| CL- IX , | MATHEMATICS | FULL MARKS – 40 |

1. SOLVE THE FOLLOWING QUESTION :   1 × 10 = 10

a. Write the coefficient of $x^2 : 2 - x^2 + x^3$

b. Write the degree of the polynomial : $5x^3 + 4x^2 + 7x$

c. The p/q form of the number 0.8 is (1, $\frac{8}{10}, \frac{8}{100}, \frac{1}{8}$) .

d. The value of $\sqrt[3]{1000}$

e. What kind of decimal expansion each has : $\frac{36.}{100}$

f. Classify the number as rational or irrational : 0.3796

g. Every natural number is : (not an integer , always a whole number , an irrational number , not a fraction)

h. Evaluate the product without multiplying (103)(107)

i. Find the value of polynomial x^3 , when x = -2

j. Classify $\frac{2\sqrt{7}}{3\sqrt{7}}$ whether is rational or irrational.

2 . SOLVE THE FOLLOWING QUESTION: 2 × 3 = 6

a. Rationalize The Denominator : $\frac{1}{\sqrt{7}}$

b. Express 0.$\overline{6}$ in the form of $\frac{p}{q}$,where p and q are integers and q$\neq$ 0

c. Find five rational between $\frac{3}{5}$ and $\frac{3}{4}$

3. SOLVE 3 × 4 =12

a. Find the value : $5x - 4x^2 + 3$ when (x = 0,1,2)

b. Find the remainder when $x^3 + x^2 + 3x + 1$ is divided by (x+1)

c. Simplify : $(3 +\sqrt{3})(2+\sqrt{2})$

d. Rationalize the denominator :$\frac{1}{\sqrt{5}-\sqrt{7}}$

4. SOLVE 4 × 3 = 12

a. Find the value of k , if x = -1 is a factor of p(x) in : $p(x) = x^2 + x + k$.

b. Determine whether (x +1) is a factor of $x^3 + x^2 + x +1$

c . Show how $\sqrt{5}$ can be shown in number line.