Options :

7614463697. ✖ Sucrose

7614463698. ✔ Glucose

7614463699. ✖ Maltose

7614463700. ✖ Lactose

Question Number : 126 Question Id : 761446936 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Polyethylene is a polymer obtained by the polymerization of

Options :

7614463701. ✖ Ethane

7614463702. ✔ Ethylene

7614463703. ✖ Isoprene

7614463704. ✖ Butadiene

Question Number : 127 Question Id : 761446937 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The catalyst used in manufacture of sulphuric acid by contact process is

Options :

7614463705. ✖ Aluminium oxide

7614463706. ✖ Nickel

7614463707. ✖ Iron

7614463708. ✔ Vanadium pentoxide

Question Number : 128 Question Id : 761446938 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The producer gas is mainly used in

Options :

7614463709. ✖ Fertilizer industry

7614463710. ✖ Petroleum industry

7614463711. ✔ Steel industry

7614463712. ✖ Pharma industry

Question Number : 129 Question Id : 761446939 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Lime stone is mainly composed of

Options :

7614463713. ✖ Magnesium carbonate

7614463714. ✔ Calcium carbonate

7614463715. ✖ Sodium carbonate

7614463716. ✖ Potassium carbonate

Question Number : 130 Question Id : 761446940 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Both temporary and permanent hardness of water can be removed by

Options :

7614463717. ✖ Boiling

7614463718. ✖ Filtration

7614463719. ✔ Distillation

7614463720. ✖ Decantation

Question Number : 131 Question Id : 761446941 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Bleaching powder is manufactured by the action of chlorine on

Options :

7614463721. ✖ Quick lime

7614463722. ✔ Slaked lime

7614463723. ✖ Milk of lime

7614463724. ✖ Soda lime

Question Number : 132 Question Id : 761446942 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In manufacturing of urea from ammonia and carbon dioxide

Options :

7614463725. ✖ Aluminium oxide used as catalyst

7614463726. ✖ Platinum used as catalyst

7614463727. ✖ Silica-alumina mixture used as catalyst

7614463728. ✔ No catalyst is used

Question Number : 133 Question Id : 761446943 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Superphosphate is made by reacting phosphate rock with

Options :

7614463729. ✔ Dilute sulphuric acid

7614463730. ✖ Orthophosphoric acid

7614463731. ✖ Hydrochloric acid

7614463732. ✖ Gypsum

Question Number : 134 Question Id : 761446944 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Nitric acid is light yellow in color due to presence of

Options :

7614463733. ✖ NH_3

7614463734. ✔ NO_2

7614463735. ✖ NO

7614463736. ✖ N_2O_5

Question Number : 135 Question Id : 761446945 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Dynamic pressure is the difference between impact pressure and

Options :

7614463737. ✖ Absolute pressure

7614463738. ✔ Static head

7614463739. ✖ Barometric pressure

7614463740. ✖ Vacuum pressure

Question Number : 136 Question Id : 761446946 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Wall friction for laminar tube flow varies with viscosity as

Options :

7614463741. ✔ Proportionally

7614463742. ✖ Inverse proportionally

7614463743. ✖ Square root proportionally

7614463744. ✖ Square proportionally

Question Number : 137 Question Id : 761446947 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Water suspension of rock is an example of

Options :

7614463745. ✔ Bingham plastics

7614463746.

✖ Pseudo plastics

7614463747. ✖ Dilatent fluid

7614463748. ✖ Thixotropic fluid

Question Number : 138 Question Id : 761446948 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is not an assumption while deriving Bernoulli's equation

Options :

7614463749. ✖ Steady flow

7614463750. ✖ Incompressible fluid

7614463751. ✖ Frictionless system

7614463752. ✔ Unsteady

Question Number : 139 Question Id : 761446949 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Coefficient of Venturi meter is

Options :

7614463753. ✖ 0.68

7614463754. ✖ 0.70

7614463755. ✖ 0.8

7614463756. ✔ 0.95

Question Number : 140 Question Id : 761446950 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Pitot tube is used for measuring

Options :

7614463757. ✖ Total fluid velocity

7614463758. ✔ Local fluid velocity

7614463759. ✖ Average velocity

7614463760. ✖ Maximum fluid velocity

Question Number : 141 Question Id : 761446951 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Kozney Carman equation is used for finding

Options :

7614463761. ✖ Volumetric flow rate through a pipe line

7614463762. ✖ Velocity of fluids through a duct

7614463763. ✔ Pressure drop through a packed bed

7614463764. ✖ Pressure drop through a fluidized bed

Question Number : 142 Question Id : 761446952 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The discharge of centrifugal pump is

