

MHT CET 2024 PCM May 2 Shift 2 Question Paper

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.

IUPAC name of given ether is.....

2.

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

3.

A $\left(\frac{1}{2}\right) \begin{bmatrix} 0 & 1 & 2 \\ 3 & 2 & 1 \\ 4 & 2 & 3 \end{bmatrix}$

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 $\left(\frac{1}{2}\right) \begin{bmatrix} 1 & -1 & -1 \\ -8 & 6 & -2 \\ 5 & -3 & 1 \end{bmatrix}$

4. Which of the following is Clemmensen reduction?

5. Which element shows lower oxidation state in 3d series?

A Sc

B Ti

C Zn

D None



Calculate pH of.....

6.

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

7.

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

8.

How many unit particles in BCC Unit cell?

9.

A 2

B 1

C 4

D 3



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

10.

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

11.

Preliminary Test of Nanoparticles is

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

12.

IUPAC name of following Haloarene is.....

13.

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

14.

- A** $((\sim P) \vee q) \Rightarrow r$ \sim
- B** $(\sim r) \Rightarrow p \wedge q$
- C** $(p \vee (\sim q)) \Rightarrow (\sim r)$
- D** $(\sim r) \Rightarrow ((\sim P) \wedge q)$

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.

The variance of the following probability distribution is,

16.

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** $\frac{3}{8}$