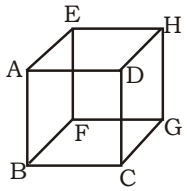
08
CHAPTER

DICE

Dice has a shape of cube or cuboid. It have six faces but at a time only three faces are visible when as three faces are hidden.



(i) ABCD — Front surface (visible)
(ii) EFGH — Back surface (hidden)] Opposite

(iii) ADHE — Top surface (visible)
(iv) BCGF — bottom surface (hidden)] Opposite

(v) DCGH – Right surface (visible)
(vi) ABFE – Left surface (hidden)] Opposite

There are 4 cases to ask a question in any exam.

Case I

when only one position is given.

Case II

When only two position are given

Case III

When more than two position are given.

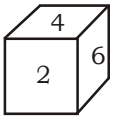
CASE I

When only one position is Given

When only one position is given in a question then we will check our dice is standard or general.

Standard Dice

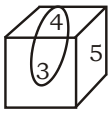
If every opposite surfaces sum is equal to 7 then the dice is called standard dice.



2 ⟷ 5 (opposite)
4 ⟷ 3 (opposite)
6 ⟷ 1 (opposite)

General Dice:

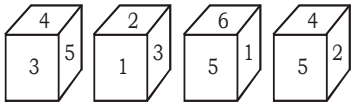
If any two adjacent surfaces have sum 7 then the dice is called general dice.



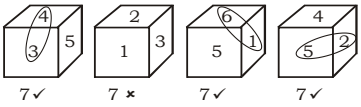
3 + 4 = 7 it is a general dice.

- In general dice visible no are opposite to hidden numbers
  3/4/5/ ⟷ 1/6/2
- How to identify whether it is standard or General
  If sum of any two adjacent surfaces is 7 (7 visible) then the dice is general or if sum of 7 are not seen then the dice is standard.

Examples

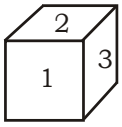
1. 

Which of the following is a standard dice.

Sol. 

7✓ 7 × 7✓ 7✓

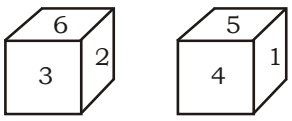
2. Opposite to 5 = ?



sol:- 7×

\ It is a standard dice

5 ⟷ 2 **(Ans.)**

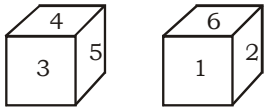
3. 

opposite to 6 = ?

Sol. There is no two adjacent surfaces have sum 7

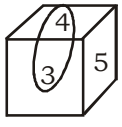
\ it is a standard dice.

Opposite to 6 is 1 Ans.

4. 

(i) (ii)

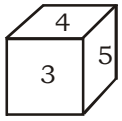
opposite to 4 = ?

Sol. 

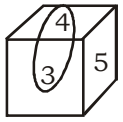
7✓

\ It is a general dice

4 ⟷ 1 / 6 / 2 Ans.

5. 

opposite to 6 = ?

Sol. 

General

7✓

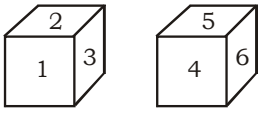
3/ 4 / 5 ⟷ 1/ 2 / 6

\ opposite to 6 is 3 / 4 / 5

CASE –II.

When only two position are given

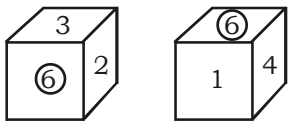
(a) No common



(I) (ii)

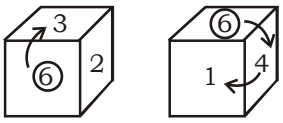
- If there is nothing common in figure (i) and figure (ii) then we will check dice is standard or general.

(b) Only one common

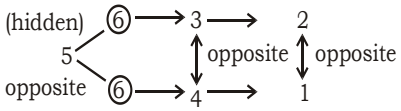


(i) (ii)

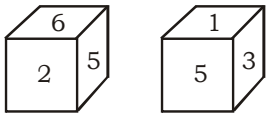
Only one number (6) is common



(in Clock wise direction)



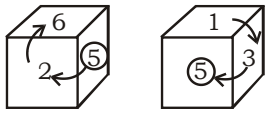
1.