Options :

7614463765. ✖ Inversely proportional to diameter of its impeller

7614463766. ✔ Inversely proportional to $(\text{diameter})^2$ of its impeller

7614463767. ✖ Directly proportional to $(\text{diameter})^2$ of its impeller

7614463768. ✖ Directly proportional to diameter of its impeller

Question Number : 143 Question Id : 761446953 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

In reciprocating pump, air vessel which must be required for the

Options :

7614463769. ✖ Smooth the flow

7614463770. ✖ Increased delivery head

7614463771. ✖ Reduce suction head

7614463772. ✔ Reduce acceleration head

Question Number : 144 Question Id : 761446954 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following happens when the gas velocity increases in fluidization?

Options :

7614463773. ✖ Bulk density of the bed increases and fluidization become less aggressive

7614463774. ✖ Bulk density of the bed decreases and fluidization become less aggressive

7614463775. ✖ Bulk density of the bed increases and fluidization become more aggressive

7614463776. ✔ Bulk density of the bed decreases and fluidization become more aggressive

Question Number : 145 Question Id : 761446955 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which device is popularly used for measuring the difference of low pressure?

Options :

7614463777. ✖ U-tube Differential Manometer

7614463778. ✔ Inverted U-tube Differential Manometer

7614463779. ✖ Vertical Single column manometer

7614463780. ✖ Inclined Single column manometer

Question Number : 146 Question Id : 761446956 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which parameter is used to characterize the roughness of a surface in a turbulent boundary layer?

Options :

7614463781. ✖ Skin friction coefficient

7614463782. ✖ Reynolds number

7614463783. ✖ Boundary layer thickness

7614463784. ✔ Roughness height and density

Question Number : 147 Question Id : 761446957 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The heat transfer by conduction is described by

Options :

7614463785. ✖ Newton's law of cooling

7614463786. ✔ Fourier's law

7614463787. ✖ Stefan-Boltzman law

7614463788. ✖ Fick's law

Question Number : 148 Question Id : 761446958 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The units of heat transfer coefficient is

Options :

7614463789. ✖ $W/m\,K$

7614463790. ✔ W/m^2K

7614463791. ✖ J/m^2K

7614463792. ✖ J/m K

Question Number : 149 Question Id : 761446959 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The critical radius (r) of insulation of a sphere can be calculated from, where k is the thermal conductivity of insulation and h is the heat transfer coefficient with the ambient

Options :

7614463793. ✖ $r = k/h$

7614463794. ✖ $r = 2h/k$

7614463795. ✔ $r = 2k/h$

7614463796. ✖ $r = h/2k$

Question Number : 150 Question Id : 761446960 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following has minimum thermal conductivity?

Options :

7614463797. ✖ Water

7614463798. ✔ Air

7614463799. ✖ Asphalt

7614463800. ✖ Petroleum coke

Question Number : 151 Question Id : 761446961 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Prandtl number is the

Options :

7614463801. ✖ Ratio of thermal diffusivity to kinematic viscosity

7614463802. ✖ Ratio of absolute viscosity to thermal conductivity

7614463803. ✔ Ratio of kinematic viscosity to thermal diffusivity

7614463804. ✖ The product of thermal diffusivity and kinematic viscosity

Question Number : 152 Question Id : 761446962 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For laminar film condensation on vertical surface, the film thickness

Options :

7614463805. ✖ Remains constant from top to bottom

7614463806. ✔ Cumulatively increases from top to bottom

7614463807. ✖ Cumulatively decreases from top to bottom

7614463808. ✖ The surface conductance increase from top to bottom

Question Number : 153 Question Id : 761446963 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The advantage of using a 1-2 shell and tube heat exchanger over a 1-1shell and tube heat exchanger is

Options :

7614463809. ✖ Lower shell side pressure drop

7614463810. ✖ Lower tube side pressure drop

7614463811. ✔ Higher tube side heat transfer coefficient

7614463812. ✖ Higher shell side heat transfer coefficient

Question Number : 154 Question Id : 761446964 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Boiling point of a given solution is a linear function of the boiling point of pure water at the same pressure is known as

Options :

7614463813.

