

# Assignment-4

EE22BTECH11012-A.Chhatrapati

**Question 11.16.3.18)** In a non-leap year, the probability of having 53 tuesdays or 53 wednesdays is

**Solution:** A non-leap year has a total of 365 days, and a week has 7 days.

So it can be expressed as

$$365 \text{ days} = 52 \times 7 + 1 \text{ day}$$

(1)

$$\Rightarrow 52 \text{ tuesdays or wednesdays}$$

(2)

Random variable X denotes the day of a week

(3)

$$p_X(k) = \frac{1}{7}; (1 < k < 7)$$

(4)

So the probability of extra day being tuesday or wednesday is

(5)

$$p_X(3) + p_X(4) = \frac{1}{7} + \frac{1}{7} = \frac{2}{7}$$

(6)