# SSC MTS 6th August 2019 Shift-1

## English

**Instructions**

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.

**Comprehension:**

The quick thinking of an animal lover saved (1)____ life of a turtle who had (2)____ a fishing hook and a safety pin. The female turtle was (3)____ on the streets of Mumbai by the animal lover, (4)____ took it to a vet. An X-ray (5)____ the presence of sharp objects in its stomach. The turtle was operated upon successfully.

**Question 1**

**Select the most appropriate option for blank No. 1.**

**A**   an

**B**   a

**C**   the

**D**   one

   **Answer:** C

**Question 2**

**Select the most appropriate option for blank No. 2.**

**A**   feasted

**B**   swallowed

**C**   drowned

**D**   absorbed

   **Answer:** B

**Question 3**

**Select the most appropriate option for blank No. 3.**

**A**   found

**B**   find

**C**   finds

**D**   finding

   **Answer:** A

**Question 4**

**Select the most appropriate option for blank No. 4.**

**A**   which

**B**   whom

**C**  who

**D**  whose

    **Answer:** C

## Question 5

**Select the most appropriate option for blank No. 5.**

**A**  concealed

**B**  covered

**C**  protected

**D**  revealed

    **Answer:** D

**Instructions**
For the following questions answer them individually

## Question 6

**Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.**
**Either of the two books will met my requirement. /No error**

**A**  two books

**B**  No error

**C**  Either of the

**D**  will met my requirement

    **Answer:** D

## Question 7

**Select the most appropriate synonym of the given word.**
**Optimist**

**A**  Idealist

**B**  Pessimist

**C**  Critic

**D**  Distinct

    **Answer:** A

## Question 8

**Select the most appropriate antonym of the given word.**
**Cautious**

**A**   Prudent

**B**   Negligent

**C**   Discreet

**D**   Alert

   **Answer:** B

## Question 9

**Select the most appropriate option to fill in the blank.**
**He is a descendant _____ the Mughal royalty.**

**A**   of

**B**   in

**C**   to

**D**   for

   **Answer:** A

## Question 10

**Choose the most appropriate word that can substitute the given group of words.**
**One who can't speak**

**A**   Orphan

**B**   Quiet

**C**   Dumb

**D**   Bevy

   **Answer:** C

## Question 11

**Select the most appropriate option to fill in the blank.**
**The incident made a _____ impression on Karan.**

**A**   rounded

**B**   perfect

**C**   factual

**D**   deep

   **Answer:** D

## Question 12

**Choose the most appropriate word that can substitute the given group of words.**
**The highest point**

**A**   Horizon

**B**   Nadir

**C**   Paradise

**D**   Zenith

   **Answer:** D

## Instructions

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No Improvement.

### Question 13

**Only me can solve the problem.**

**A**   No Improvement

**B**   Me can only

**C**   Only me could

**D**   Only I can

   **Answer:** D

### Question 14

**Mr. Kansal has been living in Delhi since 10 years.**

**A**   until

**B**   from

**C**   No Improvement

**D**   for

   **Answer:** D

### Question 15

**When the little girl loses her doll, she began to cry.**

**A**   lost her doll

**B**   losing her doll

**C**   loss her doll

**D**   No Improvement

   **Answer:** A

## Instructions

For the following questions answer them individually

**Question 16**

Select the most appropriate meaning of the given idiom.
As a matter of fact

A   To seize a good opportunity

B   Actually as it happens

C   Just at the last moment

D   To forgive and forget

Answer: B

**Question 17**

Select the most appropriate antonym of the given word.
Tranquil

A   Calm

B   Stormy

C   Cool

D   Peaceful

Answer: B

**Question 18**

Select the most appropriate option to fill in the blank.
There is no _____ in the container for the water to flow.

A   outlet

B   link

C   room

D   escape

Answer: A

**Question 19**

Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
Pallavi is the cleverest of the two sisters. /No error

A   No error

B   of the two sisters

C   Pallavi is

D   the cleverest

Answer: D

**Question 20**

Select the most appropriate synonym of the given word.
Obvious

A   Various

B   Vague

C   Evident

D   Flexible

   **Answer:** C

**Question 21**

Choose the correctly spelt word.

A   Miniature

B   Corupt

C   Jelousy

D   Intrest

   **Answer:** A

**Question 22**

Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
My brother brought a few rice while coming from the market. /No error

A   No error

B   My brother brought

C   coming from the market

D   a few rice while

   **Answer:** D

**Question 23**

Select the most appropriate option to fill in the blank.
He _____ done it.

A   should had not

B   should have been

C   shouldn't have

D   should not had

**Answer:** C

**Question 24**

**Choose the correctly spelt word.**

**A**   Extract

**B**   Indevidual

**C**   Peirce

**D**   Luxeuries

   **Answer:** A

**Question 25**

**Select the most appropriate meaning of the given idiom.**
**Out of date**

**A**   Being careless

**B**   A date seed

**C**   Something old fashioned

**D**   A worthless fellow

   **Answer:** C

# Reasoning

**Instructions**
For the following questions answer them individually

**Question 26**

**Select the option that is related to the third number in the same way as the second number is related to the first number.**
**18 : 323 :: 38 : ?**

**A**   1331

**B**   1339

**C**   1443

**D**   1449

   **Answer:** C

**Explanation:**
18 : 323

$18^2 - 1 = 324 - 1 = 323$

38 : ?

$38^2 - 1 = 1444 - 1 = 1443$

Thus , 18 : 323 :: 38 : 1443

**Question 27**

Five articles A, K, P, R and T are kept one above the other (not necessarily in the same order). Only T is between K and P. P is below K. R is just below P. A is three places below T.
**Which article is at the bottom?**

**A** T

**B** A

**C** P

**D** R

  **Answer:** B

**Explanation:**
Five articles are kept one above the other.

A is three places below T.

Therefore 2 arrangements are possible T can be in 5th position then A in 2nd position and T can be in 4th position then A can be in 1st position.

T is between K and P so only II arrangement is possible .

P is below K and R is just below P.

So after the arrangement A is at the bottom



**Question 28**

In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.
**Statements:**
I. Some land are hard.
II. No hard is hot.
**Conclusions:**
I. Some hot are land.
II. Some hard are land.

**A** Only conclusion I follows

**B** Only conclusion II follows

**C** Both conclusion I and II follows

**D** Neither conclusion follow

Answer: B

## Question 29

Select the option in which the letters share the same relationship as that shared by the given pair of letters.
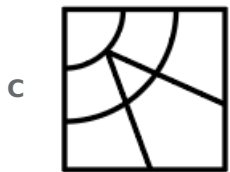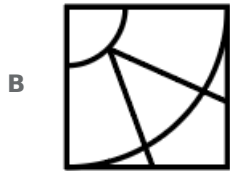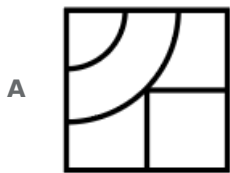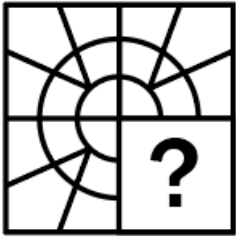RP : SQ :: ?

**A** JL : IK

**B** RV : QW

**C** MA : NZ

**D** KG : LH

Answer: D

## Question 30

Study the given pattern carefully and select the figure that will complete the pattern given in the question figure.



**A**



**B**



**C**

**D**

Answer: C

## Question 31

Six teachers A, D, G, J, M and P are sitting around a circular table facing towards the centre (not necessarily in the same order). M is third to the left of G. D is to the immediate left of J. A is to the immediate left of M. If we count in clockwise direction from P, then how many teachers are sitting between P and J?
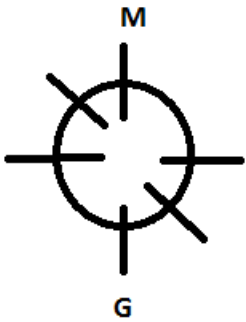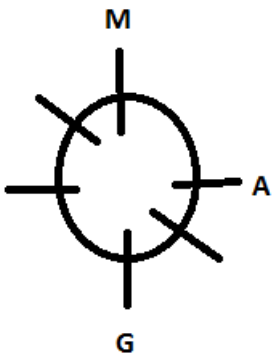
**A**  4

**B**  1

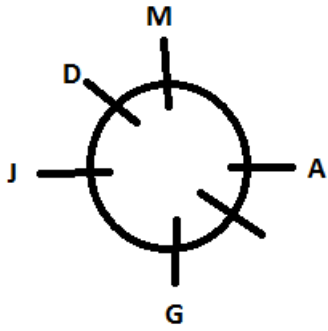**C**  3

**D**  2

Answer: B

**Explanation:**
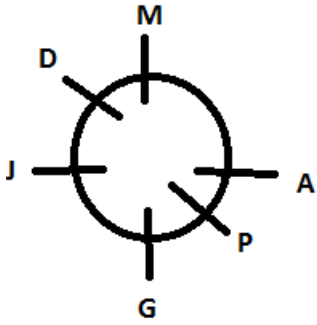Step 1: M is third to the left of G



Step 2: A is to the immediate left of M



Step 3: D is to the immediate left of J

Step 4:



Thus if we count in clock wise direction from P. Only G is between P and J

**Instructions**

Select the option that is related to the third term in the same way as the second term is related to the first term.