✖ Phase rule

7614463814. ✔ Duhring's rule

7614463815. ✖ Lever rule

7614463816. ✖ Kirchhoff's law

Question Number : 155 Question Id : 761446965 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The emissive power of a black body (E_b) = σT^4, is known as Stefan Boltzman law, the value of Stefan Boltzman constant (σ) is

Options :

7614463817. ✔ 5.670×10^{-8} W/m^2 K^4

7614463818. ✖ 5.670×10^{-6} W/m^2 K^4

7614463819. ✖ 5.670×10^{-5} W/m^2 K^4

7614463820. ✖ 5.670×10^{-8} W/m K

Question Number : 156 Question Id : 761446966 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A body is called grey body if the monochromatic emissivity of the body is

Options :

7614463821. ✖ One

7614463822. ✔ Same for all wavelengths

7614463823. ✖ Zero

7614463824. ✖ Different for all wavelengths

Question Number : 157 Question Id : 761446967 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Open pan evaporators are preferred

Options :

7614463825. ✔ When solution concentration is high

7614463826. ✖ When solution is corrosive

7614463827. ✖ Because steam economy is high

7614463828. ✖ When large amount of solution to be evaporated

Question Number : 158 Question Id : 761446968 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

In a multiple effect evaporator with forward feed

Options :

7614463829. ✖ Feed is introduced in each effect

7614463830. ✖ Pumps are required between successive effects

7614463831. ✔ Feed flows from higher pressure to lower pressure

7614463832. ✖ Feed is introduced in the last effect

Question Number : 159 Question Id : 761446969 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

100-mesh screen means

Options :

7614463833. ✖ 100 little square openings per one linear cm of screen

7614463834. ✖ 100 little square openings per one linear mm of screen

7614463835. ✔ 100 little square openings per one linear inch of screen

7614463836. ✖ 100 little square openings per one linear feet of screen

Question Number : 160 Question Id : 761446970 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A screen is said to be blinded when

Options :

7614463837. ✖ Oversize are presents in undersize fraction

7614463838. ✖ Undersize are retained in oversize fraction

7614463839. ✔ The screen is plugged with solid particle

7614463840. ✖ Its capacity abruptly increased

Question Number : 161 Question Id : 761446971 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Crushing efficiency is the ratio of

Options :

7614463841. ✔ Surface energy created by the crushing to the energy absorbed by the solid

7614463842. ✖ The energy absorbed by the solid to that fed to the machine

7614463843. ✖

The energy fed to the machine to the surface energy created by the crushing

The energy absorbed by the solid to the surface energy created by the crushing

7614463844. ✖

Question Number : 162 Question Id : 761446972 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Maximum size reduction in a ball mill is done by

Options :

7614463845. ✖ Attrition

7614463846. ✖ Compression

7614463847. ✔ Impact

7614463848. ✖ Cutting

Question Number : 163 Question Id : 761446973 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The function of a filter aid is to

Options :

7614463849. ✖ Increase the filtration rate

7614463850. ✔ Increase cake porosity

7614463851. ✖ Remove the plugs from the septum

7614463852. ✖ Decrease the filtration pressure

Question Number : 164 Question Id : 761446974 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A fluid energy mill is used for

Options :

7614463853. ✖ Cutting

7614463854. ✖ Grinding

7614463855. ✔ Ultra grinding

7614463856. ✖ Crushing

Question Number : 165 Question Id : 761446975 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

Electrostatic precipitators are used for collecting

Options :

7614463857. ✖ Solids from a slurry

7614463858. ✖ Heavy solids from liquids

7614463859. ✖ Two immiscible phases separately

7614463860. ✔ Fine solids from gases

Question Number : 166 Question Id : 761446976 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Grinding of tough fibrous material is done by

Options :

7614463861. ✖ Jaw crusher

7614463862. ✔ Hammer mill

7614463863. ✖ Ball mill

7614463864. ✖ Gyratory crusher

Question Number : 167 Question Id : 761446977 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For a system to be in equilibrium at a given temperature and pressure:

Options :

7614463865. ✖ The entropy must be a minimum

7614463866. ✖ The enthalpy must be a minimum

7614463867. ✖ The internal energy must be a minimum

7614463868. ✔ The Gibbs free energy must be a minimum

Question Number : 168 Question Id : 761446978 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A system in which there is neither exchange of energy nor mass is known as

Options :

7614463869. ✖ Insulated system

7614463870. ✖ Open system

7614463871.

