

AFCAT Memory Based Paper - 16 Feb 2024

Q1 There are some people standing in front of the two counters. In the first counter girl1 rank is seventh from the counter and eighteenth from the back, in the second counter girl2 rank is third from the front and thirteen from the back. Find the total number of people standing in both the counters?

- (A) 49 (B) 36
(C) 46 (D) 39

Q2 A car is parked in front of the office facing north. Driver drives the car for some distance and takes a right turn, then after driving a few distance he takes a right turn, then after a few distance he takes a left turn and reaches his home. Now in which direction the car is facing ?

- (A) North (B) West
(C) South (D) East

Q3 In a certain code language "MANGO" is written as "PHOBN" and "ORANGE" is written as "FHOBSP". How will "GRAPES" be written in that code language?

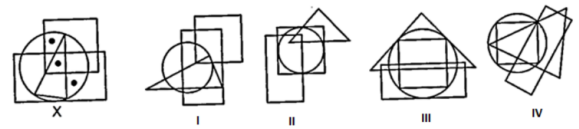
- (A) TFQASH (B) TFQBHS
(C) TFQBSP (D) TFRBSH

Q4 Three of the following four are alike in a certain way and so form a group. Which one does not belong to that group?

- (A) AUAGRJ (B) ATJES
(C) AEGIRM (D) NDIAI

Q5 Choose the most appropriate answer.

In the following question, there is a diagram, marked X, with dot(s) placed in it. This diagram is followed by four other figures, marked I, II, III, and IV. Only one of the figure wherein placement of the dot(s) satisfying the same conditions, as in the original diagram is possible. Find the correct alternative.



- (A) I (B) II
(C) III (D) IV

Q6 Which number would replace the question mark (?) in the following number series?

131, 132, 141, 166, 215, ?, 417

- (A) 300 (B) 294
(C) 286 (D) 296

Q7 Find the missing letter in the series.

QCD, PDE, OEF, ?

- (A) NNF (B) NFG
(C) NER (D) NNE

Q8 Pointing towards Kapil, Shilpa said, "His mother's brother is the father of my son Ashish". How is Kapil related to Shilpa?

- (A) Aunt (B) Nephew
(C) Niece (D) Sister-in-law

Q9 In the following question, select the related word from the given alternatives.

Dollar : United States :: Taka : ?

- (A) Kenya (B) South Africa
(C) Zimbabwe (D) Bangladesh

Q10 Three of the following four letter-groups are related to each other in a certain way and one is different.

Select the odd letter-set.

- (A) EBM - HEP (B) BCH - EFK
(C) DHL - GJO (D) ALG - DOJ

Q11 Which of the mathematical signs should be interchanged in the below equation to make it mathematically correct?

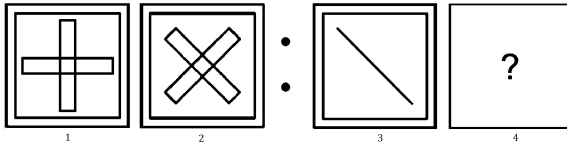
$$45 - 5 + 96 \div 8 \times 24 = 9$$

- (A) \div and -



- (B) + and \times
 (C) + and -
 (D) \times and -

Q12 Find the perfect figure from the option figure that will replace the question mark(?) from the problem figure.



- (A)
- (B)
- (C)
- (D)

Q13 Three statements are given followed by two conclusions numbered I and II. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

Some towns are cities.

Some cities are villages.

All villages are states.

Conclusions:

I. Some towns are not villages.

II. Some states are cities.

- (A) Only conclusion II follows
 (B) Only conclusion I follows
 (C) Both conclusions I and II follow
 (D) Neither conclusion I nor II follows

Q14 Select the figure that will come in place of the question mark (?) in the following figure series.



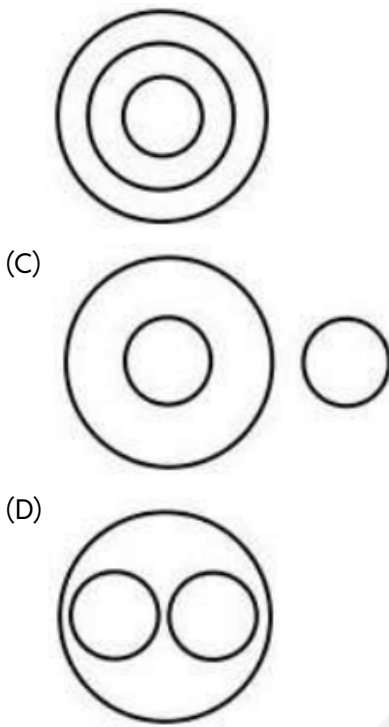
- (A)
- (B)
- (C)
- (D)

Q15 Select the Venn diagram that best represents the relationship between the following classes.

Mango, Fruit, Banana

- (A)
- (B)



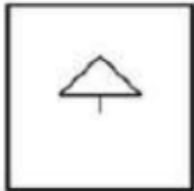


Q16 A series is given with one term wrong select that wrong term from the given alternatives.

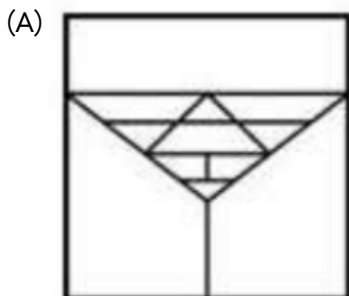
MCWH, PFZK, RICN, VLFQ

- (A) MCWH (B) PFZK
(C) RICN (D) VLFQ

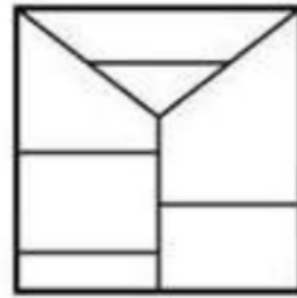
Q17 Select the option figure in which the given figure is embedded as its part (rotation is NOT allowed).



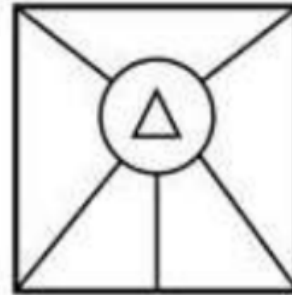
X



(B)



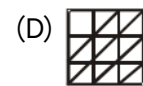
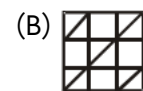
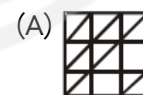
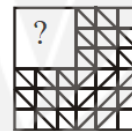
(C)



(D)



Q18 Which answer figure will complete the pattern in the following question figure?



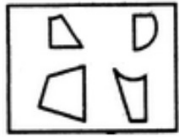
Q19 In the following question, select the related number from the given alternatives.

83 : 9 :: 146 : ?

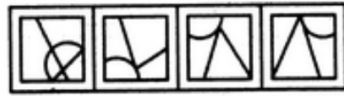
- (A) 12 (B) 8
(C) 14 (D) 10



- Q20** Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).



(X)

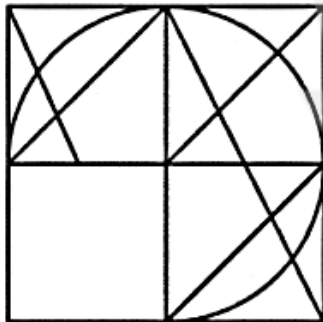


(1) (2) (3) (4)

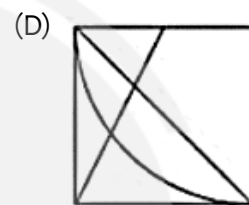
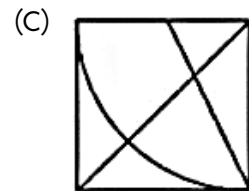
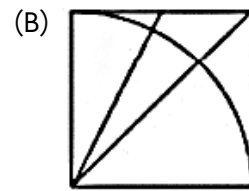
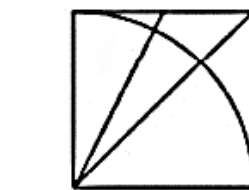
- (A) 1 (B) 2
(C) 3 (D) 4
- Q21** Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different.
- (A) HKMR (B) BJPV
(C) DLRT (D) FMNQ

- Q22** Select the time that would depict the correct mirror image of 1:15 in a clock.
- (A) 12 : 45 (B) 5 : 15
(C) 11 : 45 (D) 10 : 45

- Q23** Which answer figure will complete the pattern in the question figure?



(A)



- Q24** How many triangles are there in the given diagram?



- (A) 14 (B) 9
(C) 12 (D) 15
- Q25** Select the option that is related to the third number in the same way as the first number is related to the second number and fifth number is related to sixth number.
- 14 : 210 :: 13 : ? :: 16 : 272
- (A) 172 (B) 192
(C) 182 (D) 162



Answer Key

Q1 (D)
Q2 (D)
Q3 (C)
Q4 (D)
Q5 (D)
Q6 (D)
Q7 (B)
Q8 (B)
Q9 (D)
Q10 (C)
Q11 (B)
Q12 (B)
Q13 (A)

Q14 (C)
Q15 (D)
Q16 (C)
Q17 (A)
Q18 (D)
Q19 (A)
Q20 (B)
Q21 (C)
Q22 (D)
Q23 (C)
Q24 (B)
Q25 (C)

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Hints & Solutions

Q1 Text Solution:

Answer: (d)

In first counter total number of people is:

$$\text{Total} = \text{Top} + \text{Bottom} - 1$$

$$\text{Total} = 7 + 18 - 1$$

$$\text{Total} = 24$$

In second counter total number of people is:

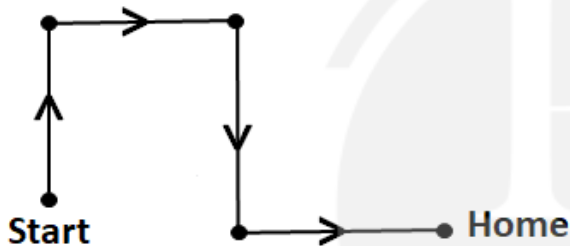
$$\text{Total} = \text{Top} + \text{Bottom} - 1$$

$$\text{Total} = 3 + 13 - 1$$

$$\text{Total} = 15$$

$$\text{Total people} = 24 + 15 = 39$$

Q2 Text Solution:



Hence, Now caer is facing 'East'

Q3 Text Solution:

Answer: (c)

In this cross pattern is followed and logic is +1.

Q4 Text Solution:

Answer: (d)

AUAGRJ - JAGUAR

ATJES - TEJAS

AEGRM - MIRAGE

NDIAI - INDIA

INDIA is not Fighter Aircraft.

Q5 Text Solution:

In the question figure, one dot is common to the Circle and Rectangle, one dot is common to all the geometrical figure and one is common to the Circle and Square. The only option figure satisfying the condition is Option D



Q6 Text Solution:

The series is based on the following pattern:

Difference is odd number square start with 1, 3, 5

and so on

$$131 + 1^2 = 131 + 1 = 132$$

$$132 + 3^2 = 132 + 9 = 141$$

$$141 + 5^2 = 141 + 25 = 166$$

$$166 + 7^2 = 166 + 49 = 215$$

$$215 + 9^2 = 215 + 81 = 296$$

$$296 + 11^2 = 296 + 121 = 417$$

Hence, 296 is right answer.

Q7 Text Solution:

Given series is:

QCD, PDE, OEF, ?

Here, the letter's place value gets increased as (-1, +1, +1).

Q C D

↓ ↓ ↓

-1 +1 +1

P D E

↓ ↓ ↓

-1 +1 +1

O E F

↓ ↓ ↓

-1 +1 +1

N F G

Hence, NFG is the correct answer.

Q8 Text Solution:

Here, in this question we have to find the relation between Kapil and Shilpa using the below family tree.

Given:-

"His mother's brother is the father of my son Ashish".

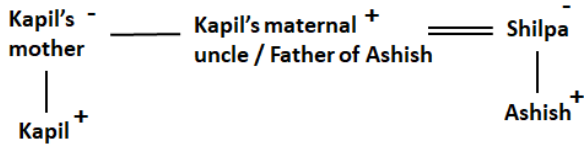


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→ Shilpa said that Kapil's mother's brother ie. Kapil's maternal uncle is the father of Shilpa's son Ashish.



Clearly, Kapil is the nephew of Shilpa.
Hence, the correct answer is "**Nephew**".

Q9 Text Solution:

The currency of United States is Dollar.
Similarly, the currency of Bangladesh is Taka.
Thus, Taka is the correct answer.

Q10 Text Solution:

Pattern followed here is:

EBM - HEP

E $\xrightarrow{+3}$ H

B $\xrightarrow{+3}$ E

M $\xrightarrow{+3}$ P

BCH - EFK

B $\xrightarrow{+3}$ E

C $\xrightarrow{+3}$ F

H $\xrightarrow{+3}$ K

DHL - GJO

D $\xrightarrow{+3}$ G

H $\xrightarrow{+2}$ J

L $\xrightarrow{+3}$ O

ALG - DOJ

A $\xrightarrow{+3}$ D
L $\xrightarrow{+3}$ O
G $\xrightarrow{+3}$ J

Hence, the correct answer is "**DHL - GJO**".

Q11 Text Solution:

Given equation: $45 - 5 + 96 \div 8 \times 24 = 9$.

BODMAS Table:

- We interchange the symbol + and \times we get,

Given: $45 - 5 + 96 \div 8 \times 24 = 9$

After interchanging the symbols we get;

$\rightarrow 45 - 5 \times 96 \div 8 + 24 = 9$

$\rightarrow 45 - 5 \times 12 + 24 = 9$

$\rightarrow 45 - 60 + 24 = 9$

$\rightarrow 69 - 60 = 9$

$\rightarrow 9 = 9$

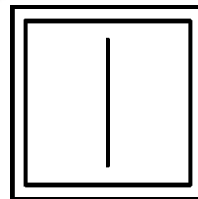
$\rightarrow \text{LHS} = \text{RHS}$

Hence, the correct answer is "+ and \times ".

Q12 Text Solution:

From 1st figure to 2nd figure, the design rotates through 45° clockwise.

Then, 3rd figure to 4th figure, design rotates 45° clockwise and it will look like this,



Hence, " option B " is the correct answer .

Q13 Text Solution:

In this question we have to find the conclusion that follows the statements given above using the Venn diagram.

Possible Venn diagram will be :-

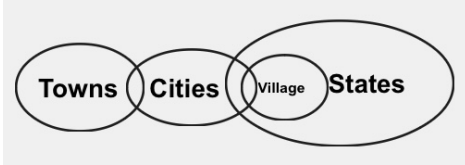
Statements:

Some towns are cities.



Some cities are villages.

All villages are states.



Conclusions:

- I. Some towns are not villages. (False, as there is no relation given between towns and villages)
- II. Some states are cities. (True, as some cities are villages and all villages are states then some states are cities).

Hence, only conclusion II follows is the correct answer.

Q14 Text Solution:

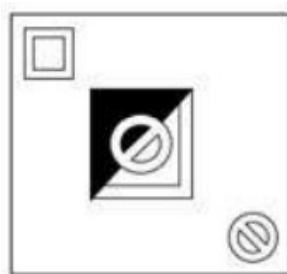
In this type of question, we have been given a series. In this series we have to find the missing figure of this series by finding the relation.



Logic:-

- is move 1 step anticlockwise direction.
- is move 1 step clockwise direction.
- is rotating at its place in 90 degree clockwise direction.

So, the next image is:-

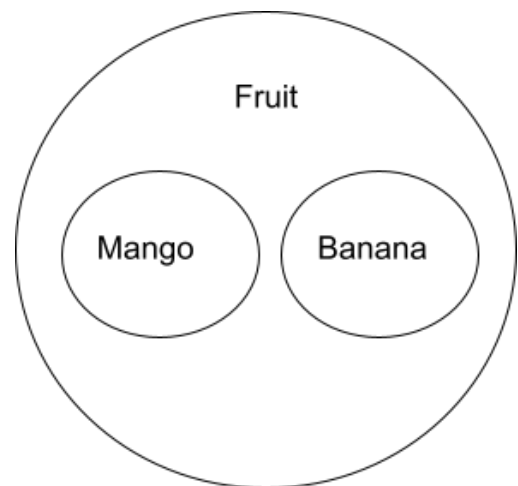


Hence, "Option C" is the correct answer.

Q15 Text Solution:

The Venn Diagram shows the best relationship between Mango, Fruit, Banana is shown below.

- Mangoes comes under Fruits category,
- Banana comes under Fruits category



Hence, "
answer.

" is the correct

Q16 Text Solution:

Here the logic is as follows

$$\begin{array}{ccccc}
 M & \xrightarrow{+3} & P & \xrightarrow{+3} & \boxed{S} & \xrightarrow{+3} & V \\
 C & \xrightarrow{+3} & F & \xrightarrow{+3} & I & \xrightarrow{+3} & L \\
 W & \xrightarrow{+3} & Z & \xrightarrow{+3} & C & \xrightarrow{+3} & F \\
 H & \xrightarrow{+3} & K & \xrightarrow{+3} & N & \xrightarrow{+3} & Q
 \end{array}$$

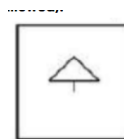
Here we can see place of R should be S.

Therefore RICN is the wrong term.

Hence, **RICN** is the correct answer.

Q17 Text Solution:

- Here, we have find the figure in which the given figure is embedded as its parts and rotation are not allowed.



x

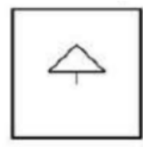
- Given figure



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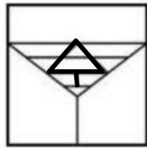
| iOS App

| PW Website

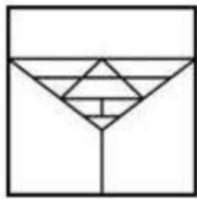


X

Here, we can see given figure is embedded as its part



Hence,



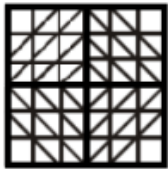
is the correct answer.

Q18 Text Solution:

According to the question :

We have been given a figure which is incomplete .We have to find the correct figure from the options to complete it .

Logic : The figure is divided into 4 equal parts .
The complete figure becomes ,



Hence , "option D -  " is the correct answer .

Q19 Text Solution:

Step 1: Identify the pattern :

83 can be written as:

$$83 = 81 + 2$$

$$\rightarrow 83 = 92 + 2$$

Step 2: Compute the required number :

Let us assume the number is x.

146 can be written as:

$$146 = x^2 + 2$$

$$x^2 = 146 - 2$$

$$x^2 = 144$$

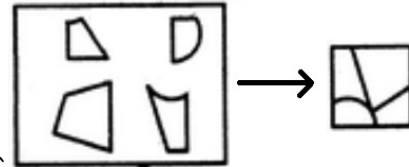
$$x = \sqrt{144}$$

$$x = 12$$

Hence, the complete sequence is 83: 9 :: 146: 12.

Q20 Text Solution:

From the figure X we can formed a figure which is given in figure(2),



Hence, **option(B)** is the correct answer.

Q21 Text Solution:

In this type of questions, three will be same and one will be different, we have to find the odd one.

The logic is that the sum of the place values of letters in all the given words except DLRT is equal to 50.

$$H+K+M+R=8+11+13+18=50$$

$$B+J+P+V=2+10+16+22=50$$

$$D+L+R+T=4+12+18+20=55$$

$$F+M+N+Q=6+13+19+17=50$$

Hence, **DLRT is the correct answer.**

Q22 Text Solution:

First Method:

At 1:15, the hour hand is in between 1 and 2 and the minute hand is at 3.

So, in the mirror image, the hour hand will be between 10 and 11 and the minute hand will be at 9, as shown below

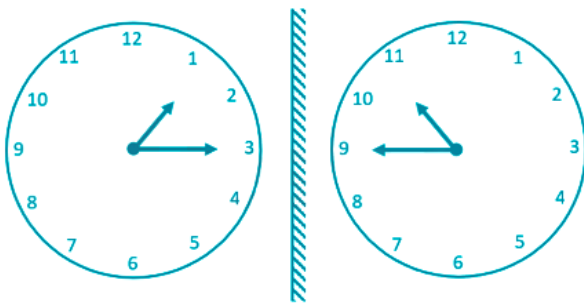
Second Method:

Subtract the given time with 11 : 60.

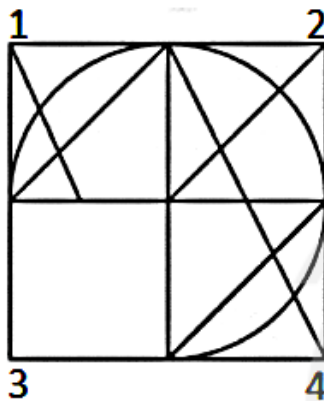
$$11 : 60 - 1 : 15 = 10 : 45.$$

Hence, the time that depicts the mirror image of 1:15 in a clock is 10:45.



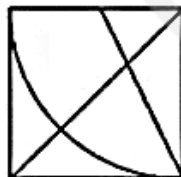
**Q23 Text Solution:**

Here, in this question we have to find the right pattern which can complete the image given.
Given figure;

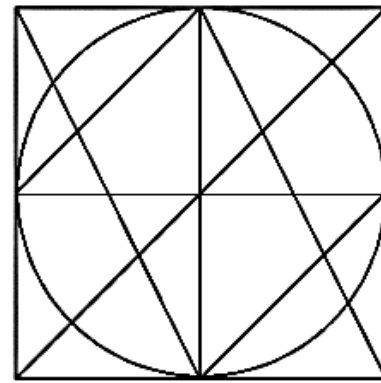


- 1 : 4 :: 2 : 3

We can say that, Figure 4 is Similar to figure 1 so,
Figure 3 will be similar to figure 2.



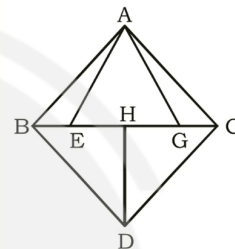
- After putting figure in the blank space, we get same sequence as figure 4 to figure 1:



Hence, Option C is the correct answer.

Q24 Text Solution:

According to the Question, we can prepare a figure.



The total of triangles in the given figure are :
(ABE), (ABG), (ABC), (AEG), (AEC), (AGC), (BDC),
(BHD), (CHD).

Total number of triangles is 9.

Hence, " 9 " is the correct answer.

Q25 Text Solution:

The logic followed here is:

1st number \times (1st number + 1) = 2nd number.

Now, for '14 : 210'

$$\Rightarrow 14 \times (14 + 1)$$

$$\Rightarrow 14 \times 15 = 210$$

For '16 : 272'

$$\Rightarrow 16 \times (16 + 1)$$

$$\Rightarrow 16 \times 17 = 272$$

Similar, For '13 : ?'

$$\Rightarrow 13 \times (13 + 1)$$

$$\Rightarrow 13 \times 14 = 182.$$

Hence the correct answer is " 182 "





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