**Question 32**

**Chapter : Book :: Handle : ?**

**A**   Pedal

**B**   Brake

**C**   Cycle

**D**   Round

   **Answer:** C

**Explanation:**
Book consists of different chapters, same way **handle** is a part of **cycle**

**Question 33**

**Office : Clerk :: Site : ?**

**A**   Teacher

**B**   Servant

**C**   Shopkeeper

**D**   Engineer

   **Answer:** D

**Explanation:**
As clerk is in the office, similarly site related to **engineer**

**Instructions**
For the following questions answer them individually

## Question 34

**By interchanging the given two signs which of the following equation will be correct?**
$\times$ **and** $+$

**A** $\quad 4 + 9 \times 11 \div 3 = 37$

**B** $\quad 11 \times 6 \div 18 + 54 = 29$

**C** $\quad 13 - 12 \times 5 + 11 = 46$

**D** $\quad 6 \times 11 + 13 \div 11 = 17$

**Answer:** B

**Explanation:**
On interchanging the two signs $+$ and $\times$

we get the equation as

$11 + 6 \div 18 \times 54$

or $11 + 1 \div 3 \times 54 = 29$

$29 = 29$ which is true

## Question 35

**In a certain code language, 'RIGHT' is written as '98653', 'CLERK' is written as '04297'. What is the code for 'GREET' in that code language?**

**A** $\quad$ 69332

**B** $\quad$ 69227

**C** $\quad$ 69330

**D** $\quad$ 69223

**Answer:** D

**Explanation:**

```
R I G H T                C   L   E   R   K
| | | | |                |   |   |   |   |
| | | | |                |   |   |   |   |
9 8 6 5 3                0   4   2   9   7


        G   R   E   E   T
        |   |   |   |   |
        |   |   |   |   |
        6   9   2   2   3
```

Thus GREET coded as 69223

**Question 36**

In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.
**Statements:**
**I. No cycle is handle.**
**II. Some handle are tyre.**
**Conclusions:**
**I. No tyre is cycle.**
**II. Some tyre are handle.**
**III. Some cycle are handle.**

**A**  Only conclusion III follows

**B**  Both conclusion II and III follows

**C**  Both conclusion I and II follows

**D**  Only conclusion II follows

 **Answer:** D

**Explanation:**
Some is a **reversible** statement

thus from the statement "*Some handle are tyre*"

conclusion "*Some tyre are handle*" follows

therefore only conclusion 2 follows

**Question 37**

After interchanging the given signs, what will be the value of $16 + 19 \times 51 \div 153 - 12$?

$\times \ and \div$

**A**  63

**B**  51

**C**  61

**D**  57

  **Answer:** C

**Explanation:**

On interchanging the signs $\times and\div$

we get the equation as

$16 + 19 \div 51 \times 153 - 12$

or $16 + 19 \times 3 - 12$

16+57-12=61

## Question 38

**In a certain code language, 'POEM' is written as '1351516', 'ROB' is written as '21518'. What is the code for 'MAID' in that code language?**

**A**  13194

**B**  49113

**C**  59146

**D**  13195

  **Answer:** B

**Explanation:**

Place value of each letter of the word   **POEM**

P-16

O-15

E-5

M-13

therefore word POEM coded in reverse order as  **1351516**

Similarly, place value of each letter of the word **MAID**

M-13

A-1

I-9

D-4

coded in reverse order as  **49113**

## Question 39

**In a certain code language, 'FOSSIL' is written as 'KHRRNE'. What is the code for 'FUNGAL' in that code language?**
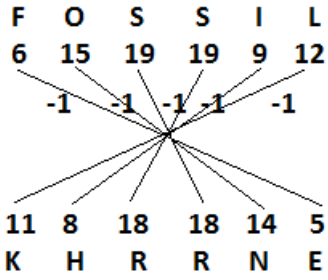
**A**  LAGMUF

**B**  LAGNUF

**C**  KAFMTE

**D**  KZFMTE

**Answer:** D

**Explanation:**

```
F    O    S    S    I    L
6   15   19   19   9   12
    -1   -1  -1 -1    -1

11   8   18   18   14   5
K    H    R    R    N    E
```

Similarly **FUNGAL** coded as **KZFMTE**

**Question 40**

In the following question,select the figure which can be placed at the sign of question mark (?) from the given alternatives.

| R | R □ | R □ | R □ | ? |
| 7 | 7 | 7 P | 7 P | |
| △ | △ | △ | △ Q | |

A
```
Я  □    9
7  P
△  Q
```

B
```
R  □    9
7  P
△  Q
```

C
```
R  □    9
Γ  P
△  Q
```

D
```
R  □    9
7  P
▽  Q
```

**Answer:** B

## Question 41

**A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**
**ML, RQ, WV, BA, ?**

**A** GF

**B** GE

**C** HF

**D** HE

   **Answer:** A

**Explanation:**
Each letter of the series moved 5 steps forward to obtain the next letter

Place value of M = 13 +5 = 18, place value of R

Same way, place value of L = 12+5 = 17, place value of Q

ML , RQ , WV , BA ,GF


## Question 42

**In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.**

| 7 | 8 | 4 | 18 |
|---|---|---|----|
| 2 | 3 | 9 | 13 |
| 5 | 6 | 8 | ? |

**A** 15

**B** 17

**C** 18

**D** 21

   **Answer:** C

**Explanation:**
7+8+4=19-1=18

2+3+9=14-1=13

5+6+8=19-1=18


## Question 43

**Identify the diagram that best represents the relationship amongthe given classes.**
**Colour, Red, Yellow**

A

B

C

D
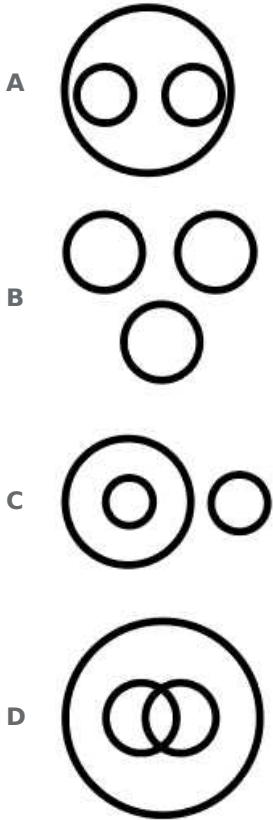
Answer: A

## Question 44

Select the number that can replace the question mark (?) in the following series.
307, 303, 299, 295, ?

A   287

B   291

C   289

D   293

Answer: B

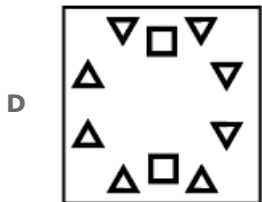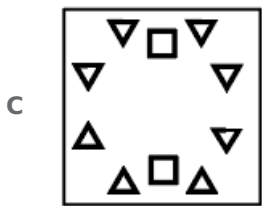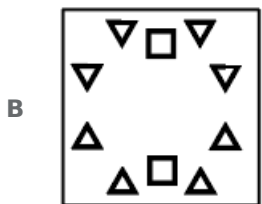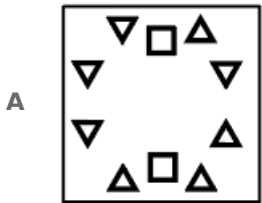**Explanation:**
Number series with common difference 4

307-4 =303

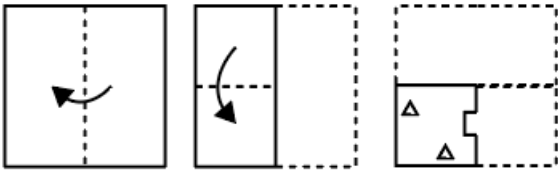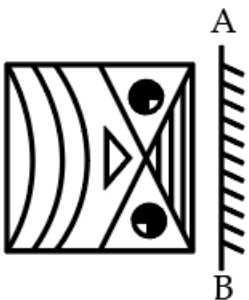303-4=299

299-4=295

295-4=291

**Question 45**

A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?
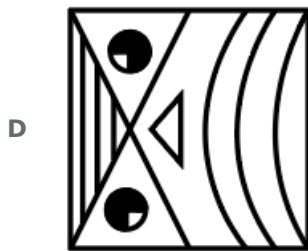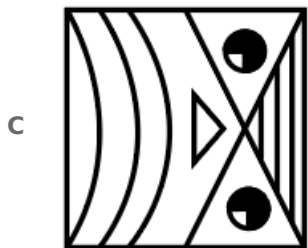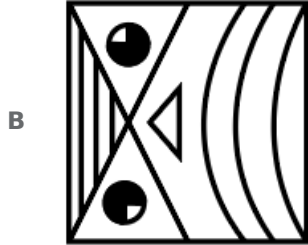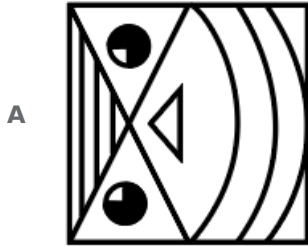


A 

B 

C 

D 

**Answer:** B

**Question 46**

If a mirror is placed on the line AB, then which of the answer figures is the right image of the given figure?

**A**



**B**



**C**



**D**

**Answer:** D

**Explanation:**
The mirror image is always laterly inverted means the left side of the object when seen in mirror is on right side and vice versa.

seeing the lateral inversion and comparing the question figure with the answer figures it is very much clear that answer is option D.

