

# NIMCET Maths Mock Test Paper (50 Questions)

1. If  $z = 3 + 4i$ , find  $|z|$ .
2. Solve:  $x^2 - 5x + 6 = 0$ .
3. If  $a^2 + b^2 = 20$  and  $ab = 6$ , find  $(a-b)^2$ .
4. If  $\log_2(x+4) = 3$ , find  $x$ .
5. The value of  $(81)^{3/4}$  is?
6. If roots are reciprocal, constant term of  $ax^2+bx+c$  is?
7. Remainder when  $x^3-1$  is divided by  $x-1$ .
8. Find  $\det \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ .
9.  $P(A)=0.7$ ,  $P(B)=0.6$ ,  $P(A \cap B)=0.4$ , find  $P(A \cup B)$ .
10. Number gives remainder 3 on /7; remainder on /14?
11. HCF of 48 & 56.
12.  $2^{\log_2 3} / 2^{\log_2 4} = ?$
13. If  $1/x + 1/y = 1$ ,  $x=2$ , find  $y$ .
14. If  $nCr = nC(r+1)$ , find  $r$ .
15. Handshakes between 10 people once each.
16. Slope of line joining  $(2,3), (4,9)$ .
17. Equation of line with slope 2 through  $(1,4)$ .
18. Distance between  $(1,2), (4,6)$ .
19. Area of triangle  $(0,0), (4,0), (0,3)$ .
20. Derivative of  $x^3-2x+5$ .
21.  $dy/dx$  of  $\ln x$ .
22.  $\int 2x \, dx$ .
23. Tangent slope of  $y=x^2$  at  $x=3$ .
24. Slope of line parallel to x-axis.
25. Midpoint  $(5,7)$ ,  $A=(3,5)$ , find  $B$ .
26. Value of  $\sin 30^\circ$ .
27. Value of  $\tan 45^\circ$ .
28. Convert  $180^\circ$  to rad.
29.  $\sin^2\theta + \cos^2\theta = ?$
30. Value of  $\cos 60^\circ$ .
31.  $\tan\theta=3/4$ , find  $\sec\theta$ .
32. Period of  $\sin(x)$ .
33.  $\cot 0^\circ = ?$
34. Value of  $\sin 90^\circ$ .
35. If  $\theta=45^\circ$ , find  $\sin\theta \cos\theta$ .
36. If  $A(2 \times 3)$ ,  $B(3 \times 2)$ , size of  $AB$ ?

37.  $\det \begin{bmatrix} 2 & 0 \\ 1 & 3 \end{bmatrix}$ .
38. Dot product  $(1,2,3), (3,2,1)$ .
39. If vector magnitude = 0, what vector?
40. Inverse exists only when  $\det \neq ?$
41. Add  $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} + \begin{bmatrix} 3 & 4 \\ 1 & 2 \end{bmatrix}$ .
42. Rank of zero matrix.
43. If  $A=I$ , find  $A^{-1}$ .
44. Sum of first  $n$  natural numbers.
45. 10th term of AP: 2,6,10,...
46.  $nPr / nCr = ?$
47. GP 3,6,12 find 6th term.
48. Mean of 2,4,6,8.
49. Median of 3,5,7,9.
50. Mode of 1,1,2,3,4.