CUBE & DICE

Direction Q.1 to Q.3 : The six faces of a cube are coloured black, brown, green, red, white and blue, such that

(i) Red is opposite black
(ii) Green is between red and black
(iii) Blue is adjacent to white
(iv) Brown is adjacent to blue
(v) Red is at the bottom.

1. Which colour is opposite brown ?

(a) White (b) Red (c) Green (d) Blue

2. The three adjacent colours are

(a) Black, Blue, Red (b) Black, Brown, White

(c) Black, Blue, White (d) Brown, Red, White

3. Which of the following can be deduced from (i) and (v) ?

(a) Black is on the top (b) Blue is on the top

(c) Brown is on the top (d) Brown is opposite Black

Direction Q.4 to Q.8 : A painter is given a task to paint a cubical box with six different colours for different faces of the cube. The detailed account of it was given as :

(i) Red face should lie between Yellow and Brown faces.
(ii) Green face should be adjacent to the Silver face.
(iii) Pink face should lie adjacent to the Green face.
(iv) Yellow face should lie opposite to the Brown face.
(v) Brown face should face down.
(vi) Silver and Pink faces should lie opposite to each other.

4. The face opposite to Red is

(a) Yellow (b) Green (c) Pink (d) Silver

5. The upper face is

(a) Red (b) Pink (c) Yellow (d) Silver

6. The faces adjacent to Green are

(a) Yellow, Pink, Red, Silver
(b) Brown, Pink, Red, Silver
(c) Red, Silver, Yellow, Brown
(d) Pink, Silver, Yellow, Brown

7. The face opposite to Silver is

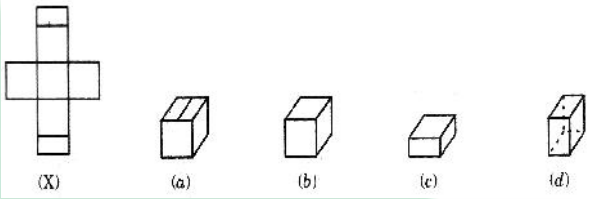
(a) Pink (b) Brown (c) Red (d) Green

8. Three of the faces adjacent to Red face are

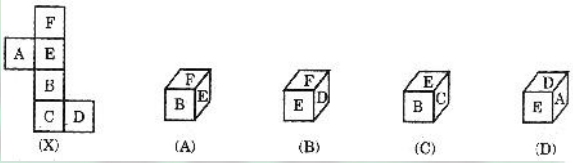
(a) Silver, Green, Brown (b) Silver, Brown, Pink
(c) Silver, Pink, Green (d) Yellow, Pink, Green

Direction Q.9 to Q.14 : The sheet of paper shown in the figure (X) given on the left hand side, in each problem, is folded to form a box. Choose from amongst the alternatives (a), (b), (c) and (d), the boxes that are similar to the box that will be formed.

9.



10.



(a) A only (b) B only

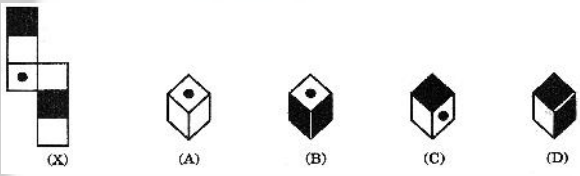
(c) A and C only (d) A, B, C and D

11.

(a) A and C only (b) B and D only

(c) C and D only (d) A and D only

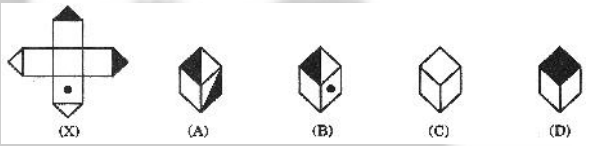
12.



(a) B and C only (b) A, C and D only

(c) B and D only (d) A and D only

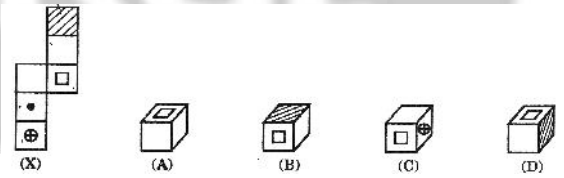
13.



