

## Permutations Ex 16.3 Q19 Total number of letters = 6

## .. Total number of words

= Number of arrangements of 6 letters, taken 4 at a time =  $\frac{6}{4}$ 

$$=\frac{6!}{\left(6-4\right)!}$$

$$= \frac{6!}{2!}$$

$$= \frac{6 \times 5 \times 4 \times 3 \times 2 \times 1}{2!}$$

$$= 360$$

Hence, the total number of 4 letter words are 360.

Permutations Ex 16.3 Q20

The odd number digits are 1,3,5,6,9.

Total number of odd digits = 5

## : Required number of 3 digit numbers

= number of arrangenments of 5 digits by taking 3 at a time

$$= \frac{5}{9}$$

$$= \frac{5!}{(5-3)!}$$

$$= \frac{5!}{2!}$$

$$= \frac{5 \times 4 \times 3 \times 2!}{2!}$$

$$= 60$$

Hence, total number of 3 digit numbers are 60

Permutations Ex 16.3 Q21

## Total number of letters = 5

- .. Total number of words
  - = Number of arrangement of 5 letters, taken 5 at a time

$$=\frac{5!}{(5-5)!}$$

$$=\frac{5!}{0!}$$

$$[\because \Omega = 1]$$

$$=5\times4\times3\times2\times1$$

Hence, the number of words are 120

Permutations Ex 16.3 Q22

Total number of letters = 8

- .. Total number of words
  - = Number of arrangements of 8 letters, taken 8 at a time

$$= \frac{8}{8}$$

$$= \frac{8!}{(8-8)!}$$

$$= \frac{8!}{0!}$$

Hence, total number of words are 8!

\*\*\*\*\*\*\*\*\* END \*\*\*\*\*\*\*