**Question 47**

**Six trucks K, M, O, Q, S and U are parked around a circular path facing towards the centre (not necessarily in the same order). Q is second to the left of U. S is to the immediate left of M. K is second to the right of O. O is to the immediate right of Q. Which truck is parked at second position to the left of O?**

**A**  M

**B**  S

**C**  K

**D**  U

**Answer:** A

**Explanation:**
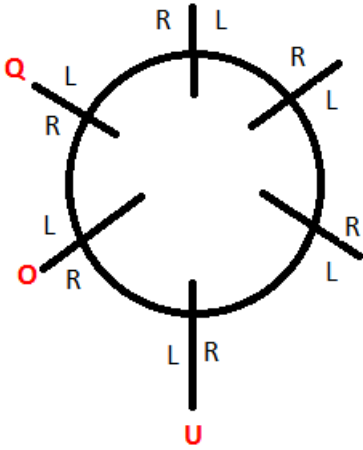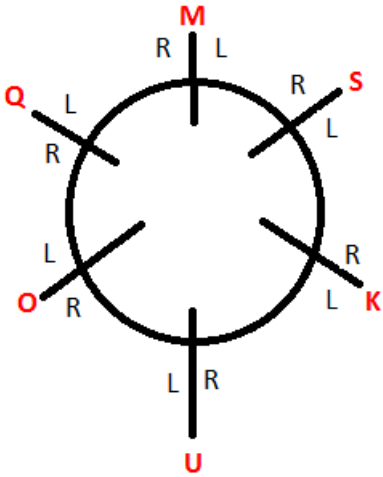From the statements:

1.Q is second to the left of U.

2.O is to the immediate right of Q.



3.K is second to the right of O.

4.S is to the immediate left of M.



Therefore truck M is parked at second position to the left of O.

**Question 48**

**In a certain code language, 'GARAGE' is written as 'JEUEJI'. What is the code for 'OFFICE' in that code language?**

**A**   RKIMFI

**B**   RJIMFI

C   JLJNGJ

D   JKJNGJ

Answer: B

Explanation:

```
7   1   18  1   7   5
G   A   R   A   G   E
+3  +4  +3  +4  +3  +4
J   E   U   E   J   I
10  5   21  5   10  9
```
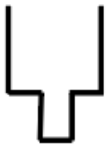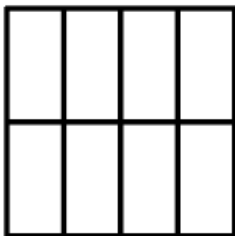
```
15  6   6   9   3   5
O   F   F   I   C   E
+3  +4  +3  +4  +3  +4
R   J   I   M   F   I
18  10  9   13  6   9
```

**Question 49**

From the given answer figures, select the one in which the question figure is hidden/embedded.



A


B


C

**D**
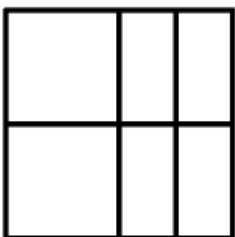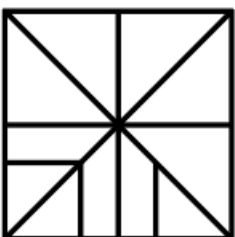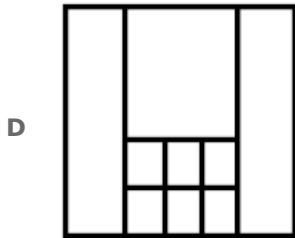
**Answer:** D

**Explanation:**

The question figure is hidden/embedded in option D,
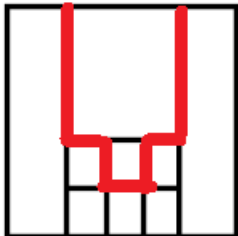


Therefore option D is the answer.

**Question 50**

**Select the number that can replace the question mark (?) in the following series.**
**3, 7, 22, 89, ?**

**A**  440

**B**  448

**C**  452

**D**  446

   **Answer:** D

**Explanation:**

The pattern is,

$3 \times 2 + 1 = 7$

$7 \times 3 + 1 = 22$

$22 \times 4 + 1 = 89$

$89 \times 5 + 1 = 446$

Therefore the answer is option D 446.

# Quant

**Instructions**

For the following questions answer them individually

**Question 51**

**A alone can do a piece of work in 30 days. B alone can do the same work in 60 days.If they work together for five days, what fraction of the work will be left?**

**A**  $\frac{1}{2}$

**B**  $\frac{2}{3}$

**C**  $\frac{3}{4}$

**D**  $\frac{5}{6}$

**Answer:** C

## Question 52

**What is the value of** $\frac{39\div26+22\div11\times2+4\times3}{2\ of\ 5-3(7+10\div2-3\times3)}$**?**

**A**  $\frac{39}{2}$

**B**  $\frac{49}{2}$

**C**  $\frac{61}{2}$

**D**  $\frac{35}{2}$

**Answer:** D

**Explanation:**

$$\frac{39\div26+22\div11\times2+4\times3}{2\ of\ 5-3(7+10\div2-3\times3)}$$

$$\frac{\frac{39}{26}+\frac{22}{11}\times2+4\times3}{2\times5-3(7+\frac{10}{2}-3\times3)}$$

$$\frac{\frac{3}{2}+4+12}{10-3(7+5-9)}$$

$$\frac{\frac{3+8+24}{2}}{10-3(3)}$$

$$\frac{\frac{35}{2}}{10-9}$$

$$\frac{35}{2}$$

## Question 53

**The average weight of 14 children is 22 kg. If the weight of the teacher is also included, the average weight becomes 23 kg. What is the weight of the teacher?**

**A**  37 kg

**B**  36 kg

**C**  35 kg

**D**  34 kg

**Answer:** A

## Question 54

The Bar graph given below presents the number of cars parked on ten different days in a parking area.



What is the difference in the number of cars parked on D3 and D8?

A  33

B  45

C  41

D  37

Answer: C

**Explanation:**
Number of cars parked on D3 is 281.

Number of cars parked on D8 is 322.

Difference in the number of cars parked on D3 and D8 is,

$322 - 281 = 41$

## Question 55

What is the Highest Common Factor of $\frac{7}{16}, \frac{21}{32}$ **and** $\frac{49}{8}$ **?**

A  $\frac{147}{32}$

B  $\frac{147}{8}$

C  $\frac{7}{64}$

D  $\frac{7}{32}$

Answer: D

## Question 56

What is the value of $(24 + 16 \times 5 - 8 \, of \, 4) \div 84 \times 48 \div 24 \times 6 + 4 + 3?$

**A** $\frac{139}{3}$

**B** $\frac{121}{7}$

**C** $\frac{56}{3}$

**D** $\frac{156}{5}$

Answer: B

**Explanation:**

$(24 + 16 \times 5 - 8 \ of \ 4) \div 84 \times 48 \div 24 \times 6 + 4 + 3$

$\frac{(24+16\times5-8\times4)}{84} \times \frac{48}{24} \times 6 + 4 + 3$

$\frac{24+80+32}{7} + 4 + 3$

$\frac{72+28+21}{7}$

$\frac{121}{7}$

## Question 57

X alone can do a piece of work in 15 days. Y alone can do the same work in 30 days. X, Y and Z, working together, can complete the work in nine days. In how many days Z alone can complete the same work?

**A** 90

**B** 45

**C** 60

**D** 120

Answer: A

## Question 58

The data given below shows number of sixes and the number of batsmen who have hit them.

| Number of sixes | Number of batsmen |
|---|---|
| 1 | 2 |
| 2 | 3 |
| 3 | 1 |
| 4 | 3 |
| 5 | 2 |

What is the median of number of sixes?

**A** 5

**B** 3

**C** 4

**D** 4.5

Answer: B

**Explanation:**

Median of number of sixes $= \frac{Total\,number\,of\,sixes}{5}$

$= \frac{15}{5}$

$= 3$

Therefore option B is the answer.
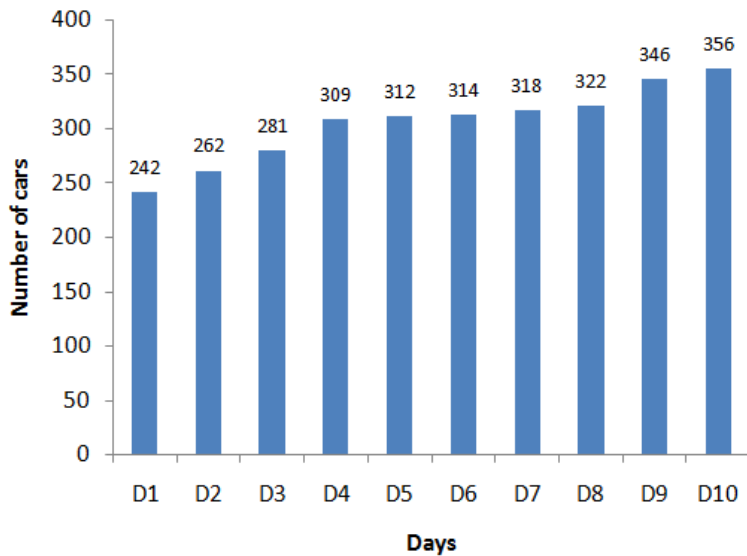
**Question 59**

The Bar graph given below presents the number of cars parked on ten different days in a parking area.
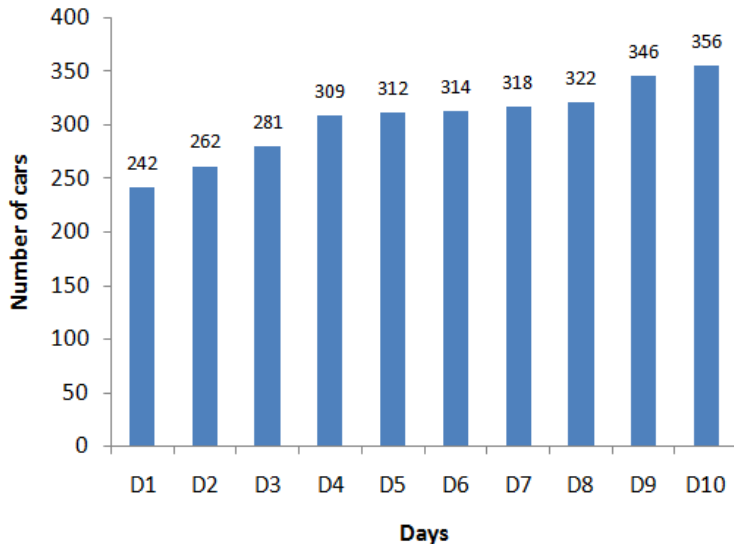


What is the total number of cars parked on all the ten days in the parking area?

