

**Question 10.13.3.33**

A letter of English alphabets is chosen at random. Determine the probability that the letter is a consonant.

**Solution:** Let

$$X = \begin{cases} 1, & \text{if alphabet is consonant} \\ 0, & \text{if alphabet is vowel} \end{cases} \quad (1)$$

Then

$$p_X(1) = 1 - p_X(0) \quad (2)$$

$$= 1 - \frac{5}{26} \quad (3)$$

$$= \frac{21}{26} \quad (4)$$