

Time Allowed: 2 Hours

Marks: 75

Note:- There are THREE section in this paper i.e Section A,B, and C.

Attempt Section-A on the same paper and return it to the Superintendent within the given time.

No marks will be awarded for Cutting, Erasing or Overwriting. Marks of Identification will lead to UEM case, Mobile Phoe etc are not allowed in the examination hall.

Time Allowed: 2 Hours SECTION-A Marks:- 15

Q-1. Write the correct option i.e. A, B, C or D in the empty box provided opposite to each part.

i. The quotient of two complex numbers is \_\_\_\_\_

Real                  Imaginary                  Real or                  None C

imaginary

ii. Expression of the form  $P(x)/Q(x)$  is a \_\_\_\_\_.

Binomial                  Rational                  Rational                  None A

Expression                  number                  Algebraic

expression

iii. HCF of  $a^3-b^3$  and  $a^2+ab+b^2$  is \_\_\_\_\_. $a+b$                    $(a-b)^2$                    $a-b$                    $a^2+ab+b^2$  Div. The solution set of  $|x|=0$  is \_\_\_\_\_ $\{1\}$                    $\{-1\}$                    $\{0\}$                    $\}$  C

v. The mid point of the segment AB where A (3,0) and

B(3,4) is

(6, 4)                  (6, 2)                  (3, 3)                  (3, 2) D

vi. \_\_\_\_\_ are concurrent

Bisectors of                  Perpendicular Medians of                  All of D

the angles of                  bisectors of thea triangle                  of the

a triangle                  sides of triangle                  above

vii.  $x^2+y^2 - y^2+x^2 =$  \_\_\_\_\_ $x^2+y^2$                    $x^2+y^2$                    $x+y$                    $x-y$  A $x^2-y^2$                    $x^2+y^2$                    $x^2+y^2$                    $x^2+y^2$ 

viii. In equilateral triangle ABC, the bisectors of \_\_\_\_\_

divides the triangle into the two congruent triangles.

A                  B                  C                  Any one of C

its angles

ix.  $\log_{10} 10 =$  \_\_\_\_\_

0                  10                  100                  None B

x.  $a^2 - b^2 =$  \_\_\_\_\_. $(a-b)^2+2ab$                    $(a+b)(a-b)$                    $(a-b)(a-b)$                   None B

xi. Diagonals of a square are \_\_\_\_\_ to each other.

Perpendicular                  Not Congruent                  Congruent                  Both A&amp;B B

xii. The characteristic of  $\log 0.00325$  is \_\_\_\_\_.

3                  -3                  2                  4 C

xiii. Factors of  $x^2+2x-24$  are \_\_\_\_\_. $x+8, x-3$                    $x-4, x+b$                    $x+4, x-6$                    $x+3, x-8$  Bxiv. The determinant of the matrix  $\begin{bmatrix} 3 & -4 \\ 5 & -6 \end{bmatrix}$  is

-2                  4                  2                  -4 C

xv. The solution set of linear equation in one variable has

One element                  Two elements                  No element                  Infinite A

number of elements

Note:- Time allowed for Section-B and Section-C is 2 Hours and 40 minutes.

## SECTION-B

Marks: 36

Q-II Attempt any NINE parts. Each part carries FOUR

Marks.

1. Solve by Cramer's Rule  $x-2y = 5, 2x-y=6$ .2. Simplify  $\left(\frac{36}{49}\right)^{\frac{1}{2}}$ 3. Simplify with the help of logarithm  $(28.65)^{\frac{1}{4}}$ 

4. Rationalize the denominator and simplify

5. Factorize  $x^3y-xy^3$ 6. Draw the graph of the equation  $x+y=4$ .7. Find the value of  $a^3-b^3$  when  $a-b=2$  and  $ab=15$ .8. Find the HCF of  $2x^3+7x^2+4x-4$  and  $2x^3+9x^2+11x+2$ .9. Simplify  $\frac{2x}{3x-12} \div \frac{x^2-2x}{x^2-6x+8}$ 10. Find the square root of  $x^6-2x^5+3x^4-2x^3+x^2$ .

11. Sum of three consecutive numbers is 24. Find the numebrs.

12. Find the solution set of the equation  $|5x-13|+2=14$ 

## SECTION-C

Marks: 18

Note:- Attempt any THREE questions. All questions carry equal marks.

Q-III By using distance formula, Show that the points A (-3,

-4), B (2,6) and C (0,2) are collinear.

Q-IV Prove that if two opposite sides of a quadrilateral are

congruent and parallel, it is a parallelogram.

Q-V Prove that the bisectors of the angles of a triangle are

concurrent.

Q-VI Construct  $\Delta PQR$ , when  $m\overline{PQ} = 7\text{cm}$ ,  $m\overline{QR} = 6.5$  and $m\overline{PR} = 5.8\text{cm}$