**A**   3462

**B**   3862

**C**   3062

**D**   3882

 **Answer:** C

**Explanation:**

Total number of cars parked on all the ten days in the parking area is,

$242 + 262 + 281 + 309 + 312 + 314 + 318 + 322 + 346 + 356 = 3062$

**Question 60**

A car can cover a distance of 18 km in 24 minutes. The speed of a bus is twice that of the car. In how many minutes can the bus cover a distance of 135 km?

**A**   48 minutes

**B**   90 minutes

**C**   50 minutes

**D**   75 minutes

 **Answer:** B

## Question 61

The difference between the simple interest and compound interest on a principal at the rate 5% per annum for 2 years is ₹25. What is the principal?

**A** ₹10000

**B** ₹5000

**C** ₹15000

**D** ₹12000

Answer: A

## Question 62

The Bar graph given below presents the number of cars parked on ten different days in a parking area.
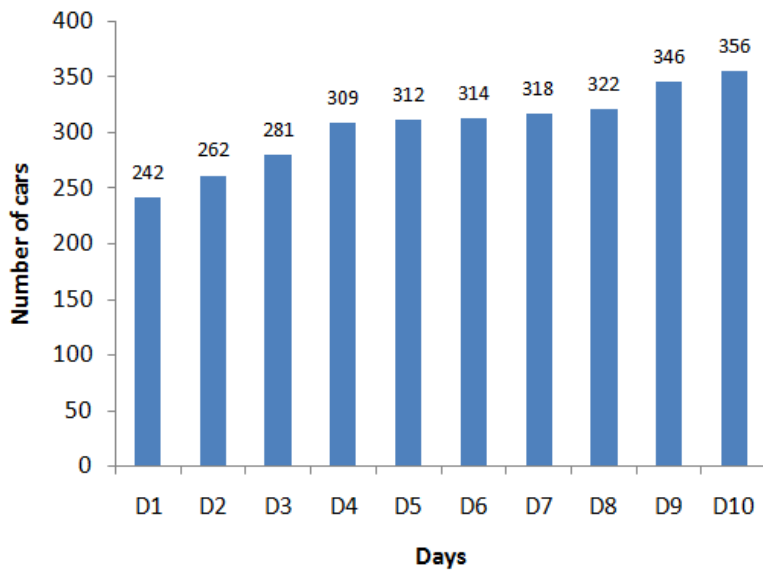


Number of cars parked on D10 is how much percentage(correct up to two decimal places) more than the number of cars parked on D1?

**A** 57.11%

**B** 42.11%

**C** 52.11%

**D** 47.11%

Answer: D

## Question 63

The difference in selling price of an article whenit is sold at 20% profit and 18% loss is ₹570. If it is sold at 12% loss, then what will be the selling price of the article?

**A** ₹1540

**B** ₹1760

**C** ₹1320

**D** ₹1650

Answer: C

**Question 64**

The cost price of an article is ₹ 1800. If the profit is 32%, then what is the selling price?

A ₹2496

B ₹2376

C ₹2288

D ₹2456

Answer: B

**Explanation:**
Given,

The cost price of an article is ₹ 1800 and the profit is 32%.

Selling price $= 1800 \times \frac{100+32}{100}$

$1800 \times \frac{132}{100}$

$18 \times 132 = 2376$

**Question 65**

The monthly incomes of A and B are ₹12000 and ₹8000 respectively. The ratio of their monthly expenditures is 5 : 3. If they save equal amount per month, then how much money does each of them save per month?

A ₹1000

B ₹800

C ₹1500

D ₹2000

Answer: D

**Question 66**

If $x + y = 52 \, and \, x - y = 20$, then what is the value of $x : y$?

A 9 : 4

B 3 : 2

C 7 : 5

D 3 : 4

Answer: A

**Question 67**

The average ages of (P,Q) ; (Q,R) ; (R,P) are 13, 14 and 12 years respectively. What is the age of Q?

**A** 13 years

**B** 11 years

**C** 15 years

**D** 12 years

   **Answer:** C

## Question 68

Down stream speed of boat is 14 km/h. Upstream speed of boat is 10 km/h. In how muchtime can it cover 72 km in still water?

**A** 8 hours

**B** 6 hours

**C** 12 hours

**D** 4 hours

   **Answer:** B

## Question 69

What is the ratio of the inradius and circumradius of a square?

**A** $1 : \sqrt{2}$

**B** $1 : 3$

**C** $\sqrt{2} : 3$

**D** $1 : 2$

   **Answer:** A

## Question 70

A sum of ₹3000 is invested on compound interest (compounded annually) at the rate of interest is 20% per annum. What is the compound interest for 2 years?

**A** ₹1200

**B** ₹1440

**C** ₹1320

**D** ₹1360

   **Answer:** C

## Question 71

After giving 20% discount on an article a shopkeeper earns 30% profit. Marked price is what percent of cost price?

**A**   162.5%

**B**   122.5%

**C**   137.5%

**D**   150%

   **Answer:** A

## Question 72

The curved surface area of a cylinder is 25344 cm$^2$ and its height is 32 cm. What is the volume of a cylinder whose capacity is $\frac{\pi}{792}$ times the volume of the given cylinder?

**A**   9504 $cm^3$

**B**   6336 $cm^3$

**C**   3168 $cm^3$

**D**   1584 $cm^3$

   **Answer:** B

## Question 73

The diagonal of a square is 24 cm. What is its perimeter?

**A**   $36\sqrt{2}$ cm

**B**   $48\sqrt{2}$ cm

**C**   28 cm

**D**   $46\sqrt{2}$ cm

   **Answer:** B

**Explanation:**
Given,

Diagonal of a square = 24.

we know that, Diagonal of a square = $\sqrt{2}a$

therefore, $\sqrt{2}a = 24$

a = $\frac{24}{\sqrt{2}}$

Perimeter of a square = 4a

4a = $4 \times \frac{24}{\sqrt{2}}$

$= 2\sqrt{2} \times 24$

$= 48\sqrt{2}$

## Question 74

A is 15% more than B. B is how much percent(correct up to two decimal places) less than A ?

**A** 16.14%

**B** 13.04%

**C** 6.14%

**D** 9.17%

   **Answer:** B

## Question 75

If $x + y + z = 360$ and $x : y : z = 4 : 3 : 2$, then what is the value of $y + z - x$ ?

**A** 80

**B** 40

**C** 60

**D** 30

   **Answer:** B

**Explanation:**
Given,

x + y + z = 360 and x : y : z = 4 : 3 : 2

let 4 : 3 : 2 = 4p : 3p : 2p

substituting it in x + y + z = 360,

4p + 3p + 2p = 360

9p = 360

p = 40

Therefore x : y : z = 4(40) : 3(40) : 2(40)

x : y : z = 160 : 120 : 80

substituting x,y,z in z + y - x ,

80 + 120 - 160 = 40.

# General knowledge

**Instructions**
For the following questions answer them individually

## Question 76

**Which of the following river originates from Madhya Pradesh?**

**A** Tapi

**B** Mahanadi

**C** Godavari

**D** Krishna

   **Answer:** A

**Question 77**

In the year 1817 _____ tried to arrange elements with similar properties into groups.

**A**  Dobereiner

**B**  Mandeleev

**C**  Henry Moseley

**D**  Emmy Noethar

  **Answer:** A

**Question 78**

According to HDI 2018, which of the following is least developed country?

**A**  Denmark

**B**  Finland

**C**  Cambodia

**D**  Cyprus

  **Answer:** C

**Question 79**

How many amendments are there in Indian Constitution till March 2019?

**A**  101

**B**  99

**C**  105

**D**  103

  **Answer:** D

**Question 80**

Who among the following built the Charminar?

