STD :- X

ONE MARK TEST - ①

TIME :- 30 min
MARKS :- 30.

I. ONE MARKS :-

1. If $f = \{(6,3), (8,9), (5,3), (-1,6)\}$ then the pre-image of 3 are ——.
2. If $A = \{5,6,7\}$, $B = \{1,2,3,4,5\}$ and $f: A \to B$ is defined by $f(x) = x - 2$, then the range of f is ——.
3. If $f(x) = x^2 + 5$, then $f(-4) =$ ——
4. If $f: A \to B$ is a bijective function and if $n(A) = 5$ then $n(B)$ is equal to ——.
5. If $\{(1,11), (5,a)\}$ represents a constant function then the value of 'a' is ——.
6. If $1 + 2 + 3 + \dots + n = k$, then $1^3 + 2^3 + 3^3 + \dots + n^3$ is equal to ——
7. $\frac{1}{3} - \frac{1}{2} + \frac{3}{4} - \frac{9}{8} + \frac{27}{16}$ is ——.
8. If $a_1, a_2, a_3 \dots$ are in A.P such that $\frac{a_4}{a_7} = \frac{3}{2}$ then the 13^{th} term of the A.P is ——.
9. $-1/2, 1/2, -1/2, 1/2, -1/2 \dots$ is ——.
10. If a, b, c are in A.P ... then $\frac{a-b}{b-c}$ is equal to ——
11. If a, b, c are in G.P, then $\frac{a-b}{b-c}$ is equal to ——
12. The next term of $\frac{1}{20}$ in the sequence $\frac{1}{2}, \frac{1}{6}, \frac{1}{12}, \frac{1}{20}, \dots$ is ——.
13. If a, b, c, l, m, n are in A.P then $3a+1, 3b+1, 3c+1, 3x+1, 3m+1, 3n+1$ form a ——.
14. In a G.P $t_2 = \frac{3}{5}$ and $t_3 = \frac{1}{5}$, then the Common ratio is ——.

15. If the n^{th} term of an A.P is $t_n = 3 - 5n$ then the sum of the first n terms is ___

16. The 8th term of the sequence 1, 1, 2, 3, 5, 8 ... is ___.

17. If the ~~3rd term~~ Common ratio of a G.P a^{m-n}, a^m, a^{m+n} is ___

18. If the third term of a G.P is 2, then the product of first 5 terms is ___.

19. The sequence $-3, -3, -3, \ldots$ is ___.

20. The 18th term of the sequence 1, 1, 2, 3, 5, 8 ... is ___

21. σ is $2\sqrt{2}$. If each value is multiplied by 3, then the 'σ' of the new data is ___

22. Variance of the first 11 natural numbers is ___

23. If t is the standard deviation of x, y, z then the 'σ' of x+5, y+5, z+5 is ___.

24. Two dice are thrown simultaneously. The probability of getting a doublet is ___.

25. Probability of sure event is ___

26. Probability of getting 3 heads and 3 tails in tossing a coin 3 times is ___.

27. If ϕ is an impossible event, then $p(\phi) =$ ___

28. If $x = a\sin\theta$ and $y = b\cos\theta$, then the value of $\frac{x^2}{a^2} + \frac{y^2}{b^2} =$ ___.

29. $(1 + \tan^2\theta)\sin^2\theta =$ ___

30. $\frac{\sec\theta}{\cot\theta + \tan\theta} =$ ___.

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