(a) A and B only (b) B and D only

(c) B and C only (d) A and D only

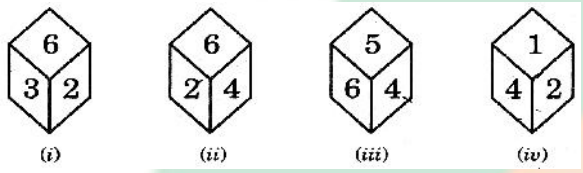
14.



(a) A only (b) B and C only

(c) A and C only (d) A, B and D only

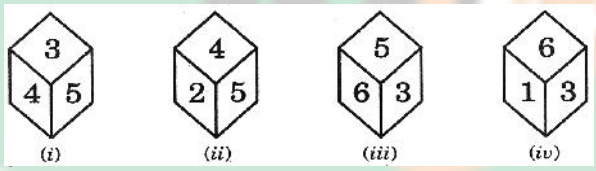
15. The four-different positions of a dice are given below :



Which number is on the face opposite 6 ?

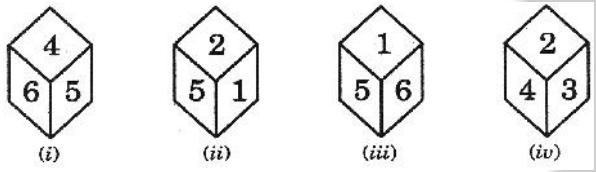
(a) 1 (b) 2 (c) 3 (d) 4

16. Show below are four different positions of the same dice. Find the number on the face opposite the face showing 6.



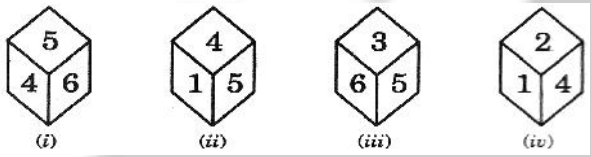
(a) 1 (b) 2 (c) 4 (d) 5

17. Which number is on the face opposite 4, if the four different positions of a dice are as shown in the figures given below :



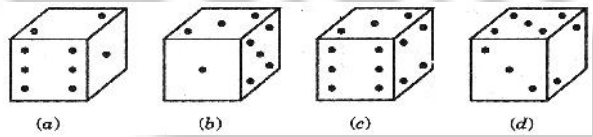
(a) 5 (b) 3 (c) 2 (d) 1

18. Four positions of a dice are shown below. What number must be at the bottom face when the dice is in the position as shown in figure (iii) ?

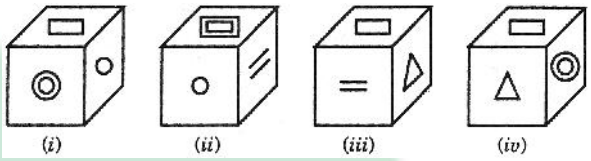


(a) 1 (b) 2 (c) 4 (d) 6

19. If the total number of dots on opposite faces of a cubical block is always 7, find the figure which is correct.



Direction Q.20 to Q.22 : Following questions are based on the following illustrations, which are four views of a cube.



20. The symbol at the bottom of (iv) is

(a) ○ (b) ◎ (c) △ (d) ▭

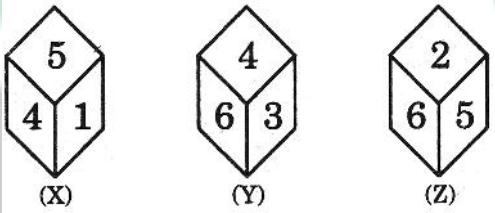
21. The symbol opposite the face having the symbol '═' is

(a) ○ (b) △ (c) ◎ (d)

22. The symbol opposite the face having the symbol '△' is

(a) ○ (b) ◎ (c) ═ (d) ▭

Direction Q.23 to Q.27 : Three different positions X, Y and Z of a dice are shown in the figure given below. Answer the following questions which are based upon these figures.