**A**  Illtutmish

**B**  Alauddin Khilji

**C**  Qutubudin Aibak

**D**  Quli Qutb Shah

  **Answer:** D

**Question 81**

**When was Lok Sabha first constituted?**

A   1951

B   1948

C   1952

D   1950

   **Answer:** C

**Question 82**

**Pranati Nayak is associated with which of the following sport?**

A   Boxing

B   Gymnastics

C   Skating

D   Golf

   **Answer:** B

**Question 83**

**Jagoi is the dance form of which of the following state?**

A   Assam

B   Andra Pradesh

C   Odisha

D   Manipur

   **Answer:** D

**Question 84**

**Who won the Gandhi Peace Prize 2018?**

A   Akshay Patra

B   Manmohan Singh

C   Yohei Sasakawa

D   John Hume

   **Answer:** C

**Question 85**

**Lala Lajpat Rai was founder of which of the following bank?**

**A** State Bank of India

**B** Punjab National Bank

**C** Bank of Baroda

**D** Union Bank of India

   **Answer:** B

## Question 86

**Ashraf Ghani is the President of which of the following country?**

**A** Bangladesh

**B** Iran

**C** Kuwait

**D** Afghanistan

   **Answer:** D

## Question 87

**How many powerful Mahajanapadas existed in ancient India?**

**A** 14

**B** 16

**C** 12

**D** 18

   **Answer:** B

## Question 88

**Which of the following element is present in an antiperspirant deodorant?**

**A** Sodium

**B** Aluminum

**C** Copper

**D** Iron

   **Answer:** B

## Question 89

**What is the scientific name of Peacock?**

**A** Molpastes cafer

**B** Psittacula eupatria

**C** Pavo Cristatus

**D** Eudynamis scolopaccus

  **Answer:** C

## Question 90

**In which of the following states, Manas National Park is situated?**

**A** Sikkim

**B** Odisha

**C** Assam

**D** West Bengal

  **Answer:** C

## Question 91

**Hepatitis is caused by _____.**

**A** Fungi

**B** Bacteria

**C** Parasites

**D** Virus

  **Answer:** D

## Question 92

**How many players are there in Kho-Kho?**

**A** 7

**B** 12

**C** 10

**D** 8

  **Answer:** B

## Question 93

**Who is the writer of 'Freedom in Exile'?**

**A** Abdul Kalam Azad

**B** Shashi Tharoor

**C**   Nelson Mandela

**D**   Dalai Lama

   **Answer:** D

## Question 94

**In which of the following states is Ugadi considered as an important festival?**

**A**   Karnataka

**B**   Chhattisgarh

**C**   Arunachal Pradesh

**D**   Nagaland

   **Answer:** A

## Question 95

**Pradhan Mantri Awas Yojana - Gramin, aims to achieve "Housing for All" by:**

**A**   2024

**B**   2023

**C**   2021

**D**   2022

   **Answer:** D

## Question 96

**On which of the following planet NASA sent the curiosity rover?**

**A**   Moon

**B**   Jupiter

**C**   Mars

**D**   Saturn

   **Answer:** C

## Question 97

**Guru Shikhar is the highest peak of which of the following?**

**A**   Deccan Plateau

**B**   Vindhya Range

**C**   Aravalli Range

**D**   Satpura Range

**Answer:** C

**Question 98**

**Which of the following Acts was also known as Montague-Chelmsford Reform?**

**A** Pitt's India Act 1784

**B** Indian Independence Act 1947

**C** Charter Act 1813

**D** Government of India Act 1919

  **Answer:** D

**Question 99**

**In 12th Century Karnataka, Virashaivas were the followers of _____.**

**A** Basavanna

**B** Karaikkal Ammaiyar

**C** Ramanuja

**D** Andal

  **Answer:** A

**Question 100**

**The third battle of Panipat was fought between which of the following two?**

**A** Sikhs and Mughals

**B** Maratha Empire and Durrani Empire

**C** Prithviraj Chauhan and Mohammad Ghori

**D** Akbar and Hem Chandra Vikramaditya

  **Answer:** B

# SSC MTS 6th August 2019 Shift-2

## English

**Instructions**

For the following questions answer them individually

**Question 1**

Select the most appropriate option tofill in the blank.
A twelveyear old boy drownedin a pit .......... up for the coastal road project.

**A**   digs

**B**   dug

**C**   dig

**D**   digging

   **Answer:** B

**Question 2**

Select the most appropriate synonym of the given word.
Benevolent

**A**   Cruel

**B**   Miser

**C**   Generous

**D**   Malevolent

   **Answer:** C

**Question 3**

Choose the correctly spelt word.

**A**   Lisence

**B**   Patner

**C**   Knowledge

**D**   Neice

   **Answer:** C

**Question 4**

Find the part of the given sentencethat has an error in it. If there is no error, choose 'No error'.
The 91 year old lady have beena fan of cricket for decades. /No error

**A**   No error

**B**   of cricket for decades

**C**   have been a fan

**D** The 91 year old lady

**Answer:** C

## Question 5

**Select the most appropriate antonym of the given word.**
**Jovial**

**A** Hesitant

**B** Tired

**C** Cheerful

**D** Gloomy

**Answer:** D

## Question 6

**Select the most appropriate meaning of the given idiom.**
**Pull up your socks**

**A** To play a joke on someone

**B** To lose one's temper

**C** To suspect some foul play

**D** To put in extra effort

**Answer:** D

## Question 7

**Select the most appropriate synonym of the given word.**
**Harass**

**A** Molest

**B** Scare

**C** Comfort

**D** Assist

**Answer:** A

## Question 8

**Select the most appropriate option tofill in the blank.**
**Wecannotquote a price ........... weare allowed to examine the sample.**

**A** because

**B** whether

**C** except

**D** unless

**Answer:** D

## Question 9

**Choose the correctly spelt word.**

**A** Thriller

**B** Ignorence

**C** Colaborate

**D** Interupt

**Answer:** A

## Question 10

**Select the most appropriate meaning of the given idiom.**
**Eye wash**

**A** A problem

**B** A fact

**C** A deception

**D** A solution

**Answer:** C

## Question 11

**Select the most appropriate option tofill in the blank.**
**She had a bandage ............. round herfinger.**

**A** twisted

**B** bound

**C** wrapped

**D** covered

**Answer:** C

## Question 12

**Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No Improvement.**
**It is danger to cross the road unmindfully.**

**A** It is dangerous

**B** No Improvement

**C**   There is danger

**D**   It is full of dangerous

   **Answer:** A

## Question 13

**Choose the most appropriate word that can substitute the given group of words.**
**A group of Lions**

**A**   Pride

**B**   Flock

**C**   Herd

**D**   Pack

   **Answer:** A

## Question 14

**Find the part of the given sentence that hasan error in it. If there is no error, choose 'No error'.**
**t would take up few of my time to explain to you the whole case. /No error**

**A**   It would take up

**B**   explain to you the whole case

**C**   few of my time to

**D**   No error

   **Answer:** C

**Instructions**

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.
**Comprehension:**

Buffer stock refers to a (1)............ of a commodity that is used to offset price fluctuations (2)............ unforeseen emergencies. Buffer stock is generally (3)............ for essential commodities and necessities like food grains, pulses, etc. The Cabinet Committee (4)............... Economic Affairs (5)............... the minimum buffer stock on a quarterly basis.

## Question 15

**Select the most appropriate option for blank No. 1.**

**A**   reserve

**B**   reserved

**C**   reserves

**D**   reservation

   **Answer:** A

**Question 16**

Select the most appropriate option for blank No. 2.

**A** even

**B** if

**C** and

**D** also

   **Answer:** C

**Question 17**

Select the most appropriate option for blank No. 3.

**A** maintained

**B** maintains

**C** maintaining

**D** maintain

   **Answer:** A

**Question 18**

Select the most appropriate option for blank No. 4.

**A** to

**B** for

**C** in

**D** at

   **Answer:** B

**Question 19**

Select the most appropriate option for blank No. 5.

**A** rules

**B** guides

**C** forces

**D** fixes

   **Answer:** D

**Instructions**

For the following questions answer them individually

**Question 20**

**Find the part of the given sentence that hasan error in it. If there is no error, choose 'No error'.**
**He alwaysstood up for the rights of the oppressed. /No error**

**A** He always stood up

**B** No error

**C** for the rights

**D** of the oppressed

  **Answer:** B

**Question 21**

**Select the most appropriate antonym of the given word.**
**Linger**

**A** Defer

**B** Stop

**C** Wait

**D** Quicken

  **Answer:** D

**Question 22**

**Select the most appropriate option tofill in the blank.**
**They sat by the river bank with their legs ____siin the water.**

**A** dangling

**B** washing

**C** remaining

**D** swimming

  **Answer:** A

**Question 23**

**Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No Improvement.**
**You need have brought your umbrella as it is a cloudy day.**

**A** No Improvement

**B** should have

**C** could has

**D** can have

**Answer:** B

**Question 24**

Choose the most appropriate word that can substitute the given group of words.
A person pretending to be somebody he isn't

**A**   Aristocrat

**B**   Bureaucrat

**C**   Conservative

**D**   Hypocrite

   **Answer:** D

**Question 25**

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No Improvement.
He made multiple <u>attempts at</u> securing a government job.

**A**   attempt in

**B**   attempts through

**C**   No Improvement

**D**   attempt for

   **Answer:** C

# Reasoning

**Instructions**
For the following questions answer them individually

**Question 26**

In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.
**Statements:**
**I. All photo are phone.**
**II. Some phone are yellow.**
**III. No yellow is red.**
**Conclusions:**
**I. Some red are photo.**
**II. Some yellow are phone.**
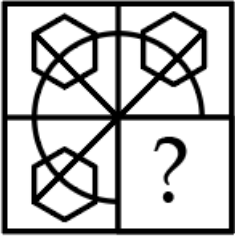**III. No red is photo.**

**A**   Only conclusion II follows

**B**   Only conclusion III follows

**C**   Only conclusion I follows

**Question 27**

**Study the given pattern carefully and select the figure that will complete the pattern given in the question figure.**
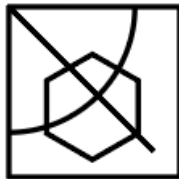


A



B



C



D



**Answer:** A

**Explanation:**

In the place of question mark, a curve must be present in such a way that completes the circle and a heptagon must be present in the middle and also a line must be drawn diagonally from the center and must end at one of the heptagon's edge.

There option A can be replaced with the question mark.

**Question 28**

Five movies K, L, M, N and P (not necessarily in the same order) are displayed from Monday to Friday. Only one movie is displayed on one day. Each movieis displayed only one time. Movie K is displayed on Monday. Two movies are displayed between N and P. L is displayed just one dayafter P. How many movies are displayed before M?

**A** 4

**B** 2

**C** 1

**D** 3

   **Answer:** D

**Question 29**

In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.
**Statements:**
**I. All T are P.**
**II. Some P are Q.**
**Conclusions:**
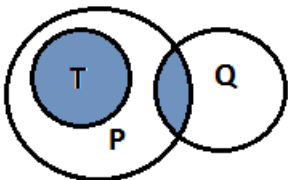**I. Some Q are P.**
**II. Some P are T.**

**A** Neither conclusion follow

**B** Both conclusion I and II follows

**C** Only conclusion II follows

**D** Only conclusion I follows

   **Answer:** B

**Explanation:**
Statement:

I. All T are P.
II. Some P are Q.



**Conclusions:**
I. Some Q are P --> Some Q are P is true
II. Some P are T --> Some P are T is true

Therefore both conclusion I and conclusion II follows.
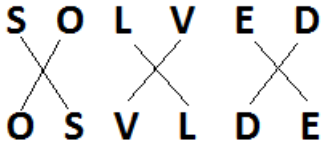
**Question 30**

In acertain code language, 'SOLVED' is written as 'OSVLDE'. Whatis the codefor 'CREATE' in that code language?

