

Time : 45 Min.

Marks : 20

	Project Work	Creative Problems 5 to 10 with solutions	Written works	Slip Test	Total
Allotted Marks	10	10	10	20	50
Scored Marks					

**I. Solve the following :**

4 × 1 = 4 M

- Kruthi said  $\sqrt{2}$  can be written as  $\frac{\sqrt{2}}{1}$  which is in  $\frac{p}{q}$  form. So  $\sqrt{2}$  is a rational number. Do you agree with her argument?
- Explain, with an example how irrational numbers differ from rational numbers? Give four examples each.
- The quadratic polynomial has two zeroes. Can you tell the number of zeroes a polynomial of degree 'n' will have?
- Find the remainder when  $x^3 - px^2 + 6x - p$  is divided by  $x - p$ .

**II. Solve the following :**

3 × 2 = 6 M

- Find five rational numbers between 1 and 2.
- If the polynomials  $x^3 + ax^2 + 5$  and  $x^3 - 2x^2 + a$ , are divided by  $(x + 2)$  leave the same remainder, find the value of a.
- Plot the following ordered pairs on a graph sheet. What do you observe?  
(1, 0), (3, 0), (-2, 0), (-5, 0), (0, 0), (5, 0), (-6, 0)