Cube and Dice
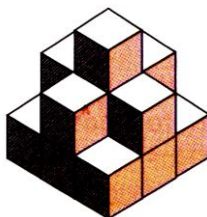
Type-I (Number of cubes/blocks in a solid)

In such type of problems, a solid made up of many identical cubes or blocks/cuboids is given. A student is required to count all these cubes or blocks/cuboids.

EXAMPLE

1. Count the number of cubes in the given figure.

(a) 8   (b) 9   (c) 12   (d) 15

Explanation (d):

There are 4, 4 and 1 columns each containing 1, 2 and 3 cubes respectively.

So number all possible cubes $=(4\times1)+(4\times2)+(1\times3)=15$.

Type-II (Construction of boxes)

In such type of problems a net of a cube or cuboid is given and a student is asked to identify the cube or cuboid formed from this net.

2. A sheet of paper is given in Fig. (X) which has to be folded to form a box. Choose a box from amongst the alternatives, that is similar to the boxes formed.
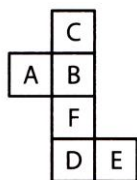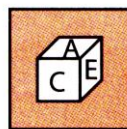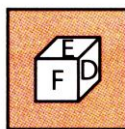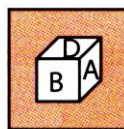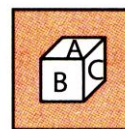

(a) S only   (b) Q and S only   (c) P and R only   (d) R only
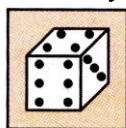
Explanation (b):

The opposite faces of the box so formed are: A and E, B and D, C and F. The option (b) fulfills this condition.
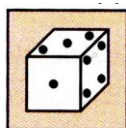
Type-III (Problems on Dice faces)

In such type of problems the same dice is shown in various positions. A student is required to observe these positions and then answer the given question.
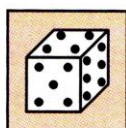
3. The four different positions of a dice are given below.
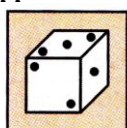How many dots are there on the face opposite the face with three dots?

(a) 2   (b) 4   (c) 5   (d) 6

Explanation (c):

From figures (i), (ii) and (iv), we conclude that 6, 4, 1 and 2 dots appear adjacent to 3 dots.

Clearly, there will be 5 dots on the face opposite the face with 3 dots.