3. Increasing Thermal stability?

(a) H_2O

(b) H_2S

(c) $HeTe$

(d) H_2Po

Q. Magnetic Moment Straight

$P_m \longrightarrow$ Poles Strength

$m = \dfrac{P_0}{\ell}$

$\pi r = \ell$

$r = \dfrac{\ell}{\pi}$

$m = 2r \times \dfrac{P_0}{\ell} = 2 \times \dfrac{\ell}{\pi} \times \dfrac{P_0}{\ell} = \dfrac{2P_0}{\pi}$

B. $\quad \lambda_1, \lambda_2, \lambda_3 \text{———} 3 \text{ Balmer series}$

$$\frac{\lambda_1}{\lambda_3} = ?$$

① Heat and work
   ⓐ Extensive
   ⓑ Intensive
   ⓒ Path fun
   ⓓ Point funct

Answer A

2. Sulphur can be Remove from ore

(a) Roasting

(b) Smelting

(c) Calcination

Answer A

$81^{\cos^2 x} + 81^{\sin^2 x} = 30$ No. of solutions of in $x \in (0, \pi)$

Answer D

- A) 0
- B) 2
- C) 8
- D) 4

$\dfrac{dy}{dx} + 2y\tan x = \sin x$, $y\left(\dfrac{\pi}{3}\right) = 0$, Maximum value of y(x) is

Answer A

- A) $\dfrac{1}{8}$
- B) $\dfrac{1}{16}$
- C) $\dfrac{-15}{4}$
- D) $\dfrac{3}{8}$

$A = \begin{bmatrix} i & -i \\ -i & i \end{bmatrix}$, $A^8 \begin{bmatrix} x \\ 8 \end{bmatrix} = \begin{bmatrix} 8 \\ 64 \end{bmatrix}$ has

(A) unique solutio

(B) no solutions

(C) Infinite solutic

(D) 2 solutions

Answer B

A 3 × 3 matrix is formed from {0, 1, 2, 3} & sum of diagonal elem of AA^T is 9. Find number of such matrices.

Answer 766

In a pack of 52 cards, a card is missing. If 'x' cards are drawn randomly & found to be of spades. Then probability that missing card is not of spades?

If $x = \int\limits_{0}^{y} \dfrac{dt}{\sqrt{1+t^2}}$, then $\dfrac{d^2y}{dx^2}$ is:

Answer is Y

Sum of values of x and y satisfying $3^x - 4^y = 77$; $3^{\frac{x}{2}} - 2^y = 7$

$x+y$
$= 5$

$a^2 - b^2 = 77$
$a - b = 7$
———————
$a + b = 11$
———————
$a = 9, b = 2$

$3^{\frac{x}{2}} = a, \quad 2^y = b$

$3^{\frac{x}{2}} = 9 = 3^2, \quad 2^y = 2$

$x = 4 \qquad y = 1$

If $f(x) = \prod_{i=1}^{3} (x - a_i) + \sum_{i=1}^{3} a_i - 3x$

where $a_i < a_{i+1}$ $\forall$ i = 1, 2,....., then f(x) = 0 has

Answer C

A	One distinct real roo
B	2 distinct real roots
C	3 distinct real roots
D	3 equal root

Match the following

a. Hypophosphorous acid	(i) 1
b. Orthophosphorous acid	(ii) 2
c. Hypophosphoric acid	(iii) 3
d. Orthophosphoric acid	(iv) 4
	(v) 5

Ans. a → (i), b → (iii), c → (iv), d → (v)

For BCC unit cell the edge length = 27 Å. Find the length of the same unit cell in FCC arrangement.

Ans. 33 Å

$K_1 = 10^{-3}$ sec^{-1} $E_a = 11.48$ kJ/mol

$R = 8.314$ J/mole K

$T = 200$ K

Then K at 300 K

Ans. 10

6.5 molal solution KOH, $d = 1.89$ g/cm^3, $M = ?$

$$\left\{ \frac{1}{m} + \frac{M'}{1000} \right\}$$

Ans. 10.9 mol/litre

Name of vitamin B$_{12}$

A. cyanocobalamin

B. niacin

C. riboflavin

D. thiamine

Ans. A

Sulphur can be remove from are by

A. Roasting

B. Smelting

C. Calcination

D. None

Ans. A

Anti-Histamines are

A. Antacid & Anti-allergic

B. Antacid & analgesic

C. Anti-depressant & Antacid

D. Anti-pyretic & Analgesic

Ans. A

Which hydride of group 15 has most reducing power.

