

Q. If two different numbers are taken from the set  $\{0, 1, 2, 3, \dots, 10\}$ ; then the probability that their sum, as well as absolute difference, are both multiples of 4 is

Soln - Total number of ways  $= {}^9P_2 = 55$

Favourable ways  $= (0, 9), (0, 8), (4, 8),$

$(2, 6), (2, 10), (6, 10)$

So required prob.  $= \frac{6}{55}$