✔ Isolated system

7614463872. ✖ Closed system

Question Number : 169 Question Id : 761446979 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The equilibrium constant K for a chemical reaction depends on

Options :

7614463873. ✔ Temperature only

7614463874. ✖ Pressure only

7614463875. ✖ Temperature & Pressure

7614463876. ✖ Ratio of reactants

Question Number : 170 Question Id : 761446980 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For an Adiabatic process

Options :

7614463877. ✖ Temperature is constant

7614463878. ✖ Pressure is constant

7614463879. ✖ Volume is constant

7614463880. ✔ Enthalpy is constant

Question Number : 171 Question Id : 761446981 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

First Law of Thermodynamics states that

Options :

7614463881. ✖ Energy can be destroyed

7614463882. ✔ Energy can be transformed from one form to another

7614463883. ✖ Energy cannot be transformed from one form to another

7614463884. ✖ Mass cannot be transformed

Question Number : 172 Question Id : 761446982 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The unit of energy is the same as the unit of

Options :

7614463885. ✖ Power

7614463886. ✖ Entropy

7614463887. ✔ Work

7614463888. ✖ Pressure

Question Number : 173 Question Id : 761446983 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Specific volume of a gas is

Options :

7614463889. ✖ Equal to its density

7614463890. ✔ Reciprocal of its density

7614463891. ✖ Directly proportional to pressure

7614463892. ✖ The volume of gas at STP

Question Number : 174 Question Id : 761446984 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

Which of the following is not used as a refrigerant

Options :

7614463893. ✖ Ammonia

7614463894. ✖ Sulphur dioxide

7614463895. ✖ CCl_2F_2

7614463896. ✔ $C_2H_4Cl_2$

Question Number : 175 Question Id : 761446985 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The molecularity of an elementary reaction $P + Q \rightarrow R + S$ is

Options :

7614463897. ✖ Three

7614463898. ✖ Four

7614463899. ✔ Two

7614463900. ✖ One

Question Number : 176 Question Id : 761446986 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The dimensions of the rate constant for reaction 3A → B are litre/ (gmol.min). Then, the order of the reaction is

Options :

7614463901. ✔ Two

7614463902. ✖ One

7614463903. ✖ Zero

7614463904. ✖ Three

Question Number : 177 Question Id : 761446987 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

According to collision theory, the rate constant k is proportional to

Options :

7614463905. ✖ T

7614463906. ✖ $Te^{-E/RT}$

7614463907. ✖ $e^{-E/RT}$

7614463908. ✔ $T^{0.5}e^{-E/RT}$

Question Number : 178 Question Id : 761446988 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The rate of reaction of any component is a function of

Options :

7614463909. ✖ Temperature of the system only

7614463910. ✖ Pressure of the system only

7614463911. ✖ Composition of the component only

7614463912. ✔ Temperature, pressure and composition

Question Number : 179 Question Id : 761446989 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

When gaseous solute is very soluble in liquid solvent, mass transfer rate is controlled by

Options :

7614463913. ✖ Liquid film resistance

7614463914. ✔ Gas film resistance

7614463915. ✖ Both the liquid and gas film resistance

7614463916. ✖ Neither liquid nor gas film resistance

Question Number : 180 Question Id : 761446990 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

By increasing the feed rate to a fractionating column, separating a binary mixture at a fixed reflux ratio and separation, the required number of ideal stages

Options :

7614463917. ✖ Increases

7614463918. ✖ Decreases

7614463919. ✔ Remains unaltered

7614463920. ✖ May increase or decrease

Question Number : 181 Question Id : 761446991 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The reason for preferring packed towers over plate towers in distillation practice is that the packed tower operation gives

Options :

7614463921. ✖ Low pressure drop and high holdup

7614463922. ✖ High pressure drop and low holdup

7614463923. ✔ Low pressure drop and low holdup

7614463924. ✖ High pressure drop and high holdup

Question Number : 182 Question Id : 761446992 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

At a given temperature, the humid volume is

Options :

7614463925. ✔ Linear function of humidity

7614463926. ✖ Inverse function of humidity

7614463927. ✖ Square function of humidity

No specific function of humidity

7614463928. ✖

Question Number : 183 Question Id : 761446993 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following operations does not involve leaching?

Options :

7614463929. ✖ Dissolving gold from ores

7614463930. ✖ Dissolving pharmaceutical products from bark or roots

7614463931. ✔ Removing nicotine from its water solution

7614463932. ✖ Dissolving sugar from the cells of the beet

Question Number : 184 Question Id : 761446994 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If minimum liquid rate is employed in a continuous counter current absorber, the driving force at the bottom of the column is

Options :

7614463933. ✔ Zero

7614463934. ✖ Infinite

7614463935. ✖ Minimum

7614463936. ✖ Maximum

Question Number : 185 Question Id : 761446995 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A plait point is the point on the solubility curve where

Options :

7614463937. ✖ The solute concentrations in both the phases are equal

7614463938. ✖ The last tie line on the phase diagram

7614463939. ✖ The solute concentration is maximum

7614463940. ✔ The tie line reduces to a point

Question Number : 186 Question Id : 761446996 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In drying operation at critical moisture content, the rate starts falling due to

Options :

7614463941. ✔ Insufficient water on the surface of the solid

7614463942. ✖ Complete removal unbound moisture in the solid

7614463943. ✖ The solid surface is completely dry

7614463944. ✖ The rate of water evaporated is smaller than the rate of water absorbed by the solid

Question Number : 187 Question Id : 761446997 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Why are the extraction rates in sieve plate columns high?