**A**   RCTAEE

**B**   RCAETE

**C**   RCAEET

**D**   RCEAET

   **Answer:** C

**Explanation:**
Pattern followed,



Using this pattern, CREATE can be written as RCAEET

**Question 31**

By interchanging which two numbers the equation will be correct?
$9 - 2 \times 4 \div 6 = -3$

**A**   6 and 9

**B**   6 and 2

**C**   4 and 9

**D**   2 and 4

   **Answer:** B

**Explanation:**
$9 - 2 \times 4 \div 6 = -3$

By option (2) 6 and 2, on interchanging we get, $9 - 6 \times 4 \div 2 = -3$

Using BODMAS rule, we get, $9 - 6 \times 2 = -3$

9 - 12 = -3

-3 = -3

Hence LHS = RHS.

Hence our answer.

**Question 32**

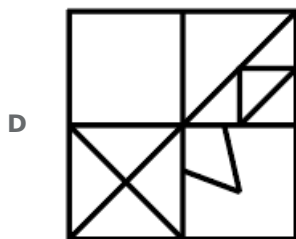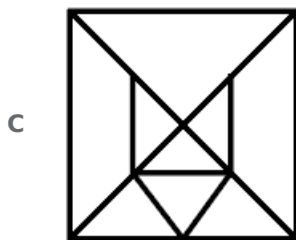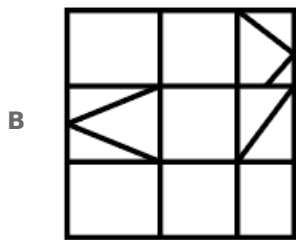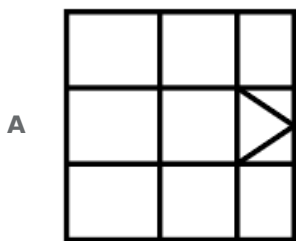In the following question, select the related letter pair from the given alternatives.
**TIR : VKT :: ?**

**A**   RAP : TCS

**B**   GAR : IYT

**C**   GEM : GO

**D**   LOD : NMF

Answer: C

## Question 33

From the given answer figures, select the one in which the question figure is hidden/embedded. (Rotation not allowed)



**A**



**B**



**C**



**D**



Answer: A

## Question 34

Six employees L, N, P, R, T and V are sitting around a circular table facing towards the centre (not necessarily in the same order). V is second to the left of N. L is to the immediate left of P. R is second to the left of P. P is third to the right of N. Who is sitting to the immediate right of V?

**A**   P

**B** R

**C** N

**D** T

Answer: D

## Question 35

In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.

| 6 | 3 | 8 | 20 |
|---|---|---|----|
| 9 | 5 | 1 | ? |
| 11 | 4 | 7 | 26 |

**A** 17

**B** 20

**C** 19

**D** 14

Answer: B

## Question 36

By interchanging which two signs the equation will be correct?
$19 + 63 \div 7 - 8 \times 12 = 79$

**A** $- \, and \times$

**B** $\times \, and +$

**C** $\div \, and -$

**D** $\times \, and \div$

Answer: A

**Explanation:**

For this question we have to go by option, so when we replace $- \, and \times$ as per option A,

$19 + 63 \div 7 \times 8 - 12 = 79$

$19 + \overset{63}{7} \times 8 - 12 = 79$

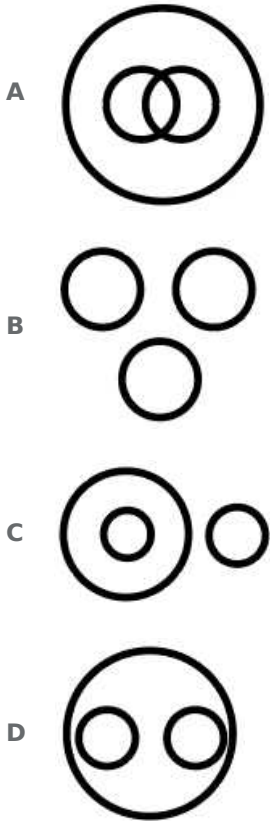$19 + 9 \times 8 - 12 = 79$

$19 + 72 - 12 = 79$

$79 = 79$

Therefore option A is the answer.

## Question 37

Identify the diagram that best represents the relationship amongthe given classes.
**Lawyer, Profession, Client**

**A**

**B**

**C**

**D**

**Answer:** C

## Question 38

**Select the option that is related to the third number in the same way as the second number is related to the first number.**
**31 : 54 :: 43 : ?**

**A**  66

**B**  76

**C**  64

**D**  74

**Answer:** A

**Explanation:**
Difference between first number and the second number (31 and 54) is 23

So the difference between third number and the fourth number should be 23.

Therefore the answer is 66 (Difference of 43 and 66 is 23).

## Question 39

**Select the option in which the words share the same relationship as that shared by the given pair of words.**
**Food : Chef :: ?**

**A**  Tailor : Clothes

**B**  Furniture : Wood

**C**  Farmer : Crop

**D**  Ornaments : Goldsmith

   **Answer:** D

**Explanation:**
Food is prepared by Chef, in the same way Ornaments are made by Goldsmith.

As food is present first and chef is present second, we have to choose he similar option.(In Tailor:Clothes and Farmer:Crop, Cloth and Crop should have been present first. So it is not the answer. )

Ornaments : Goldsmith is the answer.

**Question 40**

**A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?**





A



B



C



D
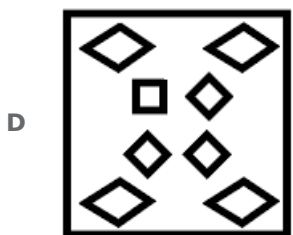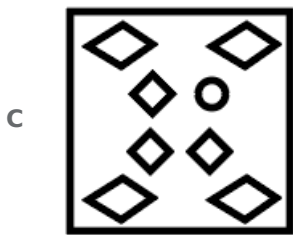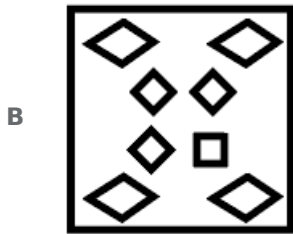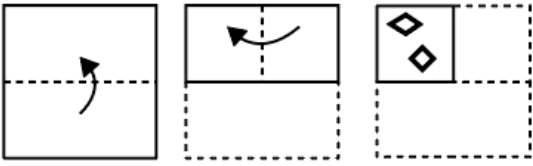
   **Answer:** A

**Instructions**

Select the number that can replace the question mark (?) in the following series.

**Question 41**

**63, 82, 102, 123, 145, ?**

**A**   159

**B**   168

**C**   167

**D**   178

   **Answer:** B

**Explanation:**
Pattern is

Difference of 63 and 82 = 19

82 and 102 = 20

102 and 123 = 21

123 and 145  = 22

145 and 168 = 23

therefore the answer is 168

**Question 42**

**16, 17, 23, 18, 19, 26, 20, 21, 29, 22, ?, ?**

**A**   32, 23

**B**   25, 36

**C**   36, 25

**D**   23, 32

   **Answer:** D

**Instructions**
For the following questions answer them individually

**Question 43**

**Select the option that is related to the third term in the same wayas the second term is related to the first term.**
**Brick : Wall :: Gold : ?**

**A**   Jewellery

**B**   Metal

**C**   Hard

**D**   Yellow

   **Answer:** A

**Explanation:**
Bricks are used to build wall.In the same way Gold is used to make Jewellery.So the answer is jewellery

**Question 44**

**In a certain code language, 'FRAUD' is written as '6181214', 'RING' is written as '189147'. What is the code for 'GLOBE' in that code language?**

**A**  7121525

**B**  7525121

**C**  7125125

**D**  7131525

   **Answer:** A

**Question 45**

**In a certain code language, 'LIP' is written as '40', 'GILT' is written as '51'. What is the code for 'ROPE' in that code language?**

**A**  54

**B**  51

**C**  57

**D**  56

   **Answer:** C

**Explanation:**
As per english alphabets,for LIP, L=12; I=9; P=16, to the sum of these values add 3.

i.e., 12+9+16 = 37

37 + 3 = 40.

for GILT, G = 7; I = 9; L = 12; T = 20

7+9+12+20 = 48

48 + 3 = 51

In the same way for ROPE, R = 18; O = 15; P=16; E=5.

18+15+16+5 = 54

54 + 3 = 57.

Therefore the answer is 57.

