Question 19:
Number of all possible outcomes = 19
(i) Prime numbers are 2, 3, 5, 7, 11, 13, 17, 19
P(getting a prime number) = 8/19
(ii) Numbers divisible by 3 or 5 are 3, 5, 6, 9, 10, 12, 15, 18
P(getting a number divisible by 3 or 5) = 8/19
(iii) Numbers divisible by 5 and 10 are 5, 10, 15
P(getting a number neither divisible by 5 nor 10)

$$= \left(1 - \frac{3}{19}\right) = \frac{16}{19}$$

(iv) Even numbers are 2, 4, 6, 8, 10, 12, 14, 16, 18
P(getting an even number) = 9/19

Question 20:
Total number of balls = 20
(i) Odd numbers are 1, 3, 5, 7, 9, 11, 13, 15, 17, 19

$$\therefore \text{P(getting an odd number)} = \frac{10}{20} = \frac{1}{2}$$

(ii) Numbers divisible by 2 or 3 are
2, 3, 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20

$$\therefore \text{P(getting a number divisible by 2 or 3)} = \frac{13}{20}$$

(iii) Prime numbers are 2, 3, 5, 7, 11, 13, 17, 19

$$\therefore \text{P(getting a prime number)} = \frac{8}{20} = \frac{2}{5}$$

(iv) Numbers divisible by 10 are 10, 20

$$\text{P(getting a number not divisible by 10)} = \left(1 - \frac{2}{20}\right)$$

$$= \frac{18}{20} = \frac{9}{10}$$

Question 21:
Total number of cards = 15
(i) Even numbers are 2, 4, 6, 8, 10, 12, 14
P(getting a even number) = 7/15
(ii) Prime numbers are 2, 3, 5, 7, 11, 13
P(getting a prime number) = 6/15 = 2/5
(iii) Numbers divisible by 3 are 3, 6, 9, 12, 15
P(getting a number divisible by 3) = 5/15 =1/3
(iv) Numbers divisible by 2 and 3 are 6, 12
P(getting a number divisible by 2 or 3) = 2/15

Question 22:
Total number of tickets = 100
(i) Even numbers are 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30,

32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100
Total number of even number = 50
P(getting a even number) = 50/100 = 1/2
(ii) Numbers less than 16 are 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Total number of numbers less than 16 is 14
P(getting a number less than 16) = 14/100 = 7/50
(iii) Numbers which are perfect square are 4, 9, 16, 25, 36, 49, 64, 81, 100
Total number of perfect squares = 9
P(getting a perfect square) = 9/100
(iv) Prime numbers less than 40 are 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37
Total number of prime numbers =12
P(getting a prime number less 40) = 12/100 = 3/25

********** END **********