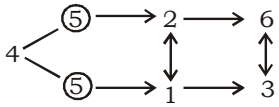
(I) (ii)

Opposite to 3 = ?

Sol.

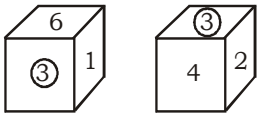


(i) (ii)



\ 3 $\longleftrightarrow$ 6 (Ans.)

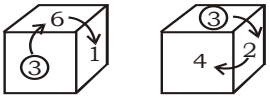
2.



(i) (ii)

What is the no at bottom surface of figure (i)

Sol.



(i) (ii)

(3) $\longrightarrow$ 6 $\longrightarrow$ 1

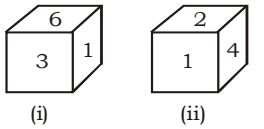
(3) $\longrightarrow$ 2 $\longrightarrow$ 4

Top = 6

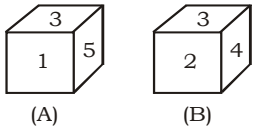
\ Bottom = 2

Ans. (opposite to 6)

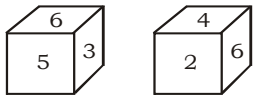
3.



(i) (ii)



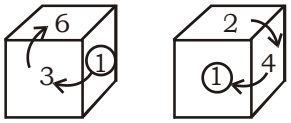
(A) (B)



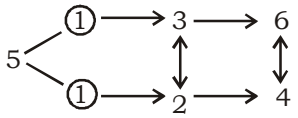
(C) (D)

Which option is correct?

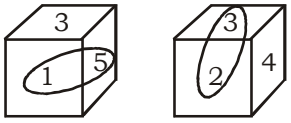
Sol.



(i) (ii)

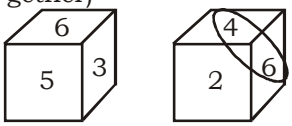


Note: Two opposite number can never be seen at a time.



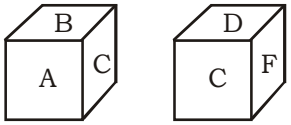
(A)× (B)×

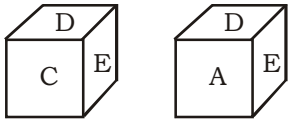
(Can never be to gether)



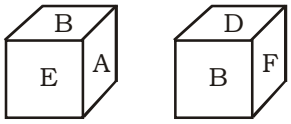
(C)✓ (D)×

4.



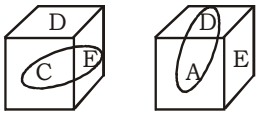


(A) (B)

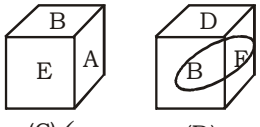


(C) (D)

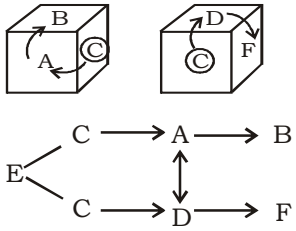
Sol.



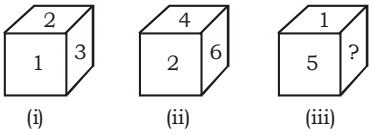
(A)× (B)×



(C)✓ (D)×



5.

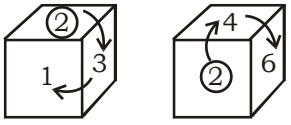


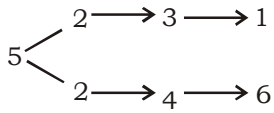
(i) (ii) (iii)

(A) 1 (B) 6

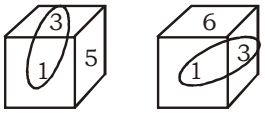
(C) 2 (D) 3

Sol.





(c) Two Common



(i) (ii)

Remaining number are opposite to each other.