23. Which number lies at the bottom face in position X ?

(a) 2 (b) 3

(c) 6 (d) Cannot be determined

24. Which number lies at the bottom face in position Y ?

(a) 1 (b) 2

(c) 5 (d) Cannot be determined

25. Which number lies opposite 6 ?

(a) 1 (b) 2 (c) 4 (d) 5

26. Which numbers are hidden behind the numbers 6 and 5 in the position Z ?

(a) 1 and 4 (b) 1 and 3

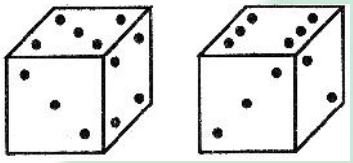
(c) 4 and 3 (d) 1 and 2

27. Which of the hidden numbers adjacent to 5 in position X is/are common to the hidden numbers adjacent to 5 in position Z ?

(a) 1 and 4 (b) 2

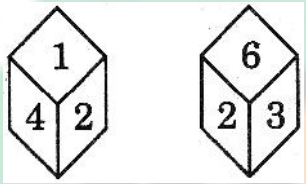
(c) 6 (d) None

28. Two positions of a dice are shown below. If the face with 1 dot is at the bottom, then the number of dots on the top is



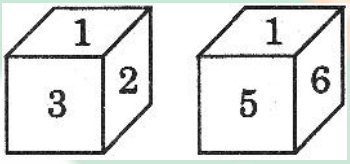
(a) 2 (b) 3 (c) 4 (d) 5

29. What will be the number at the bottom, if 5 is at the top; the two positions of the dice being as given below :



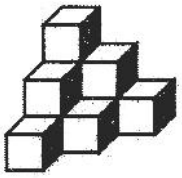
(a) 1 (b) 2 (c) 3 (d) 6

30. Two positions of a dice are shown. When 4 is at the bottom, what number will be on the top ?



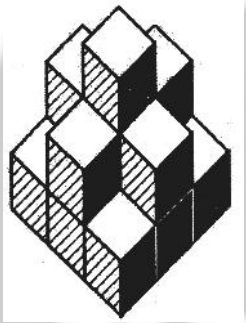
(a) 1 (b) 2 (c) 5 (d) 6

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



(a) 14 (b) 12 (c) 10 (d) 8

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



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

33. A cube whose two adjacent faces are coloured is cut into 64 identical small cubes. How many of these small cubes are not coloured at all ?

(a) 60 (b) 48 (c) 36 (d) 24

34. A cube, painted yellow on all faces is cut into 27 small cubes of equal size. How many small cubes are painted on one face only ?

(a) 1 (b) 6 (c) 8 (d) 12

Direction Q. 35 to Q. 38 : A cube is coloured red on all faces. It is cut into 64 smaller cubes of equal size. Now, answer the following questions based on this statement :

35. How many cubes have no face coloured ?

(a) 24 (b) 16 (c) 8 (d) 0

36. How many cubes are there which have only one face coloured ?

(a) 4 (b) 8 (c) 16 (d) 24

37. How many cubes have two red opposite faces ?

(a) 0 (b) 8 (c) 16 (d) 24

38. How many cube have three faces coloured ?

(a) 24 (b) 16 (c) 8 (d) 4

Direction Q. 39 to Q. 44 : A cube is painted red on two adjacent faces, yellow on the two faces opposite to the red faces and green on the remaining faces. It is then cut into 64 smaller cubes of equal size. Answer the following questions based on this information :

39. How many cubes are painted on all faces ?

(a) 16 (b) 8 (c) 4 (d) 0

40. How many cubes are there which have no face painted?

(a) 24 (b) 16 (c) 8 (d) 4

41. How many cubes are painted yellow on one face only?

(a) 4 (b) 8 (c) 16 (d) 32

42. How many cubes have three faces painted ?

(a) 16 (b) 12 (c) 8 (d) 6

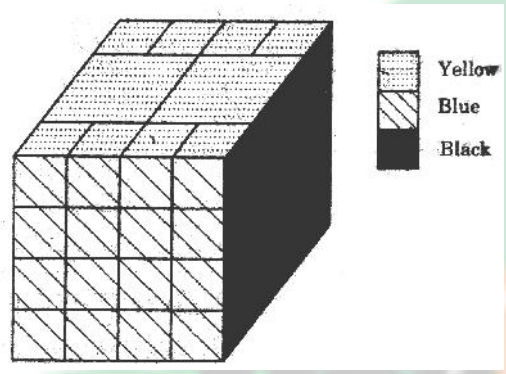
43. How many cubes have one face green and one of the adjacent faces red or yellow ?

