

PROBABILITY

UDAY KUMAR - FWC22086

16.4.2 ¹ Four cards are drawn from a well-shuffled deck of 52 cards. What is the probability of obtaining 3 diamonds and one spade?.

Solution:

RV	Values	Description
X	{0,1,2,3}	Cards drawn randomly
Y	{0,1}	0:diamond ,1:spade
X,Y	{00,10,20,31}	3 diamonds and one spade out of 13 each

Table 2: Random variables(RV) X,Y and X,Y

$$\Pr (00, 10, 20, 31) = \frac{{}^{13}C_3 \times {}^{13}C_1}{{}^{52}C_4} \quad (16.4.2.1)$$

$$\therefore \Pr (00, 10, 20, 31) = \frac{286}{20285} \quad (16.4.2.2)$$

¹Read question numbers as (CHAPTER NUMBER).(EXERCISE NUMBER).(QUESTION NUMBER)