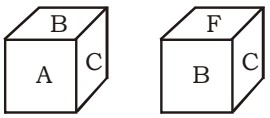
\ 5 $\longleftrightarrow$ 6

Hidden number are opposite to visible no.

1/3 $\longleftrightarrow$ 2/4.

Ex.

1.



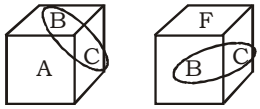
(I) (ii)

opposite to E = ?

(A) A (B) F

(C) B (D) D

Sol.

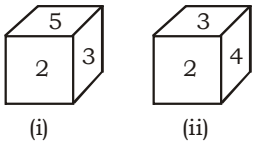


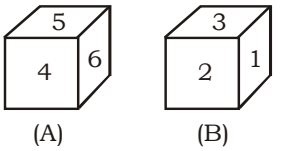
A $\longleftrightarrow$ F

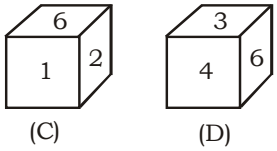
B/C $\longleftrightarrow$ D/E

E $\longleftrightarrow$ B/C

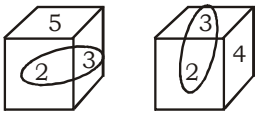
\ Option C is correct.

2. 
(i) (ii)


(A) (B)


(C) (D)

Sol.



4 $\longleftrightarrow$ 5

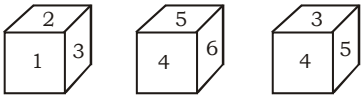
2/3 $\longleftrightarrow$ 1/6

Note:- Two opposite no. can never be seen together or can never be hidden together.

\ 485 can never be seen (option A) and can never be hidden (B,C) Since option D is correct,

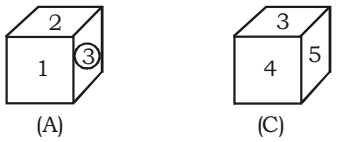
CASE III

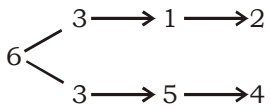
More than two positions are Given


(A) (B) (C)

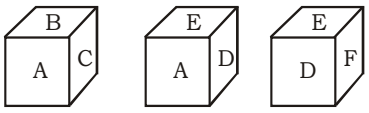
Solve the Question by taking any two position of only one common.

From A & C.


(A) (C)

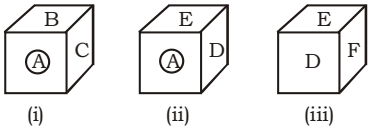


Examples

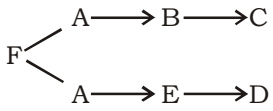
1. 

opposite to D = ?

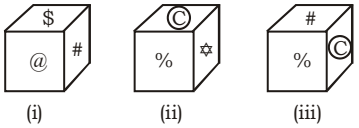
Sol.


(i) (ii) (iii)

From (i) & (ii)

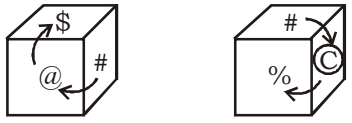


\ Opposite to D is C **Ans.**

3. 
(i) (ii) (iii)

opposite to $ —?

Sol. From (i) & (iii)

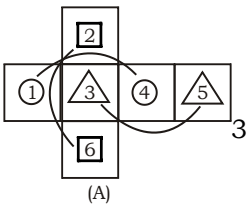

(i) (iii)

$ $\longleftrightarrow$ % Ans.

CASE IV

Opening of a Dice,

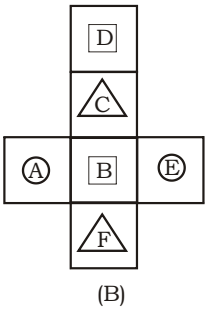
Each alternate surface are opposite to each other.