**Question 46**

**Aseries is given with one term missing. Select the correct alternative from the given ones that will complete the series.**
**ROD,XUJ, DAP, JGV, ?**

**A**   PMB

**B**   QNC

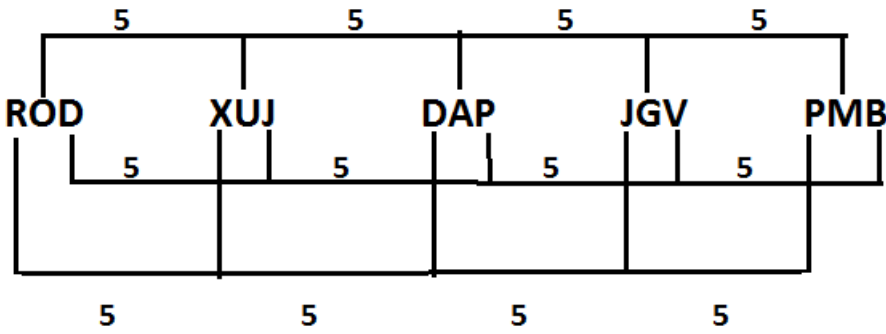**C**   QMB

**D**  PNB

**Answer:** A

**Explanation:**

The difference of each word's first letter  = 5
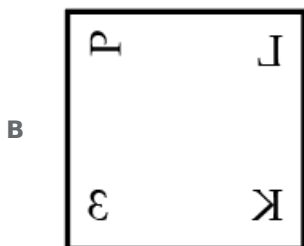
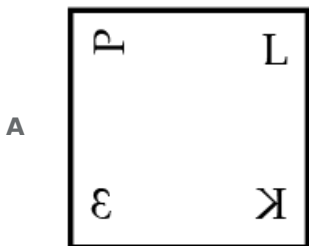The difference of each word's second letter  = 5

The difference of each word's third letter  = 5

Therefore the next word should be PMB.



**Question 47**

If a mirror is placed on the line AB, then which of the answer figures is the right image of the given figure?



**A**



**B**

C



D
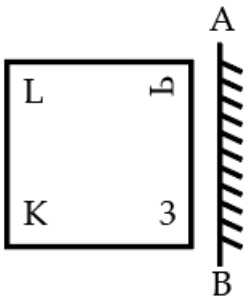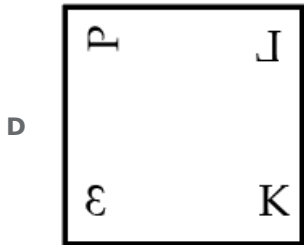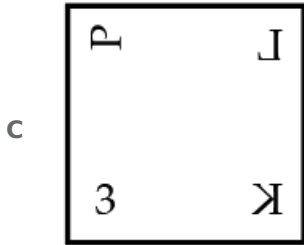
**Answer:** B

**Explanation:**

As AB is a mirror, mirror image must contain inverted elements.

Only in option B all the elements are inverted, so option B is the answer.



**Question 48**

**In the following question, select the figure which can be placed at the sign of question mark (?) from the given alternatives.**



A



B

**C**



**D**
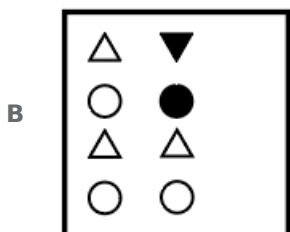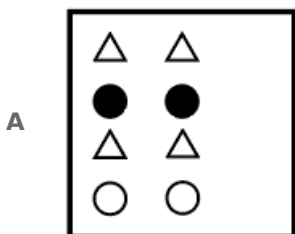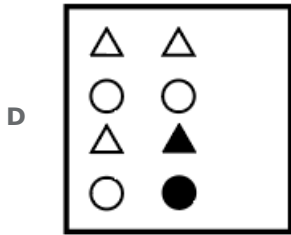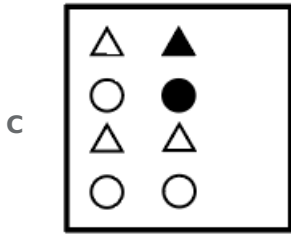
**Answer:** C

**Explanation:**

From the first figure it is known that the empty circle and triangle are inserted inside the square.

In second figure, filled circle and triangle are inserted over the empty circle and triangle.

In the third figure, another empty circle and triangle are inserted.

From the fifth diagram we can see that another empty empty circle and triangle must be inserted in the fourth figure.

Therefore option C is the answer.
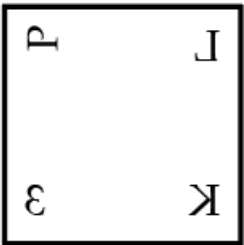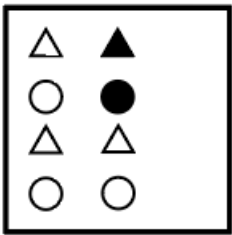


**Question 49**

**In a certain code language, 'RAPID' is written as 'LUJCX'. What is the code for 'STARE' in that code language?**

**A**   MNULY

**B**   NOULY

**C**   MMULY

**D**   NPULY

**Answer:** A

**Explanation:**

letters of the alphabet corresponding to the number ( A - 1, B -2 , C -3 , D -4 ............... X- 24, Y-25 , Z- 26)

```
18    1   16   9    4
R     A   P    I    D
|     |   |    |    |
↓     ↓   ↓    ↓    ↓
L     U   J    C    X
12    21  10   3    24
```

difference  between letters between (R ,L) is -6 similarly

difference between letters between (A, U) ,(P,J) , (I,C) and (D, X) is -6

 { if we get answer in negative integer add 26 to it to get the letter for example A= 1 - 6 = -5

-5+26 = 21 (U)}

following the pattern

```
19     20   1    18   5
S      T    A    R    E
|      |    |    |    |
↓      ↓    ↓    ↓    ↓
M      N    U    L    Y
13     14   21   12   25
```

**Question 50**

**Six doctors E, G, I, K, M and O are standing in a row facing towards north (Not necessarily in the same order). M is standing to the immediate right of E. K is standing second to the right of O. Two doctors are standing between I and M. K is towards the left of G. Who is standing to the immediate right of K?**

**A**   I

**B**   E

**C**   M

**D**   G

  **Answer:** B

**Explanation:**
using the statement

Two doctors are standing between I and M

**Case1**

| I | | | M |
|---|---|---|---|

**Case 2**

| M | | | I |
|---|---|---|---|

M is standing to the immediate right of E

**Case1**

| I | | E | M |
|---|---|---|---|

**Case 2**

| E | M | | | I |
|---|---|---|---|---|

now using

K is standing second to the right of O.

K is towards the left of G

case 2 is cancelled as it is not possible to fit k left to G as well as K standing second to right of O

so left with only case 1

**Case1**

| O | I | K | E | M | G |
|---|---|---|---|---|---|

E is standing to the immediate right of K

# Quant

**Instructions**
For the following questions answer them individually

**Question 51**

**26% of A = 832. What is the value of 31% of A?**

**A** 968

**B** 992

**C** 876

**D** 854

**Answer:** B

**Explanation:**
$\frac{26}{100} \times A = 832$ we get A= $832 \times \left(\frac{100}{26}\right)$ = 3200

now 31% of A = $\frac{31}{100} \times 3200 = 992$

alternatively,

it can be done using digital sum without out simplification

How to take out digital sum ? The digital sum of a number is the sum of the digits of the number till we get a single digit. For example let us take a number

567892, the digital sum of this number is 5+6+7+8+9+2 = 37 now 3+7 =10 again 1+0 =1 so the digital sum of 567892 is 1

In the given question

A= $832 \times \left(\frac{100}{26}\right)$

31% of A = $\frac{31}{100} \times 832 \times \frac{100}{26} = \frac{31}{26} \times 832$

calculating digital sum of 31 is 3+1 = 4 , 26 is 2+6 = 8 and 832 is 8+3+2 = 13 again adding the digits we get(1+3) = 4

using the digital sum of the numbers as shown below

31% of A = $\frac{31}{100} \times 832 \times \frac{100}{26} = \frac{31}{26} \times 832$ we get $\frac{4}{8} \times 4 = 2$

now to check for the answers we have to take out digital sum for all the options

option A 968 digital sum is 9+6+8 = 23 again 2+3 = 5 ( doesn't match the answer we got so incorrect)

option C 876 digital sum is 8+7+6 = 21 again 2+1 = 3 ( incorrect)

option D 854 digital sum is 8+5+4 = 17 again 1+7 = 8 (incorrect)

option B 992 digital sum is 9+9+2 = 20 again 2+ 0 =2 ( it matches the answer we got so it is correct)

This technique of digital sum might not always work for example when you have 2 or 3 options with same digital sum

**Question 52**

If $X : Y : Z = 1 : 2 : 3$ and, $X^2 + Y^2 + Z^2 = 224$, then what is the value of $X + Y + Z$?

**A**  24

**B**  48

**C**  36

**D**  32

  **Answer:** A

**Explanation:**
$X : Y : Z = 1 : 2 : 3$

let X = a, Y= 2a , Z= 3a

now $X^2 + Y^2 + Z^2 = 224 = (a)^2 + (2a)^2 + (3a)^2 = 224$

$a^2 + 4a^2 + 9a^2 = 224$

$14a^2 = 224$ , $a^2 = \frac{224}{14}$ , $a^2 = 16$

a=4

$X + Y + Z = a + 2a + 3a = 6a = 6 \times 4 = 24$

**Question 53**

The data given below shows the marks obtained by various students.

| Marks | Number of students |
|-------|-------------------|
| 10-12 | 6 |
| 12-14 | 8 |
| 14-16 | 5 |
| 16-18 | 7 |
| 18-20 | 4 |

**What is the mean marks (Correct up to two decimal places) of given data?**

**A**  13.33

**B**  14.67

**C**  13.67

**D**  15.33

  **Answer:** B

**Explanation:**
To find the mean of the class interval , mid point of class interval of marks is obtained as shown in the table

Then product of marks and no of students is obtained

| Marks(mid point) | No of students | Marks x No of students |
|------------------|----------------|------------------------|
| 11 | 6 | 66 |
| 13 | 8 | 104 |
| 15 | 5 | 75 |
| 17 | 7 | 119 |
| 19 | 4 | 76 |

Total number of students = 30

$\sum$(marks $\times no\,of\,students$) = 66+104+75+119+76 = 440

mean = $\frac{\sum(marks \times no.students)}{total students}$ = $\frac{440}{30}$

