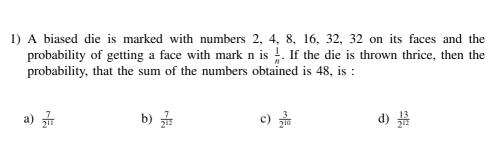
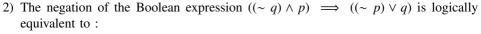
## jee-main-maths-25-06-2022-shift-2

## EE24BTECH11030 - J.KEDARANANDA





- a)  $p \implies q$  b)  $q \implies p$  c)  $\sim (p \implies q)$  d)  $\sim (q \implies p)$
- 3) If the line y = 4 + kx, k > 0, is the tangent to the parabola  $y = x x^2$  at the point **P** and **V** is the vertex of the parabola, then the slope of the line through **P** and **V** is:
  - a)  $\frac{3}{2}$  b)  $\frac{26}{9}$  c)  $\frac{5}{2}$  d)  $\frac{23}{6}$
- 4) The value of  $tan^{-1} \left( \frac{\cos \frac{15\pi}{4} 1}{\sin \frac{\pi}{4}} \right)$  is equal to:

b)  $\frac{-\pi}{8}$ 

a)  $\frac{-\pi}{4}$ 

5) The line y = x + 1 meets the ellipse  $\frac{x^2}{4} + \frac{y^2}{2} = 1$  at two points **P** and **Q**. If r is the radius of the circle with PQ as diameter then  $(3r)^2$  is equal to:

c)  $\frac{-5\pi}{12}$ 

d)  $\frac{-4\pi}{9}$ 

a) 20 b) 12 c) 11 d) 8