

MHT CET 2024 PCM May 2 Shift 2 Answer Key

If $B = \begin{bmatrix} 3 & \alpha & -1 \\ 1 & 3 & 1 \\ -1 & 1 & 3 \end{bmatrix}$ is the adjoint of a 3×3 matrix A and $|A| = 4$, then α is equal to

- A 1
- B 0
- C -1
- D -2

1.

Answer: A

2.

IUPAC name of given ether is.....

Answer: Methoxy ethane

3.

If $A = \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$, then $A^{-1} =$

A $\begin{pmatrix} \frac{1}{2} \\ \frac{1}{2} \end{pmatrix} \begin{bmatrix} 0 & 1 & 2 \\ 3 & 2 & 1 \\ 4 & 2 & 3 \end{bmatrix}$

A $\begin{bmatrix} \frac{1}{2} & -\frac{1}{2} & \frac{1}{2} \\ -4 & 3 & -1 \\ \frac{5}{2} & -\frac{3}{2} & \frac{1}{2} \end{bmatrix}$

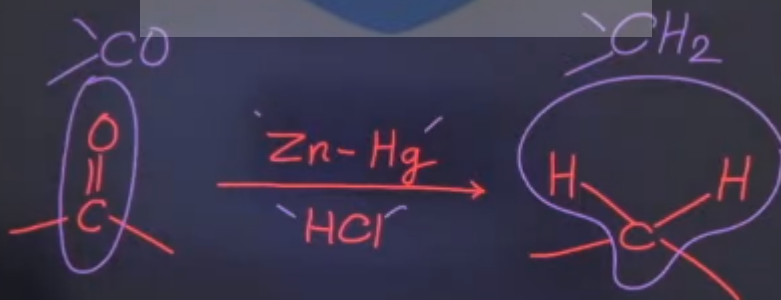
C $\begin{bmatrix} \frac{1}{2} & -1 & \frac{5}{2} \\ 1 & -6 & 3 \\ 1 & 2 & -1 \end{bmatrix}$

C $\begin{pmatrix} \frac{1}{2} \\ \frac{1}{2} \end{pmatrix} \begin{bmatrix} 1 & -1 & -1 \\ -8 & 6 & -2 \\ 5 & -3 & 1 \end{bmatrix}$

Answer: A (on the right side)

4.

Which of the following is Clemmensen reduction?



Answer:

Which element shows lower oxidation state in 3d series?

5.

- A Sc
- B Ti
- C Zn
- D None

Answer: C

Calculate pH of.....

6.

$$\underline{\text{pH}} = \text{pKa} + \log \left(\frac{[\text{salt}]}{[\text{acid}]} \right)$$

Answer:

What is the conc. Of H^+ ion if pH is 2.7

7.

$$\textcircled{1} \text{ pH} = -\log_{10} [\text{H}^+]$$
$$-\text{pH} = \log_{10} [\text{H}^+]$$
$$\textcircled{2} 10^{-\text{pH}} = [\text{H}^+]$$

Answer:

8. The relationship between solubility of gas in a liquid at constant temperature and external pressure is ?

$$S \propto p$$

Answer:

9. How many unit particles in BCC Unit cell?

- A 2
- B 1
- C 4
- D 3

Answer: A

10. The most suitable reagent for the conversion of $R-CH_2-OH \rightarrow R-CHO$ is?

Answer: PCC

11. Edge length of bcc unit cell is.....

$$\sqrt{3} a = 4r$$

edge length

Answer:

Preliminary Test of Nanoparticles is

- A x-ray diffraction
- B Scanning of neutron
- C Scanning of electron
- D None of these

12.

Answer: D

IUPAC name of following Haloarene is.....

13.

Answer: "halo-" + parent hydrocarbon name

The converse of $((\sim p) \wedge q) \Rightarrow r$ is

14.

A $((\sim P) \vee q) \Rightarrow r$ ~

B $(\sim r) \Rightarrow p \wedge q$

C $(p \vee (\sim q)) \Rightarrow (\sim r)$

D $(\sim r) \Rightarrow ((\sim P) \wedge q)$

Answer: C

The negative of $(p \wedge (\sim q)) \vee (\sim p)$ is equivalent to :

A $p \wedge q$

B $p \wedge (\sim q)$

C $p \wedge (q \wedge (\sim p))$

D $p \vee (q \vee (\sim p))$

15.

Answer: A

16.

The variance of the following probability distribution is,

The variance of the following

x	0	1	2
$P(X)$	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{1}{16}$

A $\frac{1}{8}$

B $\frac{5}{8}$

C $\frac{1}{4}$

D $\frac{3}{8}$

Answer: D