Options :

7614463945. ✔ Because the dispersed droplets coalesce and reform on each plate

7614463946. ✖ Because the dispersed droplets don't coalesce and reform on each plate

7614463947. ✖ Because the dispersed droplets coalesce and not reform on each plate

7614463948. ✖ Because the dispersed droplets neither coalesce nor reform on each plate

Question Number : 188 Question Id : 761446998 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following crystallization method is more energy friendly

Options :

7614463949. ✖ Evaporative crystallization

7614463950. ✔ Cooling crystallization

7614463951. ✖ Both evaporative and cooling crystallizations

7614463952. ✖ Neither evaporative nor cooling crystallizations

Question Number : 189 Question Id : 761446999 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What type of dryer is used for the drying of substances which are hygroscopic?

Options :

7614463953. ✖ Tray dryer

7614463954. ✖ Drum dryer

7614463955. ✔ Vacuum dryer

7614463956. ✖ Fluidized bed dryer

Question Number : 190 Question Id : 7614461000 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Flooding in a distillation column is detected by a sharp

Options :

7614463957. ✖ Increase in Murphree plate efficiency

7614463958. ✔ Increase in pressure drop

7614463959. ✖ Decrease in pressure drop

7614463960. ✖ Decrease in liquid holdup in the column

Question Number : 191 Question Id : 7614461001 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a dynamic characteristic of instruments

Options :

7614463961. ✖ Drift

7614463962. ✖ Reproducibility

7614463963. ✔ Time lag

7614463964. ✖ Span

Question Number : 192 Question Id : 7614461002 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For platinum thermocouples, lead wires are made of

Options :

7614463965. ✖ Iron & copper

7614463966. ✖ Nickel & iron

7614463967. ✔ Copper & copper-nickel alloy

7614463968. ✖ Tin & nickel

Question Number : 193 Question Id : 7614461003 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For measuring the temperature of a furnace, which is the most suitable instrument.

Options :

7614463969. ✖ Thermocouple

7614463970. ✔ Optical pyrometer

7614463971. ✖ Bi-metallic thermometer

7614463972. ✖ Mercury thermometer

Question Number : 194 Question Id : 7614461004 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The % overshoot of an un-damped 2nd order system is

Options :

7614463973. ✖ 50

7614463974. ✔ 100

7614463975. ✖ 35

7614463976. ✖ 30

Question Number : 195 Question Id : 7614461005 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A sinusoidal variation in the input passing through a linear first order system

Options :

7614463977. ✖ Becomes more oscillatory

7614463978. ✔ Gets attenuated

7614463979. ✖ Gets amplified

7614463980. ✖ Becomes less oscillatory

Question Number : 196 Question Id : 7614461006 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following controllers have offset equal to zero

Options :

7614463981. ✖ P and PD controllers

7614463982. ✔ PI and PID controllers

7614463983. ✖ PI and PD controllers

7614463984. ✖ P and on-off controllers

Question Number : 197 Question Id : 7614461007 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following variable is measured in feedback control system?

Options :

7614463985. ✖ Load variable

7614463986.

✖ Manipulated variable

7614463987. ✖ Set point

7614463988. ✔ Controlled variable

Question Number : 198 Question Id : 7614461008 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following controllers reduce oscillations of a system?

Options :

7614463989. ✖ P-controller

7614463990. ✖ PI controller

7614463991. ✔ PD controller

7614463992. ✖ On-off controller

Question Number : 199 Question Id : 7614461009 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the second order system from the following

Options :

7614463993. ✖ Mercury in glass thermometer

7614463994. ✔ U-tube manometer

7614463995. ✖ RC circuit

7614463996. ✖ Single tank liquid level system

Question Number : 200 Question Id : 7614461010 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

When bare thermocouple is covered by protective sheath, the response becomes

Options :

7614463997. ✖ Faster and oscillatory

7614463998. ✖ Slower and oscillatory

7614463999. ✔ Slower and non-oscillatory

7614464000. ✖ Faster and non-oscillatory