

## MHT CET Practice Questions 2023 (1)

1. Which of the following is a soft metal?
2. Area under curve  $x=y$  and  $x = -1$   $x = 2$
3. Which of following is alpha amino acid
4. If  $A^{-1} = \begin{bmatrix} -10 & 0 & 0 \\ 0 & -10 & 0 \\ 0 & 0 & -10 \end{bmatrix}$  Then  $|A| = ?$
5. Lesser acidic from, HF HCl HBr HI
6. Polymer used for the shopping bag
7. The polymer of the tyre? A.Neoprene, B.SBR
8. The maximum area of the rectangle in the circle of radius  $r$
9.  $a \cdot \sin(\theta) = b \cdot \cos(\theta)$  then  $a \cos^2 \theta + b \sin^2 \theta = A$ .  $a/b$
10. Volume of bcc lattice
11. What product is formed when vapour of phenol and hydrogen is passed over nickel catalyst (Ans . Cyclohexanol)
12. A stone is projected in two ways : 1) Vertically upwards with velocity  $V$ . 2) With an velocity  $V$  which has angle  $60^\circ$  with vertical. What is the ratio of their Potential Energies at the highest point.
13. Integration of  $\int_0^4 x \cdot [x] dx$  from 0 to 4, where  $[ ]$  is greatest integer function.
14. If velocity is given by  $6t - t^2/2$ , distance at  $t=0$  is 0 then what is its distance at  $t=3$  sec?
15.  $|\vec{a}|=5$ ,  $|\vec{b}|=4$ ,  $(\vec{a}+k\vec{b})$  and  $(\vec{a}-k\vec{b})$  both are vectors which are perpendicular to each other. Value of  $k$  equals:
16. Equation of pair of straight lines is  $ax^2 + bxy - y^2 = 0$ , what is the tangent of the angle between the two straight lines. [Ans.  $b/(1+a)$ ]
17. Two particles of mass  $m$  are attached to ends of a massless rod of length  $l$  and are in rotation. The radius of gyration for axis through midpoint of the rod is  $k$  and angular momentum of this body is  $L$ . Then what is the angular frequency of the rotating body
18. In a triangle with usual notations  $a^2$ ,  $b^2$ ,  $c^2$  are in a.p. then the value of  $\sin 3B \div \sin B$  equals
19. Circle with centre  $(2,5)$  has a chord whose midpoint is  $(1,2)$  what is the equation of the chord.