

SSC QUANT QUIZ of 29<sup>th</sup> Feb

- The equation  $\sin x \cdot \cos x = 2$  has -
  - One solution
  - Two solution
  - Infinite solutions
  - No solution.
- If  $\tan\theta + \sin\theta = m$  and  $\tan\theta - \sin\theta = n$ , then the value of  $m^2 - n^2$  is :
  - $4\sqrt{mn}$
  - $2\sqrt{mn}$
  - $\sqrt{mn}$
  - $-\sqrt{mn}$
- If the arcs of the same length in two circles subtend angles of  $75^\circ$  and  $120^\circ$  at the centre, then the ratio of their diameters is:
  - 5 : 8
  - 8 : 5
  - 4 : 5
  - 5 : 4
- The minimum value of  $2^{3\sin\theta} \cdot 16^{\cos\theta}$  is
  - 32
  - $\frac{1}{32}$
  - 64
  - $\frac{1}{64}$
- $\tan \alpha = \frac{n}{n+1}$  and  $\beta = \frac{1}{2n+1}$  then  $\alpha + \beta$  is :
  - $\frac{\pi}{3}$
  - $\frac{\pi}{4}$
  - $\frac{\pi}{5}$
  - $\frac{\pi}{6}$
- If  $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$  then the value of  $\frac{\tan x}{\tan y}$  is :
  - 1
  - 0
  - $\frac{a}{b}$
  - $\frac{b}{a}$
- $\operatorname{cosec}10^\circ - \sqrt{3} \sec10^\circ = ?$ 
  - 0
  - 2
  - 3
  - 4
- if  $\sin\theta + \cos\theta = m$  and  $\sin^2\theta + \cos^2\theta = n$  then
  - $m^3 - 3m + n = 0$
  - $n^2 - 3n + 2m = 0$
  - $m^3 - 3m + 2n = 0$
  - $m^3 + 3m + 2n = 0$
- The height of two poles are 180 m and 60 m respectively. If the angle of elevation of the top of the first pole from the foot of the second is  $60^\circ$ , what is the angle of elevation of the top of the second pole from the foot of the first ?
  - $30^\circ$
  - $60^\circ$
  - $45^\circ$
  - $22\frac{1}{2}^\circ$
- A flag of 3 metres high, placed on the top of a tower throws a shadow of  $3\sqrt{3}$  metres along the ground, then the angle (in degrees) that the sun makes with the ground is-
  - $30^\circ$
  - $45^\circ$
  - $60^\circ$
  - $90^\circ$