Permutations Ex 16.2 Q41

Total numbers of toys = 8

Total number of children = 5

$\therefore$ The total number ways in which 8 distinct toys can be distributed among 5 children.

$= 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 = 5^8$

Permutations Ex 16.2 Q42

Total numbers of letters = 5

Total number of letters boxes = 7

$\therefore$ The number ways in which one can post 5 letters in 7 letter boxes

$= 7 \times 7 \times 7 \times 7 \times 7 = 7^5$

Permutations Ex 16.2 Q43

Total numbers of dice = 3

$\therefore$ The number of possible outcomes

$= 6 \times 6 \times 6 = 216$

$\therefore$ Total number of possible outcomes in which 5 dose not appear on any dice

$= 5 \times 5 \times 5 = 125$

$\therefore$ Required number of possible

outcomes = 216 – 125 = 91

Permutations Ex 16.2 Q44

Total numbers of balls = 20

Total number of boxes = 5

One ball can be put in first box in 20 ways because we can put any one of the twenty balls in first box.

Now, remaining 19 balls are to be but into remaining 4 boxes.

This can be done in 4^{19} ways; because there are 4 choices for each ball

Hence, the required number of ways = 20×4^{19}.

Permutations Ex 16.2 Q45

Total number of balls = 5

Total number of boxes = 3

$\therefore$ Total number of ways to distributed 5 different balls in three boxes

$= 3 \times 3 \times 3 \times 3 \times 3 = 243$

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