

Time Allowed: 3 Hrs Marks: 75
Note: There are **Three Sections** in this paper i.e. A, B and C. Attempt Section A and return it to the Superintendent within the given time. No marks will be awarded for **Cutting, Erasing and Overwriting**.
Mobile Phone is strictly prohibited in Examination Hall.

Time: 20 Minutes SECTION "A" Marks: 15

- Q.1.** Choose the correct option and shade one of (A, B, C, D) in the given **Bubble Answer Sheet**.
- i. *The equation $(x - k^2)^2 = 0$ is:*
(A) Linear equation (B) Quadratic equation (C) Cubic equation (D) Quartic equation
 - ii. *$x = 1$ or $x = \frac{4}{3}$ are the roots of the quadratic equation:*
(A) $x^2 - 4x + 3 = 0$ (B) $x^2 + 3x + 4 = 0$ (C) $3x^2 + 5x + 4 = 0$ (D) $3x^2 - 7x + 4 = 0$
 - iii. *The discriminant of the quadratic equation $2x^2 - 3x + \frac{1}{4} = 0$ is:*
(A) 0 (B) 4 (C) 6 (D) 7
 - iv. *The sum of the roots of the quadratic equation $2x^2 + 6x + 7 = 0$ is:*
(A) 2 (B) -3 (C) 3 (D) 8
 - v. *If y varies directly as x and $y = 9$ when $x = 3$, so the value of k is:*
(A) 2 (B) 3 (C) 4 (D) 36
 - vi. *The mean proportion of 2 and 8 is:*
(A) 4 (B) 6 (C) 8 (D) 16
 - vii. *A rational fraction $\frac{3x^3 + 2}{2x + 1}$ is:*
(A) Proper fraction (B) Improper fraction (C) Mixed fraction (D) Undefined
 - viii. *If $A = N$ & $B = W$ then $A \cap B$ is equal to:*
(A) Set of Natural Number (B) Set of Integers (C) Set of Rational Numbers (D) Set of Whole Numbers
 - ix. *If two ordered pairs $(2x, x + y)$ and $(2, 4)$ are equal, then the value of y is:*
(A) 2 (B) -2 (C) 3 (D) 4
 - x. *If $A = \{2, 3, 4\}$ and $B = \{d, e, f\}$ then the number of elements in $A \times B$ are:*
(A) 6 (B) 9 (C) 12 (D) 15
 - xi. *The process of dividing the range on the number of groups is used to find:*
(A) Tally marks (B) Width (C) Class limits (D) Class boundaries
 - xii. *In a histogram, the horizontal axis represents:*
(A) Frequencies (B) Class marks (C) Class intervals (D) Cumulative Frequency
 - xiii. *The measure of the radians in one complete rotation is:*
(A) 2π (B) 3π (C) $\frac{2\pi}{3}$ (D) $\frac{3\pi}{2}$
 - xiv. *If $\frac{\pi}{2} < \theta < \pi$, then θ lies in the:*
(A) 1st quadrant (B) 2nd quadrant (C) 3rd quadrant (D) 4th quadrant
 - xv. *If two chords of a circle are equidistant from the center, then the chords are:*
(A) Parallel (B) Tangent to the circle (C) Congruent (D) Perpendicular to each other