

**TOPIC**

Engineering Probability and Statistics – Section II – Question 2

**QUESTION**

Suppose that the life of light bulbs forms a normal distribution with a mean life of 5000 hours and a standard deviation of 1000 hours. The probability that the life of a randomly selected light bulb will last more than 6500 hours most nearly is

- (A) 0.0500
- (B) 0.0668
- (C) 0.1023
- (D) 0.1732

**HINT**

If  $X$  is a normal random variable with a mean  $\mu$  and a standard deviation  $\sigma$ , then

$$Z = \frac{X - \mu}{\sigma}$$

is a standard normal random variable.

**CONTRIBUTOR**

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