Class X : MATH
Chapter - 2 : Polynomial
Qusetions & Answers - Exercise : 2.1 - NCERT Book
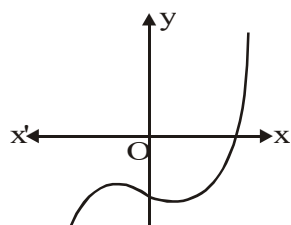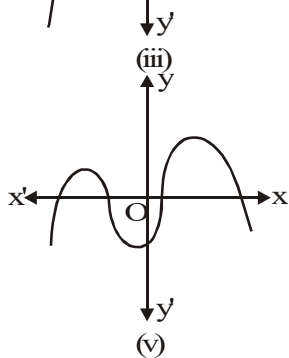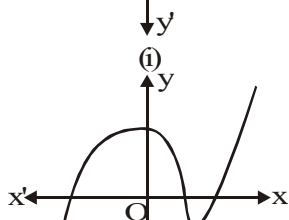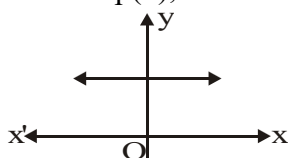
Q1. The graph of y = p(x) are given in fig below, for some polynomials p(x). Find the number of zeros of p(x), in each case.

(i)   (ii)   (iii)   (iv)   (v)   (vi)
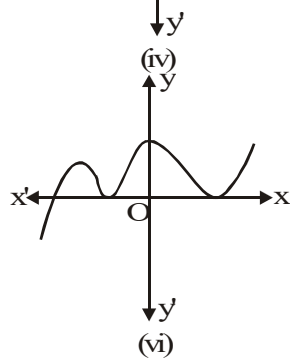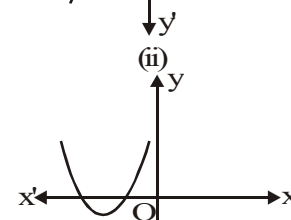
Sol. (i) Graph of y = p(x) does not intersect the x-axis. Hence, polynomial p(x) has no zero.

(ii)   Graph of y = p(x) intersects the x-axis at one
         and only one point.
         Hence, polynomial p(x) has **one and only one** real zero.

(iii)   Graph of y = p(x) intersects the x-axis at 3
         points. Hence, polynomial p(x) has 3 zeros.

(iv)   Graph of y = p(x) intersects the x-axis at 2 points. Hence, polynomial p(x) has 2 zeros.

(v)   Graph of y = p(x) intersects the x-axis at 4 points. Hence, polynomial p(x) has 4 zeros.

(vi)   Graph of y = p(x) intersects the x-axis at 1 points and touch x-axis at 2 points. Hence, p(x)
         has 3 zeros.