

# Communication Systems

## Question1

The radius of the Earth is 6400 km . If the height of an antenna is 500 m , then its range is

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**Options:**

- A. 800 km
- B. 100 km
- C. 80 km
- D. 10 km

**Answer: C**

**Solution:**

To find the range of the antenna (i.e., the distance to the horizon), we can use the formula:

$$d = \sqrt{2Rh}$$

where:

- $R$  is the radius of the Earth
- $h$  is the height of the antenna

Since the Earth's radius is given as 6400 km and the antenna's height is 500 m, we first convert the height into kilometers:

- 500 m = 0.5 km

Now, plug the values into the formula:

$$d = \sqrt{2 \times 6400 \times 0.5} = \sqrt{6400} = 80 \text{ km}$$

Thus, the range of the antenna is 80 km, which corresponds to Option C.

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## Question2

A basic communication system consists of(i) Transmitter(ii) Information sources(iii) User of information(iv) Channel(v) Receiver

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Options:

A. ii, i, iv, v and iii

B. i, ii, iii, iv and v

C. ii, v, i, iv and iii

D. ii, iv, i, iii and v

Answer: A

Solution:

