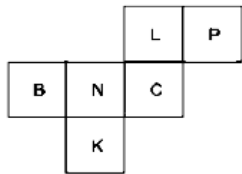


# Lockdown 2.0 | Study Plan Day 16



1. From the given option, which answer figure can be formed by folding the figure given in the question?



- A.
- B.
- C.
- D.

Ans. A

Sol. By folding it into a dice, we will get:

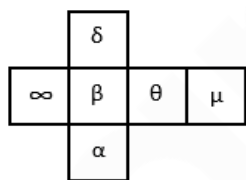
'B' opposite to 'C'.

'L' opposite to 'K'

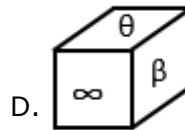
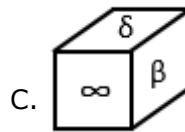
'P' opposite to 'N'

Hence, the correct option is **A**.

2. Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?



- A.
- B.

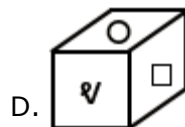
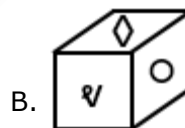
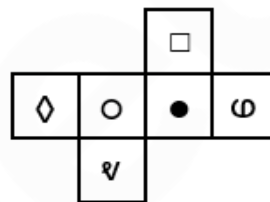


Ans. D

Sol. Here in the questions the  $\infty$  will be opposite to  $\theta$ . So they cannot be adjacent to each other.

Hence, option D cannot be formed.

3. Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?



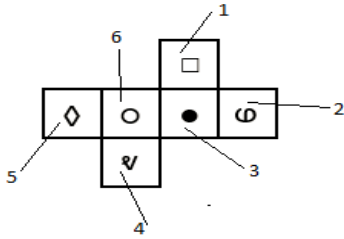
Ans. D

Sol. From the above diagram,

1 is opposite to 4

6 is opposite to 2

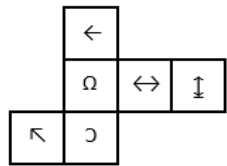
5 is opposite to 3



In option 4 face is adjacent to 1, which cannot be possible.

Hence, option D is the correct response.

4. Which of the following cube in the answer figure can be made based on the unfolded cube in the question figure?



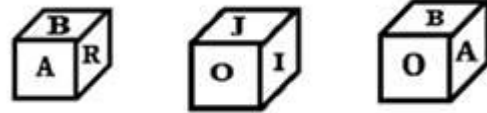
- A.
- B.
- C.
- D.

Ans. A

Sol.

From the given figure we can say that,  
 Faces with symbol ← and ∩ will be on opposite faces,  
 Faces with symbol Ω and ↓ will be on opposite faces,  
 Faces with symbol ↔ and ↖ will be on opposite faces,  
 Thus cube at option A can be formed by folding the given figure.

5. Which of the following figure can be created by un-folding the following figure? Question figure:



Answer figure:



A. A

B. B

C. C

D. D

Ans. B

Sol.

letter B is adjacent to A so fig. A ,C and D not possible.

In figure B, B is opposite to J

A is opposite to I

O is opposite to R

Also in the question figure opposite faces are not adjacent in any of the cube.



6. Three positions of a cube are shown below. What will come opposite to face containing 'N'?



A. P

B. Q

C. S

D. R

Ans. D

Sol.

P is adjacent to N,Q,R and Z. Hence P is opposite to S

N is adjacent to Z and S. Hence, N will be opposite to R

Q opposite Z.

Now, the opposite faces are as follows:

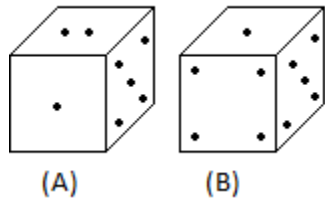
N is opposite to R,

Q is opposite to Z,

P is opposite to S.

Thus, option D is the right choice.

7. Two different positions of a dice are shown below in figures A and B. How many points will appear on the opposite to the face containing 4 points?



A. 2

B. 3

C. 5

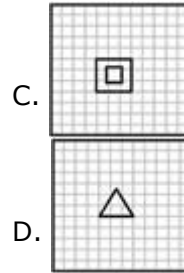
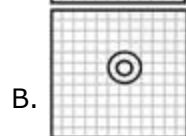
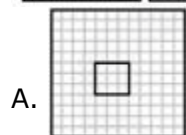
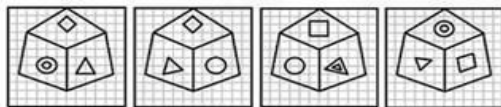
D. 6

Ans. A

Sol. In these two positions one of the common faces having 5 point is in the same position. If two different positions of a dice are shown and one of the two common faces is in the same position then of the remaining faces will be opposite to each other. Therefore, 2 points will appear on the required face.

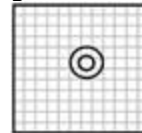
Hence, option (A) is correct.

8. Which symbol will appear on the face opposite to the face of a circle O in the cube given below?



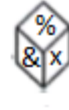
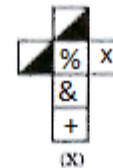
Ans. B

Sol. After observing the figures it is clear that answer figure B will appear on the face opposite to the face of a circle O in the cube given.



Hence, B is correct.

9. Select from the given alternatives, that can be formed by folding the figure X.



(A)

(B)

(C)

(D)

A. D only

B. C and D only

C. A and B only

D. B and C only

Ans. A

Sol. From the given diagram, half shaded triangle will be opposite to x. another half shaded triangle will be opposite to &.

% will be opposite to +.

From this rule cube D can form.

Hence, option A is the correct response.

10. Little wooden cubes each with a side of one inch are put together to form a solid cube with a side of three inches. This big

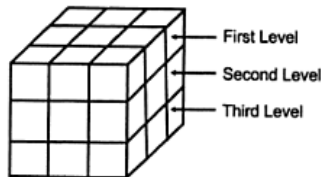


**Gradeup Green Card**

Unlimited Access to All 350+ SSC & Railways Mock Tests

cube is then painted red all over on the outside. When the big cube is broken up into the original little ones, how many cubes will have paint on two sides?

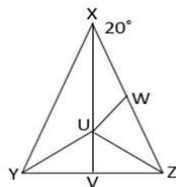
- A. 4
  - B. 8
  - C. 12
  - D. 0
- Ans. C  
Sol.



Thus 12 cubes will have paint on 2 sides  
Hence Option C is correct

11. In a  $\Delta XYZ$ ,  $XY = XZ$  and  $\angle YXZ = 20^\circ$ . W is a point on side XZ and  $YZ = XW$ , then find the value of  $\angle WYZ$ :

- A.  $10^\circ$
  - B.  $60^\circ$
  - C.  $70^\circ$
  - D.  $75^\circ$
- Ans. C  
Sol.



Let V be mid-point of YZ, so  $YV = VZ$ , and U be a point on XV, such that  $\Delta UYZ$  is an equilateral triangle.

So  $\angle WXY = \angle XYU = 20^\circ$   
and  $XW = YU$  ( $XW = YZ$  (Given) and  $YZ = YU$  (from  $\Delta YUZ$ ))

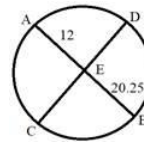
Hence trapezoid XYUW is isosceles triangle.  
And  $WU \parallel XY$

so  $\angle WXU = \angle XYU = 10^\circ$  (half of  $\angle YXZ$ )  
Now, the required,

$$\angle WYZ = \angle UYZ + \angle WYU = 60^\circ + 10^\circ = 70^\circ$$

12. The chord AB and CD of a circle intersect at E. If  $AE = 12$  cm,  $BE = 20.5$  cm, and  $CE = 3DE$ , then the length of CE is:

- A. 27
  - B. 25.5
  - C. 18
  - D. 28.5
- Ans. A  
Sol.



$$\begin{aligned} AE \times BE &= CE \times DE \\ 12 \times 20.25 &= CE \times CE/3 \\ 36 \times 20.25 &= CE^2 \\ CE^2 &= 729 \\ CE &= 27. \end{aligned}$$

13. What is the equation of the line perpendicular to the line  $2x + 3y = -6$  and having Y-intercept 3?

- A.  $3x - 2y = 6$
- B.  $3x - 2y = -6$
- C.  $2x - 3y = -6$
- D.  $2x - 3y = 6$

Ans. B

Sol. Eq. of the line perpendicular to  $2x + 3y = -6$  is  $3x - 2y = k$

Given: y-intercept = 3, i.e. it passes from (0, 3)

$$\begin{aligned} \text{Putting this point in the equation, we get} \\ k &= 3 \times 0 - 2 \times 3 \\ &= -6 \end{aligned}$$

Thus, the required line is  $3x - 2y = -6$

14. The sum of the interior angles of a regular polygon is  $1260^\circ$ . What is the difference between an exterior angle and an interior angle of the polygon?

- A.  $100^\circ$
- B.  $90^\circ$
- C.  $120^\circ$
- D.  $105^\circ$

Ans. A

Sol.

Sum of interior angles of a regular polygon,



**Gradeup Green Card**

Unlimited Access to All 350+ SSC & Railways Mock Tests

$$\Rightarrow (n - 2) \times 180 = 1260^\circ$$

$$\Rightarrow n = 9$$

Sum of each interior angle of a regular polygon =  $\frac{1260}{9} = 140^\circ$

Sum of interior and exterior angle =  $180^\circ$   
 $140^\circ + \text{exterior angle} = 180^\circ$

Exterior angle =  $40^\circ$

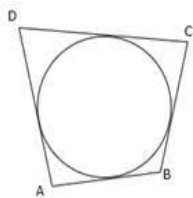
Difference between exterior and interior angle =  $140^\circ - 40^\circ = 100^\circ$

15. Quadrilateral ABCD circumscribes a circle. If AB = 8 cm, BC = 7 cm and CD = 6 cm, then the length of AD is?

- A. 7 cm
- B. 7.5 cm
- C. 6 cm
- D. 6.8 cm

Ans. A

Sol.



AB = 8 cm, BC = 7 cm and CD = 6 cm

We know that, AB + CD = BC + AD

$$8 + 6 = 7 + AD$$

$$\Rightarrow AD = 14 - 7 = 7 \text{ cm}$$

16. In  $\Delta ABC$  and  $\Delta DEF$  are similar triangles with area  $81 \text{ cm}^2$  and  $144 \text{ cm}^2$ . AM and DG are the medians of  $\Delta ABC$  and

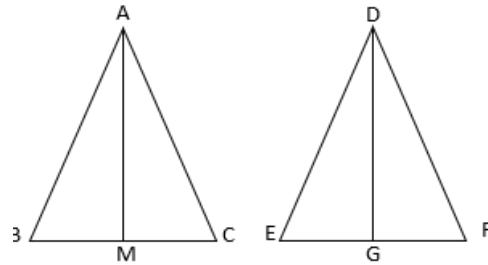
$\Delta DEF$  on sides BC and EF. if DG =  $4 \text{ cm}$ .

Then AM = ?

- A. 2 cm
- B. 9 cm
- C. 4 cm
- D. 3 cm

Ans. D

Sol.



Ratio of the areas of similar triangles is equal to the ratio of the squares of their corresponding medians.

$$\frac{\text{Area of } \Delta ABC}{\text{Area of } \Delta DEF} = \frac{(AM)^2}{(DG)^2}$$

$$\frac{81}{144} = \frac{(AM)^2}{4^2}$$

$$\therefore (AM)^2 = \frac{81}{9} = 9$$

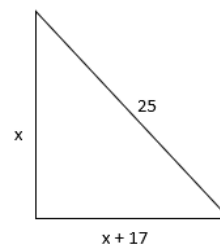
$$AM = 3 \text{ cm}$$

17. The difference between perpendicular and base of a right-angled triangle is 17 cm and its hypotenuse is 25 cm. what is the sum of the base and the altitude of the triangle is:

- A. 40 cm
- B. 45 cm
- C. 31 cm
- D. 35 cm

Ans. C

Sol.



We will use Pythagoras theorem:

$$= (P)^2 + (B)^2 = (H)^2$$

$$= (x)^2 + (x + 17)^2 = (25)^2$$

$$= x = 7 \text{ cm}$$

$$\therefore \text{Altitude} + \text{Base} = 7 + 24 = 31 \text{ cm}$$

18. Points P and Q lie on side AB and AC of triangle ABC respectively such that segment PQ is parallel to side BC. If the



ratio of AP:PB is 2:5, and area of  $\Delta APQ$  is 4 sq cm, what is the area of trapezium PQCB?

