

## Smartborn

Chord Road West of Chord Road 2nd Stage Nagapura Bengaluru, Arisinakunte, Karnataka 560086

**Test: derftgyhjkml**

Duration: 60 minutes | Total Marks: 100

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**Q1. A particle is projected with velocity  $\langle u \rangle$  at an angle  $\langle \theta \rangle$  to the horizontal from the top of a tower of height  $\langle h \rangle$ . The horizontal distance from the foot of the tower to the point where it hits the ground is maximum when  $\langle \theta \rangle$  satisfies which condition?**

- A)  $\langle \tan \theta = \frac{u^2}{u^2 + 2gh} \rangle$
- B)  $\langle \theta = 45^\circ \rangle$
- C)  $\langle \tan \theta = \frac{1}{\sqrt{1 + \frac{2gh}{u^2}}} \rangle$
- D)  $\langle \cot \theta = 1 + \frac{2gh}{u^2} \rangle$

# **Answer Key**

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*Q1. Answer: A*