(A)

1—— 4

3——5

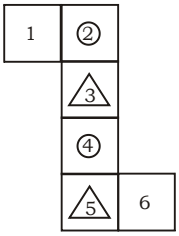
2——6


(B)

A—— E

C—— F

D—— B



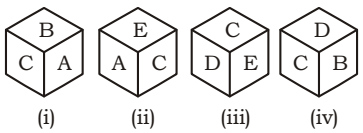
2—— 4

3—— 5

1—— 6

EXERCISE-1

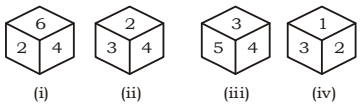
1. Four forms of a dice are shown below. In this dice which word will be on the surface opposite to the word D?


(i) (ii) (iii) (iv)

(a) D (b) A

(c) B (d) C

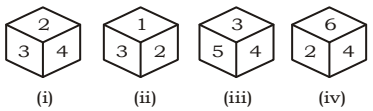
2. If a dice thrown four times and different forms of dice are shown below. In this dice which digit will be on the surface opposite to the digit 2?


(i) (ii) (iii) (iv)

(a) 6 (b) 3

(c) 5 (d) 4

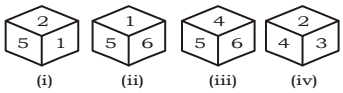
3. 1,2,3,4,5 and 6 have written on surface of dice. Four forms of dice shown below. In this dice which digit will be on the surface opposite to the digit 3?


(i) (ii) (iii) (iv)

(a) 4 (b) 5

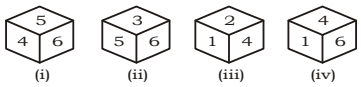
(c) 6 (d) 1

4. Four forms of a dice are shown below in this dice which digit will be on the surface opposite to the digit 4 ?



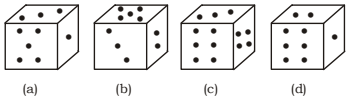
(a) 6 (b) 3
(c) 1 (d) 5

5. Four forms of a dice are shown below in this dice which digit will be on the surface opposite to the digit 3?

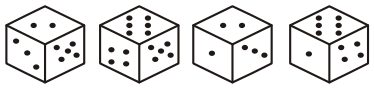


(a) 5 (b) 4
(c) 2 (d) 6

6. Four forms of a dice are shown below. In this dice is addition of it's two opposite surface is 7. Which will be the right form of this dice in given forms?