(a) 24 (b) 20 (c) 16 (d) 12

44. How many cubes are painted on two faces only and with the same colour ?

(a) 16 (b) 8 (c) 4 (d) 0

Direction Q. 45 to Q. 54 : A solid cube has been painted yellow, blue and black on pairs of opposite faces. The cube is then cut into 36 smaller cubes such that 32 cubes are of the same size while 4 others are of bigger size. Also no face of any of the bigger cubes is painted blue.



45. How many cubes have at least one face painted blue ?

(a) 0 (b) 8 (c) 16 (d) 32

46. How many cubes have only one face painted ?

(a) 0 (b) 4 (c) 8 (d) 12

47. How many cubes have only two faces painted ?

(a) 24 (b) 20 (c) 16 (d) 8

48. How many cubes have two or more faces painted ?

(a) 36 (b) 34 (c) 28 (d) 24

49. How many cubes have only three faces painted ?

(a) 8 (b) 4 (c) 2 (d) 0

50. How many cubes do not have any of their faces painted yellow ?

(a) 0 (b) 4 (c) 8 (d) 16

51. How many cubes have at least one of their faces painted black ?

(a) 0 (b) 8 (c) 16 (d) 20

52. How many cubes have at least one of their faces painted yellow or blue ?

(a) 36 (b) 32 (c) 16 (d) 0

53. How many cubes have no face painted ?

(a) 8 (b) 4 (c) 1 (d) 0

54. How many cubes have two faces painted yellow and black respectively ?

(a) 0 (b) 8 (c) 12 (d) 16

Direction : Q.55 and Q.59 : A cube is cut into two equal parts along a plane parallel to one of its faces. One piece is then coloured red on the two larger faces and green on the remaining, while the other is coloured green on two smaller adjacent faces and red on the remaining. Each is then cut into 32 cubes of the same size. The 64 cubes are then mixed up.

55. How many cubes have no coloured face at all ?

(a) 16 (b) 8 (c) 4 (d) 0

56. How many cubes have only one coloured face ?

(a) 8 (b) 16 (c) 20 (d) 24

57. How many cubes have two red and one green face ?

(a) 4 (b) 8 (c) 12 (d) 16

58. How many cubes have one face red another green ?

(a) 32 (b) 24 (c) 16 (d) 8

59. What is the number of cubes with at least one green face ?

(a) 46 (b) 38 (c) 36 (d) 28

60. All surfaces of a cube are coloured. If a number of smaller cubes are taken out from it, each side 1/4 the size of the original cube's side, indicate the number of cubes with only one side painted.

(a) 60 (b) 32 (c) 24 (d) 16

Cube & Dice

1. (c)	**2.** (d)	**3.** (c)	**4.** (b)	**5.** (c)	**6.** (d)	**7.** (a)	**8.** (c)	**9.** (d)	**10.** (c)
11. (b)	**12.** (c)	**13.** (a)	**14.** (c)	**15.** (d)	**16.** (c)	**17.** (b)	**18.** (c)	**19.** (a)	**20.** (d)
21. (d)	**22.** (a)	**23.** (d)	**24.** (c)	**25.** (d)	**26.** (d)	**27.** (a)	**28.** (b)	**29.** (b)	**30.** (c)
31. (c)	**32.** (d)	**33.** (c)	**34.** (b)	**35.** (c)	**36.** (d)	**37.** (a)	**38.** (c)	**39.** (d)	**40.** (c)
41. (b)	**42.** (c)	**43.** (a)	**44.** (c)	**45.** (d)	**46.** (c)	**47.** (b)	**48.** (c)	**49.** (a)	**50.** (d)
51. (d)	**52.** (a)	**53.** (d)	**54.** (c)	**55.** (d)	**56.** (d)	**57.** (a)	**58.** (b)	**59.** (b)	**60.** (c)