24 WEDNESDAY 175-190

1] Given problem is about how many times a particular event takes place, so we will use Poisson distribution for the same.

$$P(X = x) = \frac{e^{-m} m^x}{x!}$$

Let the time be 't'

So the average raindrops $= t \times 20 \times 5$

$= 100t$

$= 100t/20$

$= 5$ times

$\therefore$ Probability for no raindrop $= P(x = 0)$

$= \frac{e^{-5} 5^0}{0!} = e^{-5}$

25 THURSDAY 176-189

2] As x is the random day of the week, so probability of x is $\frac{1}{7}$

Here,

x	y	P(x)	P(y)
1	2	1/7	1/7

Also,

x	y	P(x)	P(y)
2	3	1/7	1/7
3	4	1/7	1/7
4	5	1/7	1/7
5	6	1/7	1/7
6	7	1/7	1/7
7	1	1/7	1/7

$\Rightarrow$ All the values of x and y have equal probabilities.

$P(x|y) = \frac{1}{7} \times 6 = 0.85$

JUN 2015

M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	•