DIK-SSC-IX-2019 (A)

MATHEMATICS (9TH)

Marks: 75

Time : 20 min SECTION – A Marks: 15

Q.1 Choose the correct option:

i) If $Z = \begin{bmatrix} 2 & 3 \\ 3 & 4 \end{bmatrix}$, then z^{-1} = _____

a) $\begin{bmatrix} 4 & 3 \\ -3 & 2 \end{bmatrix}$ b) $\begin{bmatrix} 4 & -3 \\ -3 & 2 \end{bmatrix}$

c) $\begin{bmatrix} -2 & 3 \\ 3 & -4 \end{bmatrix}$ **d)** $\begin{bmatrix} -4 & 3 \\ 3 & -2 \end{bmatrix}$

ii) (i) (-i) = _____

A) **1** B) –1 C) i D) –i

iii) Characteristics of log 0.000059 is:

A) **–5** B) 5 C) –4 D) 4

iv) $(a + b + c)^2$ = _____

a) $a^2 + b^2 + c^2$ b) $a^2+b^2+c^2 + 2(a+b+c)$

c) **$a^2+b^2+c^2+2(ab+bc+ca)$** d) $a+b+c + 2(ab+bc+ca)$

v) Zero of polynomial $P(x) = x^2 - 4x + 3$ is:

A) 0 B) 1 C) 4 D) –1

vi) HCF of $a^3 - b^3$ and $a^2 + ab + b^2$ is :

a) $a + b$ b) **$a^2 + ab + b^2$**

c) $a - b$ d) $(a - b)^2$

vii) Solve x, $\sqrt{x} = -10$

A) {–10} B) { } C) **{100}** D) {10}

viii) $5C^0$ = _____ F^0

A) 39 B) 32 C) 35.6 D) **41**

ix) Distance between (3, –5) and (5, –7) is:

A) $5\sqrt{2}$ B) $4\sqrt{2}$ C) $3\sqrt{2}$ D) **$2\sqrt{2}$**

x) Which quadrilateral must have diagonals that are concurrent and perpendicular?

a) Rhombus b) Square

c) **Trapezoid** d) Parallelogram

xi) A polygon with four sides is called _____

a) **Quadrilateral** b) Pentagon

c) Hexagon d) Triangle

xii) If in the figure "P" point lies outside $\overline{AB}$ m $\overline{PR}$ will be shortest distance of m<PRA = _____ $\overleftrightarrow{A\ R\ B}$

A) 180^0 B) 45^0 C) 100^0 D) **90^0**

xiii) The measure of a line segment joining the mid points of the $\overline{AB}$ and $\overline{AC}$ of ΔABC is 3.5 cm then m$\overline{BC}$ = _____

A) 4.5cm B) 5.5cm C) 6cm D) **7.0cm**

xiv) If two triangles have equal bases and equal altitudes, what else will they have equal?

A) **Area** B) Perimeter C) Angles D) None

xv) Altitudes of triangle are _____

a) Equal in length b) Equal distance from vertices

c) Concurrent d) **Perpendicular bisector**