

Section A (MCQ's)

Q.1: Choose the correct answer for the the given option:

- (i) $\frac{ax^2 + ay^2}{a(x+y)}$ = _____
 (a) $ax^2 + ay^2$ (b) $x^2 + y^2$ (c) $a(x^2 + xy + y^2)$ (d) $a(x^2 + xy + y^2)$
- (ii) _____ is the equidistant for all these sides of a triangle.
 (a) incentre (b) Circumcentre (c) Orthocentre (d) Centroid
- (iii) Base in Natural logarithm is _____
 (a) 10 (b) e (c) π (d) 5
- (iv) How many maximum roots of a Quadratic equation are:
 (a) 2 (b) 3 (c) 5 (d) 4
- (v) $\angle P = 65^\circ$ and $\angle Q = 57^\circ$ then _____ will be the shortest side.
 (a) \overline{PQ} (b) \overline{QR} (c) \overline{RP} (d) None of these
- (vi) Factors of $a^2 + 2ab + b^2 - c^2$ is:
 (a) $(a + b + c)(a + b - c)$ (b) $(a + b + c)(a - b - c)$
 (c) $(a + b + c)(a - b + c)$ (d) $(a + b + c)(a - b - c)$
- (vii) The line $x = -5$ is parallel to:
 (a) x-axis (b) y-axis (c) both axis (d) None of these
- (viii) $(a + b)(a - b)(a^2 - b^2) =$ _____
 (a) $(a^2 - b^2)^2$ (b) $a^4 - b^4$ (c) $(a^2 + b^2)$ (d) $(a^4 + b^4)$
- (ix) Solution set of $\sqrt{y} = 10$ is:
 (a) {100} (b) {10} (c) {-10} (d) {-10, 10}
- (x) The bisector of the angles of a triangle are:
 (a) Concurrent (b) Collinear (c) Unequal (d) Do not intersect
- (xi) Standard form of Quadratic equation is:
 (a) $ax^2 + bx + c = 0, a \neq 0$ (b) $ax^2 + c = 0, a \neq 0$ (c) $ax^2 + bx = 0, a \neq 0$
 (d) $ax^3 + bx^2 + c = 0, a \neq 0$
- (xii) $\sqrt{y+4} + 2 = 8$ is a:
 (a) linear equation (b) Radical equation (c) cubic equation
 (d) Quadratic equation
- (xiii) A triangle having all the three sides congruent is called _____ triangle.
 (a) Scalene (b) Right-angled (c) equilateral (d) Isosceles
- (xiv) HCF of $x^2 - 8x + 15$ and $x^2 - 4xy + 4y^2$ is:
 (a) $x - 4y$ (b) $x^2 + 2xy + y^2$ (c) $x + 2y$ (d) $x - 2$
- (xv) $\angle QUR =$ _____
 (a) R (b) E (c) N (d) W
- (xvi) Scientific notation of 0.00789 is _____
 (a) 7.89×10^3 (b) 7.89×10^2 (c) 0.789×10^2 (d) 78.9×10^4
- (xvii) The value of 't' for which $49x^2 - 42xy + 9y^2 + 1$ will be a perfect square:
 (a) 9 (b) $9y^2$ (c) $3y^2$ (d) 3
- (xviii) $(5 + \sqrt{5})(5 - \sqrt{5})$ is equal to:
 (a) 10 (b) 15 (c) 25 (d) 30
- (xix) E^4 is closed under:
 (a) Division (b) Multiplication (c) Subtraction (d) All of these
- (xx) $(5i)(-2i) =$ _____
 (a) -10 (b) 10 (c) -10i (d) 10i
- (xxi) $\log \frac{a}{bcd} =$ _____
 (a) $\log a - \log b + \log c + \log d$ (b) $\log a - \log b + \log c - \log d$
 (c) $\log a - \log b - \log c - \log d$ (d) $\log a - \log b - \log c + \log d$
- (xxii) The degree of the $3xy + 5y^4 - 10$ is
 (a) 4 (b) 5 (c) 6 (d) 10
- (xxiii) The _____ of a triangle cut each other in the ratio 2:1:
 (a) Altitude (b) Median (c) angle bisector (d) Right bisector
- (xxiv) If the sum of measures of $\angle A$ and $\angle C$ of a parallelogram ABCD is 140° then $\angle D$ will be of _____
 (a) 70° (b) 10° (c) 140° (d) 220°
- (xxv) $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$ is called:
 (a) Mid point formula (b) Distance formula (c) Division formula
 (d) Ratio formula
- (xxvi) _____ are the length of sides of a right angle triangle
 (a) 3, 4, and 5 (b) 1, 3, and 5 (c) 2, 4, and 6
 (d) None of these
- (xxvii) A point equidistant from the end points of a line segment is on the _____ of it.
 (a) Perpendicular (b) Right bisector (c) Centre (d) Bisector
- (xxviii) The point (-3, -4) is located in:
 (a) 1st Quadrant (b) 2nd Quadrant (c) 3rd Quadrant
 (d) 4th Quadrant
- (xxix) If $\log_3 x = 4$, then $x =$ _____
 (a) 500 (b) 100 (c) 1000 (d) 10000
- (xxx) In simplified form $\frac{1}{x+y} + \frac{y}{x^2+y^2} =$ _____
 (a) $\frac{y+1}{x^2+y^2}$ (b) $\frac{x}{x^2+y^2}$
 (c) $\frac{y}{x^2+y^2}$ (d) $\frac{y-1}{x^2+y^2}$