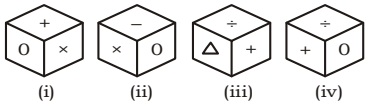


7. Four forms of a dice are shown below. In this dice which digit will be on the surface opposite to the digit 2?



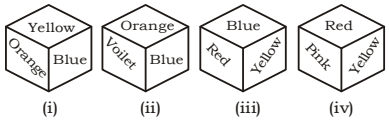
(a) 1 (b) 4
(c) 5 (d) 6

8. Four forms of a dice are shown below. In this dice which figure will be on the surface opposite to the figure D ?



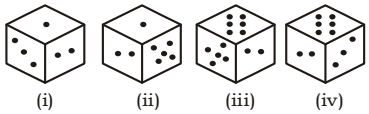
(a) × (b) +
(c) 0 (d) ÷

9. Four forms of a dice are shown below. In this dice which colour will be on the surface opposite to the yellow colour?



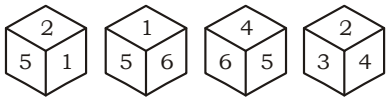
(a) Red (b) Blue
(c) Pink (d) Voilet

10. Four forms of a dice are shown below. In this dice which digit will be on the surface opposite to the digit 1?



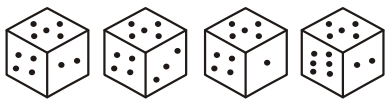
(a) 2 (b) 3
(c) 4 (d) 6

11. Four forms of a dice are shown below. In this dice which digit will be on the surface opposite to the digit 4?

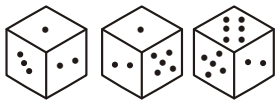


(a) 1 (b) 2
(c) 3 (d) 5

12. If in a dice it's two opposite surface addition is 7. Which is the right form of this dice shown below?

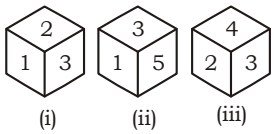


13. Three forms of a dice are shown below. In this dice which digit will on the surface opposite to the digit 1?



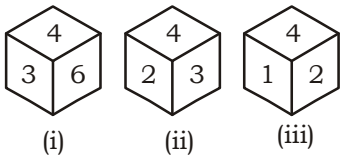
(a) 2 (b) 3
(c) 4 (d) 6

14. Three forms of a dice are shown below. In this side which digit will be on the surface opposite to the digit 3?



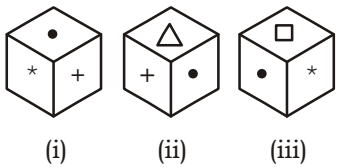
(a) 1 (b) 6
(c) 4 (d) 5

15. Three forms of a dice are shown below. In this dice which digit will be on the surface opposite to the digit 4 ?



(a) 5 (b) 1
(c) 2 (d) 3

Directions(16-18)



16. Which figure will be opposite of (•)?
(a) + (b) *
(c) D (d) 5

17. Which figure will be opposite of (+)?
(a) * (b) •
(c) W (d) D

18. In given from (iii) which will be opposite of (W)?
(a) * (b) D

ANSWER KEYS

(Exercise-1)

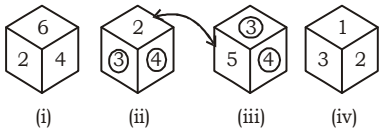
1. (b)	3. (c)	5. (b)	7. (d)	9. (d)	11. (a)	13. (d)	15. (a)	17. (c)
2. (c)	4. (c)	6. (a)	8. (c)	10. (d)	12. (c)	14. (b)	16. (d)	18. (d)

SOLUTION

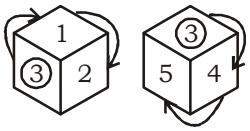
(c) • (d) +

1.(b) In figure (ii) and (iii) C and E are common so A is opposite of D

2. (c)



3.(c) From figure (ii) and (iii)

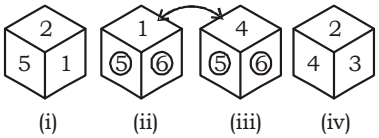


1 will be opposite of 4

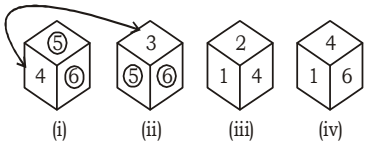
2 will be opposite of 5

3 will be opposite of 6 missing number

4. (c)

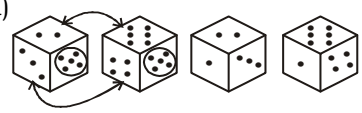


5. (b)



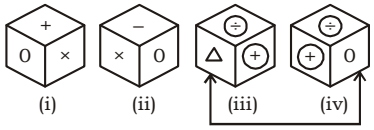
6. (a)

7. (d)



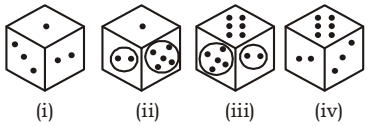
Q because addition of two adjacent surface is not equal to 7 in a standard dice.

8. (c)

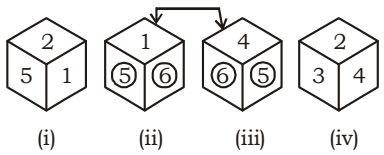


9. (d)

10. (d)



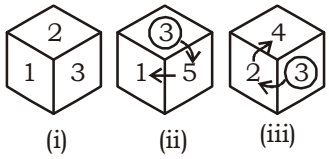
11. (a)



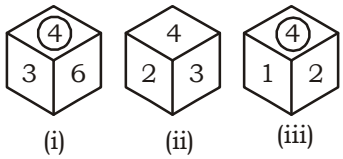
12. (c)

13. (d)

14. (b)



15. (a)



From (i) (ii) and (iii)