A. Bi
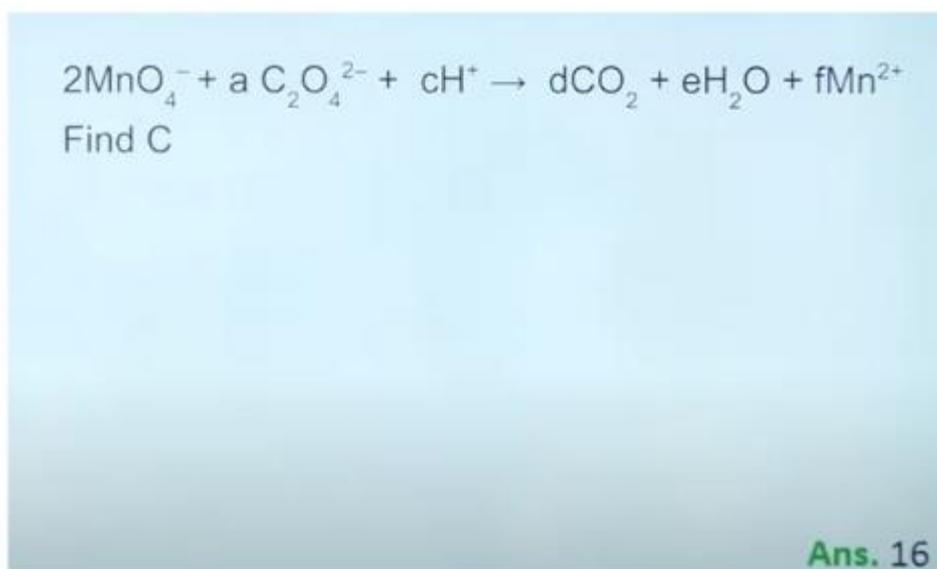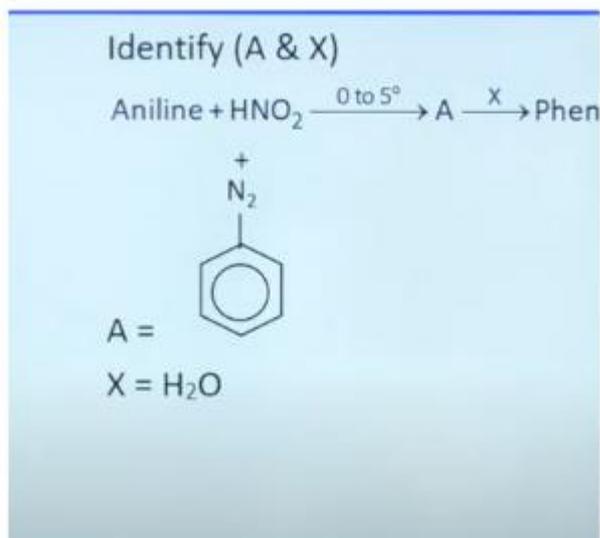
B. P

C. Sb

D. As

Ans. A

Total volume of container is V, 16g O_2, 44g CO_2, 28g N_2, Find pressure.

A. $3RT/V$

B. $5RT/2V$

C. $3RT/2V$

D. None

Ans. B

Identify (A & X)

$$\text{Aniline} + HNO_2 \xrightarrow{\text{0 to 5°}} A \xrightarrow{X} \text{Phen}$$

A =

[benzenediazonium ion structure: ring with $\overset{+}{N_2}$ substituent]

X = H_2O

$$2MnO_4^- + a\ C_2O_4^{2-} + cH^+ \rightarrow dCO_2 + eH_2O + fMn^{2+}$$

Find C

Ans. 16

More Questions to be Added Shortly – Keep Checking Below Link