- A. 49 sq cm
- B. 45 sq cm
- C. 25 sq cm
- D. 21 sq cm

Ans. B

Sol. We know that,

$$\frac{\text{Area}\Delta ABC}{\text{Area}\Delta APQ} = \left(\frac{AB}{AP}\right)^2$$

Therefore, area of  $\Delta ABC$  = area of  $\Delta APQ \times$

$$\left(\frac{AB}{AP}\right)^2$$

$$= 4 \times 49/4$$

$$= 49 \text{ sq. cm}$$

Area of trapezium = area of  $\Delta ABC$  - area of  $\Delta APQ$

$$= 49 - 4$$

$$= 45 \text{ sq. cm}$$

19. If  $b=3$ ,  $c=4$  and  $\angle B = \pi/3$ . Then find the number of triangles that can be constructed.

- A. 5
- B. INFINITE
- C. 0
- D. DATA INSUFFICIENT

Ans. C

$$\text{Sol. } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \text{ (sine rule)}$$

$$\frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\therefore \frac{3}{\sin \pi/3} = \frac{4}{\sin C}$$

$$\therefore \sin C = \frac{2}{\sqrt{3}} = 1.15467 \text{ (approx)}$$

Since the value of  $\sin C > 1$

Hence no triangle can be constructed.

20. Which of the following is a true statement?

- A. Two similar triangles are always congruent.
- B. Two similar triangles have equal areas

- C. Two triangles are similar if their corresponding sides are proportional
- D. Two polygons are similar if their sides are proportional

Ans. C

Sol. If the measures of the corresponding sides of two triangles are proportional then the triangles are similar.

21. Select the correct passive form of the given sentence.

The farmer is ploughing the fields.

- A. The fields are being ploughed by the farmer.
- B. The fields are ploughed by the farmer.
- C. The fields were ploughed by the farmer.
- D. The fields have been ploughed by the farmer.

Ans. A

Sol.

The given sentence is in present continuous and the conversion into passive voice will be as follows:

Structure of active voice :

Subject + is/are + Ving + object

Structure of passive voice :

Object + is/are + being + verb(IIIrd form) + by + subject

Thus, after conversion the sentence will be :- The fields are being ploughed by the farmer.

Hence, option A is the correct answer.

22. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

- A) Much of this war had taken place along the Western Front.
- B) Both sides had dug in deep and each lost many men over little ground.
- C) This front was a line of trenches across which the two sides faced each other.
- D) Andre Maginot had fought a war with the French against the Germans.

A. DACB

B. DBCA

C. ACDB

D. BCDA

Ans. A

Sol.



**Gradeup Green Card**

Unlimited Access to All 350+ SSC & Railways Mock Tests

Sentence D will be the first sentence as it introduces the war experience of Andre Maginot. Sentence A will follow sentence D as it tells the main spot of war. Sentence C will follow sentence A as it describes the characteristics of the Western Front. Sentence B will follow sentence C as it shows the consequences of war. Hence, option A is the correct answer.

23. **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Agra's marble-marvel has such an overwhelming presence (###Q1###) \_\_\_\_\_ other monuments in the town have been relegated (###Q2###) \_\_\_\_\_ oblivion. Amongst such 60 odd monuments in (###Q3###) \_\_\_\_\_ town, the Red Taj is the most (###Q4###) \_\_\_\_\_ and relatively well-preserved. The tomb in red sandstone was (###Q5###) \_\_\_\_\_ by Ann Hessian, widow of a Dutch officer, after his death in 1803 .

Select the correct option to fill in blank 1.

- A. that
- B. but
- C. than
- D. If

Ans. C

Sol.

The given sentence is comparing Agra's marble-marvel (obviously Taj Mahal) with all other monuments. To make a comparison we use the word 'than'. Hence, option C is the correct answer.

24. Select the correct option to fill in blank 2.

- A. with
- B. to
- C. on
- D. by

Ans. B

Sol.

In the given blank, preposition 'to' will be the correct usage. Relegated to oblivion would mean that all other monuments in

Agra have been sent to oblivion that means have been forgotten or disregarded as not important. Hence, option B is the correct answer.

25. **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Agra's marble-marvel has such an overwhelming presence (###Q1###) \_\_\_\_\_ other monuments in the town have been relegated (###Q2###) \_\_\_\_\_ oblivion. Amongst such 60 odd monuments in (###Q3###) \_\_\_\_\_ town, the Red Taj is the most (###Q4###) \_\_\_\_\_ and relatively well-preserved. The tomb in red sandstone was (###Q5###) \_\_\_\_\_ by Ann Hessian, widow of a Dutch officer, after his death in 1803 .

Select the correct option to fill in blank 3.

- A. the
- B. a
- C. an
- D. their

Ans. A

Sol.