3 will be opposite of 1

6 will be opposite of 2

4 will be opposite of 5

Solution (16-18)

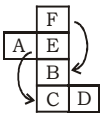
16. (d)

17. (c)

18. (d)

EXERCISE-II

1. Which figure we can make the given figure

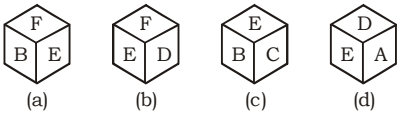


F will be opposite of B

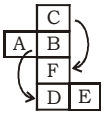
E will be opposite of C

A will be opposite of D

Answer figure



2. Question figure

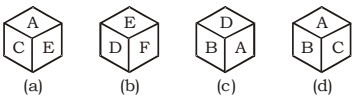


C will be opposite of F

B will be opposite of D

A will be opposite of E

Answer figure



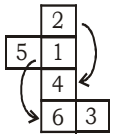
(a) only a

(b) only b

(c) only a and c

(d) only b and d

3. Question figure

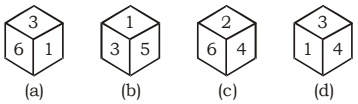


2 will be opposite of 4

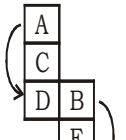
1 will be opposite of 6

5 will be opposite of 3

Answer figure



4. In a given figure of open dice. Which dice we can make?

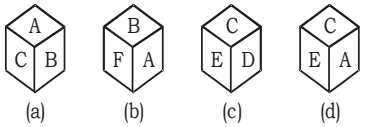


A will be opposite of D

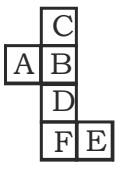
B will be opposite of F

C will be opposite of E

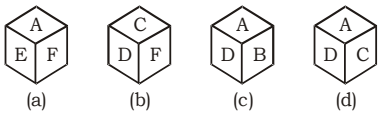
Answer figure



5. Question figure

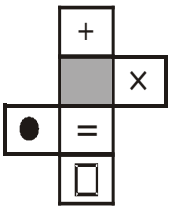


Answer figure

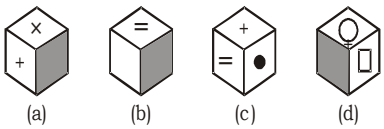


(a) Only (a) and (c)
(b) Only (b) and (d)
(c) Only (c)
(d) Only (a) and (d)

6. Question figure



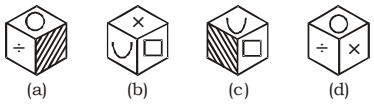
Answer figure



(a) Only (a)
(b) Only (a) and (d)
(c) Only (b) and (c)
(d) Only (a) and (d)

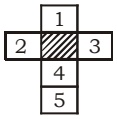
7. Questions figure

Answer Figure



(a) Only (a) and (b)
(b) Only (d)
(c) Only (b) and (d)
(d) Only (c) and (d)

8. Which is the opposite surface of 1.



(a) 1 (b) 3
(c) 4 (d) 5

ANSWER KEYS

(Exercise-II)

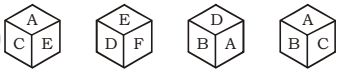
1. (b)	3. (d)	5. (c)	7. (d)
2. (d)	4. (a)	6. (a)	8. (c)

SOLUTION

1. (b)

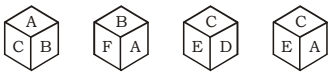
(b)

2. (d)



3. (d)

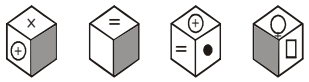
4. (a)



5. (c)

C will be opposite of D
B will be opposite of F
A will be opposite of E

6. (a)

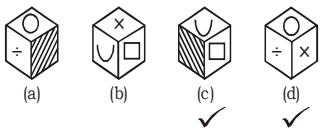


⊕ will be opposite of =

▭ will be opposite of □

● will be opposite of ×

7. (d)



× will be opposite of □

▨ will be opposite of ○

÷ will be opposite of ∪

8. (c)