

QUESTION PAPER 6

Time : 3 Hours]

[Total Marks : 80

Instructions As per Question Paper 1.

Section A

Answer the following as per instructions given :

[Q. nos. 1 to 24 – 1 mark each] 24

- Fill in the blanks by selecting the proper alternatives from those given below each question : (Q. nos. 1 to 6)

1. The line representing $4x + 3y = 24$ intersect the x -axis at point
- A. (3, 0) B. (0, 4)
C. (6, 0) D. (0, 8)

2. $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}} = \dots\dots\dots$

- A. 4 B. 3 C. -2 D. 3.5

3. For a given AP, $a_n = 8n + 3$. Then, the 20th term of that AP is

- A. 155 B. 149 C. 163 D. 157

4. If P (2, 4), Q (0, 3), R (3, 6) and S (5, y) are vertices of parallelogram PQRS, then $y = \dots\dots\dots$

- A. 7 B. 5 C. -7 D. -8

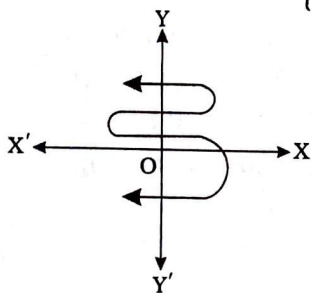
5. If $a \cos \theta + b \sin \theta = 4$ and $a \sin \theta - b \cos \theta = 3$, then $a^2 + b^2 = \dots\dots\dots$
 A. 7 B. 12 C. 25 D. 1

6. The mean of 20 observation is 38. 6 is added to each observation and then each result is divided by 4. Then, the mean of new observation so obtained is $\dots\dots\dots$
 A. 44 B. 11 C. 9.5 D. 40

• Fill in the blanks by selecting the proper answer from those given in the brackets to make the statements true : (Q. nos. 7 to 12)

7. $(\sqrt{9} - \sqrt{7})(\sqrt{9} + \sqrt{7})$ is $\dots\dots\dots$ number. (rational, irrational, negative integer)

8. For a given graph of $x = p(y)$, the number of zeroes of $p(y)$ is $\dots\dots\dots$ (1, 2, 4)



9. The probability of a certain event is $\dots\dots\dots$ (0, 1, -1)

10. $\frac{1}{\sin^2 \theta} - 1 = \dots\dots\dots$ ($\tan^2 \theta$, $\operatorname{cosec}^2 \theta$, $\cot^2 \theta$)

11. Point A lies in the exterior of a circle with point P and a tangent from A touches the circle at B. If $PA = 29$ cm and $AB = 21$ cm, then the diameter of the circle is $\dots\dots\dots$ cm. (20, 40, 50)

12. For a given frequency distribution, if $M = 15$ and $\bar{x} = 18$, then $Z = \dots\dots\dots$ (9, 15, 36)

• State whether the following statements are true or false : (Q. nos. 13 to 16)

13. $\text{HCF}(32, 81) = 1$.

14. 6 is one of the zeroes of the polynomial $p(x) = x^2 - 17x + 66$.

15. If $(3, a)$ is one of the solutions of equation $4x - y = 10$, then $a = 2$.

16. If the probability that Rayna wins the match is 0.48, then the probability that Rayna does not win the match is 0.52.

• Answer the following question in one sentence, word or figure : (Q. nos. 17 to 20)



17. Find the 20th term of the AP 11, 16, 21, $\dots\dots$

18. If tangents PA and PB from point P to a circle with centre O are inclined to each other at an angle of 80° , then find $\angle POA$.

19. If $P(A) : P(\bar{A}) = 2 : 7$, then find $P(\bar{A})$.

20. If the mean of first n natural numbers is $\frac{5n}{9}$, find n .

• Match the following pairs correctly : (Q. nos. 21 to 24)

	'A'	'B'
21.	 Total surface area of a toy	(a) $2\pi r(h + 2r)$ (b) $\pi r(2r + l)$ (c) $2\pi r(h + r)$
22.	 Total surface area of a solid	

	'A'	'B'
23.	Area of minor segment	(a) $2r + \frac{\pi r \theta}{180}$ (b) $\pi r^2 - \text{Area of minor sector}$ (c) Area of minor sector - Area of triangle formed by corresponding radii and chord
24.	Perimeter of minor sector	