A specific monument 'The Red Taj' has been talked about in the sentence. We use article 'the' to specify some things. So, article 'the' will be used in the given blank. Hence, option A is the correct answer.

26. **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Agra's marble-marvel has such an overwhelming presence (###Q1###) \_\_\_\_\_ other monuments in the town have been relegated (###Q2###) \_\_\_\_\_ oblivion. Amongst such 60 odd monuments in (###Q3###) \_\_\_\_\_ town, the Red Taj is the most (###Q4###) \_\_\_\_\_ and relatively well-preserved. The tomb in red sandstone was (###Q5###) \_\_\_\_\_ by Ann Hessian, widow of a Dutch officer, after his death in 1803 .



**Gradeup Green Card**

Unlimited Access to All 350+ SSC & Railways Mock Tests



Select the correct option to fill in blank 4.

- A. elegant
- B. adequate
- C. active
- D. efficient

Ans. A

Sol.

Let's understand the meaning of the given words:

Elegant: displaying effortless beauty and simplicity in movement or execution

Adequate: having the requisite qualities or resources to meet a task

Active: tending to become more severe or wider in scope

Efficient: being effective without wasting time, effort or expense

Elegant is the most appropriate word in the given blank. Hence, option A is the correct answer.

**27. Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Agra's marble-marvel has such an overwhelming presence (###Q1###) \_\_\_\_\_ other monuments in the town have been relegated (###Q2###) \_\_\_\_\_ oblivion. Amongst such 60 odd monuments in (###Q3###) \_\_\_\_\_ town, the Red Taj is the most (###Q4###) \_\_\_\_\_ and relatively well-preserved. The tomb in red sandstone was (###Q5###) \_\_\_\_\_ by Ann Hessing, widow of a Dutch officer, after his death in 1803 .

Select the correct option to fill in blank 5.

- A. building
- B. to build
- C. built
- D. build

Ans. C

Sol.

2<sup>nd</sup> form of verb should be used in the given blank. Built will be the correct word. Hence, option C is the correct answer.

**28. Direction:** Select the correct indirect form of the given sentence.

"Hello", he said to his friend. "What can I do for you?"

- A. He asked and greeted his friend that what he can do for him.
- B. He greeted his friend and asked what he could do for him.
- C. He told hello and asked his friend what he could do for him.
- D. He said hello and asked his friend what can do for him.

Ans. B

Sol.

We use hello as a sign of hello. So, while converting to indirect speech hello will be converted to greeted. As the reported speech is in question form, said to will be converted to asked and as 'what' has been used, so no conjunction will be used because 'what' itself acts as a conjunction. Can will be converted to could. Imperative reported speech will be made in assertive form i.e. of subject + verb form. The 1<sup>st</sup> person pronoun will be changed according to the subject of the reporting speech i.e. I will be changed to he. The 2<sup>nd</sup> person pronoun will be changed according to the object of the reporting speech i.e. you will be changed to him. Hence, option B is the correct answer.

**29. Direction:** Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement.

Many of a students were not shortlisted for the personal interview.

- A. No improvement
- B. The many student
- C. Many of the students
- D. Many of students

Ans. C

Sol.

The underlined part must be replaced with option C. Article a/an are used before indefinite singular countable nouns. So, the use of a before students is wrong. Replace 'a' with 'the'.



**Gradeup Green Card**

Unlimited Access to All 350+ SSC & Railways Mock Tests

30. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A) Upon returning from his travels, he was forced to live in a house where his large family lived.

B) Vaikom Muhammad Basheer was a Malayalam fiction writer from Vaikom in Kerala.

C) The household was always noisy and full of chaos, no place for a writer surely!

D) Apart from family members, myriads of domestic animals also treated the house as their own.

A. BCDA

B. BCAD

C. BDCA

D. BADC

Ans. D

Sol.

Sentence B will be the first sentence as it introduces the subject of the sequence i.e. Vaikom as Malayalam writer. Sentence A will follow sentence B as it describes his living after travels. BA being a mandatory pair is available only in option D.

Hence, option D is the correct answer.



**Gradeup Green Card**

Unlimited Access to All 350+ SSC & Railways Mock Tests



# Gradeup Green Card

## Features:

- › 350+ Full-Length Mocks
- › 30+SSC & Railways Exams Covered
- › Tests Available in English & Hindi
- › Performance Analysis & All India Rank
- › Previous Year Question Papers in Mock Format
- › Available on Mobile & Desktop

