

PAPER-2

SECTION - A

► Do as directed. (Q. 1 to 24) [1 Marks Each] (24)

• Choose the correct option. (Q. 1 to 6)

(1) If two positive integers a and b are written as $a = x^3 y^3$ and $b = xy^3$, where x and y are prime numbers, then the result obtained by dividing the product of the positive integers by the LCM (a, b) is:

- (A) xy (B) xy^2
 (C) $x^3 y^3$ (D) $x^2 y^2$

(2) The zeroes of the polynomial $P(x) = x^2 + 4x + 3$ are given by

- (A) 1, 3 (B) -1, 3
 (C) 1, -3 (D) -1, -3

(3) If the pair of equations $3x - y + 8 = 0$ and $6x + ry + 16 = 0$ represent coincident lines. then the value of 'r' is:

- (A) $-\frac{1}{2}$ (B) $\frac{1}{2}$
 (C) -2 (D) 2

(4) The equation $ax^2 + bx + c = 0$, $a \neq 0$ has equal roots then,

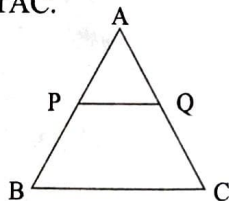
- (A) $a^2 = 4bc$ (B) $b^2 = 4ac$
 (C) $c^2 = 4bc$ (D) $a + b + c = 0$

(5) which of the following list of numbers from an AP?

- (A) 2, 4, 5, 8 (B) 3, 5, 7, 11
 (C) 3.5, 6, 6.5, 8 (D) 1, 4, 9, 16

(6) In $\triangle ABC$ $PQ \parallel BC$, If $PB = 6$ cm, $AP = 4$ cm, $AQ = 8$ cm. Find the length of AC.

- (A) 12 cm
 (B) 20 cm
 (C) 6 cm
 (D) 14 cm



• Fill in the blanks. (Q. 7 to 12)

(7) The foot of perpendicular drawn from $P(-5, 2)$ on x-axis is 'M'. So the coordinates of M is _____ . (10, 2) (-5, 0) (0, -5)

(8) $\sin\theta \cdot \tan\theta + \cos\theta =$ _____ . ($\sec\theta, \tan\theta, \cos\theta$)

(9) A line which intersects the circle in two points is called _____. (tangent, radius, secant)

(10) If radius of a circle is 7 cm and length of the minor arc is 11 cm then the length of the major arc is _____ cm. (22, 44, 33)

(11) If $r = 2.5$ m, $h = 10$ cm then than volume of the cylinder is _____ cm^2 . (196.25, 124, 198)

(12) If $\bar{x} - \text{median} = 4$ and $\bar{x} + \text{median} = 140$ then the median is _____. (72, 140, 68)

• Write the statements true or false. (Q. 13 to 16)

(13) Numbers of zeroes of polynomial $P(x) = x^2 - 10x + 6$ are three.

(14) If one of the solution of $8x + 5k = 18$ is (1, 0) then k is 2.

(15) The distance of the point (-2, -3) to y-axis is 3.

(16) 36 are total numbers of outcome while tossing two balanced dice together.

• Match the following. (Q. 17 to 20)

A	B
(17) Sum of zeroes	(a) $\frac{c}{a}$
(18) Product of zeroes	(b) $-\frac{b}{c}$
	(c) $-\frac{b}{a}$

A	B
(19) $\cot^2\theta - \text{cosec}^2\theta$	(a) $\text{cosec}\theta$
(20) $1 - \sin^2\theta$	(b) -1
	(c) $\cos^2\theta$

• Solve the following. (Q. 21 to 24)

(21) $\text{HCF} = (a, b) = 8$ and $\text{LCM} (a, b) = 64$ and if $a > b$ then find the value of a.

(22) Find the roots of the quadratic equation $3x^2 - 5x + 2 = 0$ by using quadratic formula.

(23) State the of formula to find the total surface area of 5 rupee coin.

(24) In the frequency distribution $\bar{x} = 54.3$, $\sum fi = 2$, $\sum fi = 25$, $h = 10$ then find the assumed mean.

SECTION - B

► Write the answer of the following questions.

(Q. 25 to 37) (Any 9) [2 Marks Each] (18)

(25) what is the fundamental Theorem of Arithmetic?

(26) If α and β are zeroes of the polynomial $P(x) =$