= 14.67

**Question 54**

**What is the value of** $(3 \times 4\,of\,12 \div 2) \div 9 \times 4 + 4 \div 8 + 3 \times 2?$

**A**  $\frac{37}{2}$

**B**  $\frac{77}{2}$

**C**  $\frac{89}{3}$

**D**  $\frac{94}{3}$

  **Answer:** B

**Explanation:**
using the BODMAS rule { priority brackets > of > division > multiplication > addition > subtraction}

solving the bracket first (1st priority brackets)

$(3 \times 4 \, of \, 12 \div 2)$ , now since 'of' is the priority hence it should be solved first

simplifying it we get

$(3 \times 4 \times 12 \div 2)$ (here 4 of 12 is $4 \times 12$ ) $= (3 \times 4 \times 6)$

substituting in original question we get

$(3 \times 4 \times 6) \div 9 \times 4 + 4 \div 8 + 3 \times 2$

simpliying it further we get

$\frac{(3 \times 4 \times 6)}{9} \times 4 + \frac{4}{8} + 3 \times 2$

$= 32 + \frac{1}{2} + 6 = \frac{77}{2}$

**Question 55**

**What is the average of 59, 63, 68. 77, 74 and 73, when each number is divided by 23?**

**A** $\frac{67}{23}$

**B** 46

**C** 3

**D** $\frac{63}{23}$

   **Answer:** C

**Explanation:**
let average of a, b ,c ,d ,e = x

then average of $\frac{a}{k}, \frac{b}{k}, \frac{c}{k}, \frac{d}{k}, \frac{e}{k} = \frac{x}{k}$

average of 59, 63, 68, 77, 74 and 73

$\frac{59 + 63 + 68 + 77 + 74 + 73}{6} = \frac{414}{6} = 69$

average of 59, 63, 68, 77, 74 and 73 when each number is divided by 23 $= \frac{69}{23} = 3$

**Question 56**

**Five technicians of a Studio A can do a work in 30 days. Eight technicians of a Studio B can do the same work in 15 days. In how many days can one technician of Studio A and one technician of Studio B, together do the same work ?**

**A** $\frac{220}{9}$

**B** $\frac{250}{9}$

**C** $\frac{190}{3}$

**D** $\frac{200}{3}$

   **Answer:** D

**Explanation:**
if x and y are no of days taken by A and B respectively then

work done by A and B $= \frac{1}{x} + \frac{1}{y}$

total time taken $= \frac{x+y}{xy}$

work done by 1 technician of studio A in 1 day $= \frac{1}{30 \times 5}$

work done by 1 technician of studio B in 1 day $= \frac{1}{15 \times 8}$

time taken to complete the work together $= \frac{1}{30 \times 5} + \frac{1}{15 \times 8} = \frac{200}{3}$


## Question 57

**The proportion of students in three classes is 3 : 4 : 5. If the number of students is increased by 20 in each class, then the proportion changes to 4 : 5 : 6. What is the initial number of students in the three classes taken together?**

**A**  240

**B**  300

**C**  280

**D**  320

   **Answer:** A

**Explanation:**
The proportion of students in three classes is 3 : 4 : 5.

let the number of students be 3x, 4x, 5x

now 20 students increased in each class

so 3x+20: 4x+20 : 5x+20 is 4:5:6

now $\frac{3x+20}{4x+20} = \frac{4}{5}$

we get 15x+100 = 16x +80

x= 20

initial number of students in 3 class taken together is 3x+4x+5x = 12x = $12 \times 20$= 240


alternatively

initial proportion of the three class is 3: 4: 5

final proportion of the three class is  4: 5: 6

observing the change of 1 unit from initial to final that is ( 4-3 =1 , 5-4= 1, 6-5 = 1) the change has come due to increase in number of students in each section which is equal to 20
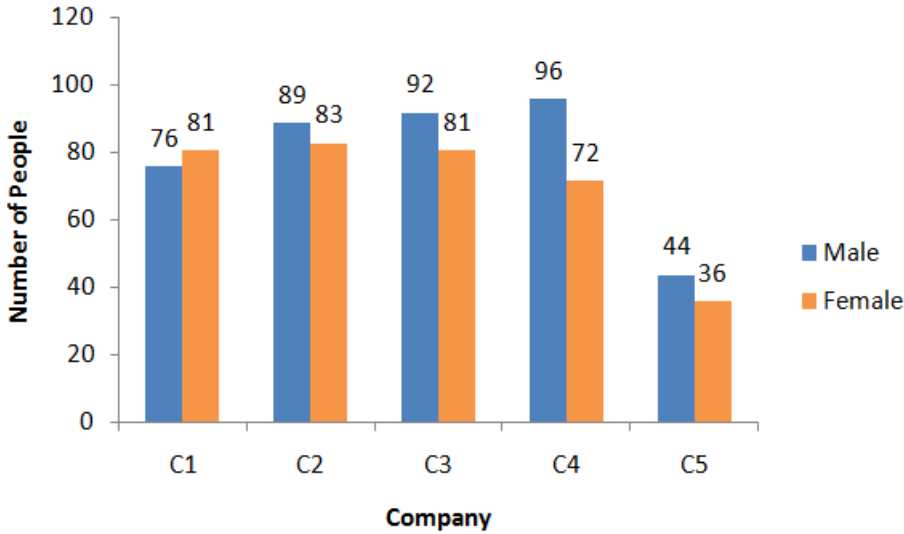
hence 1 unit = 20

now initial number of students taken from 3 class together = 3+4+5 = 12 units

we know 1 unit = 20

therefore 12 units = $12 \times 20 = 240$

## Question 58

**The Bar graph given below presents the number of males and females working in five different companies.**



**What is the ratio of the total number of males working in the Companies C2 and C3 to the total number of females working in C1 and C5?**

**A**   181 : 117

**B**   171 : 136

**C**   182 : 119

**D**   183 : 124

   **Answer:** A

**Explanation:**

From the given Bar graph ( *blue bar depicts number of males working in the respective company and orange bar depicts the number of females working in the respective company*)

we observe that

no of males working in company C2 = 89

no of males working in company C3= 92

total no of males working companies in C2 and C3 = 89 + 92 = 181

no of females working in company C1 = 81

no of females working in company C5= 36

total number of females working in C1 and C5 = 81 + 36 = 117

total number of males working in C2 and C3 : total number of females working in C1 and C5 = 181:117

## Question 59

**The cost price of an article 1 is six times of the profit earned by selling it at SP1. Cost price of article 2 is three times the loss incurred by selling it at SP2. If the cost prices of the articles are the same, then what is the ratio of SP1 and SP2?**

**A**   7 : 4

**B**   6 : 5

**C**  $7 : 5$

**D**  $4 : 3$

   **Answer:** A

**Explanation:**

In the question given Cost price of article 1 and Cost price of article 2 are same

let the cost price of both the article be CP

cost price of article1 is 6 times profit earned by selling article at SP1

that is CP = $6 \times profit$

we know the formula SP = CP + profit therefore profit = SP-CP

now profit = SP1- CP

CP = $6 \times (SP1 - CP)$

CP = 6SP1 - 6CP =  6SP1= 7CP

SP1= $\frac{7}{6}CP$

cost price of article2  is 3 times  loss occured by selling article at SP2

that is CP = $3 \times loss$

we know that SP = CP -loss  therefore loss = CP-SP

CP = $3 \times (CP - SP2)$

CP= 3CP - 3SP2 = 3SP2 = 2CP

SP2= $\frac{2}{3}CP$

$\frac{SP1}{SP2} = \frac{\frac{7}{6}CP}{\frac{2}{3}CP} = \frac{7}{4}$

hence SP1:SP2 is 7:4

**Question 60**

**If profit is 20% of the selling price, then profit is what percent of the cost price?**

**A**   25%

**B**   22.5%

**C**   20%

**D**   15%

   **Answer:** A

**Explanation:**

let the **SP(selling price)** of the item be Rs 100

profit is 20% of SP , so $\frac{20}{100} \times SP$ here SP=100

profit = $\frac{20}{100} \times 100$ = 20 therefore we get Rs 20 as profit

Now we know **SP = CP + Profit** , substituting the values of SP and Profit we get **CP(cost price)**

**CP = SP - profit**

CP = 100 - 20 = 80

profit as a percent of CP is $\frac{profit}{CP} \times 100$

$\frac{20}{80} \times 100$= 25%

**Question 61**

**If** $A = 8 \div 4 \times (3 - 1) + 6 \times 3 \div 2 \, of \, 3 \, and \, B = 4 \div 8 \times 2 + 7 \times 3$**, then what is the value of** $A + B$**?**

**A**  33

**B**  29

**C**  31

**D**  35

   **Answer:** B

**Explanation:**
Applying the BODMAS { priority brackets > of > division > multiplication > addition > subtraction }

To solve A , first solve the subtraction in the brackets i.e (3-1) = 2

simplifying A, we get

$A = 8 \div 4 \times 2 + 6 \times 3 \div 2 \, of \, 3 \; = \frac{8}{4} \times 2 + \frac{6 \times 3}{6}$ ( here 2 of 3 is $2 \times 3 = 6$)

A= 7

similarly applying BODMAS we solve for B

$B = 4 \div 8 \times 2 + 7 \times 3 = B = \frac{4}{8} \times 2 + 7 \times 3 = 22$

B = 22

A+B = 7+22 = 29

**Question 62**

**If ₹1000 is invested for two years at simple interest at the rate of 12.5% per annum, then what is the amount?**

**A**  ₹1250

**B**  ₹1275

**C**  ₹1125

**D**  ₹1325

   **Answer:** A

**Explanation:**
we know that Simple interest

SI = $\frac{P \times R \times T}{100}$   where P is the principle, R is rate of interest and T is time period

In the given question

P= 1000

T = 2 years

R = 12.5% per annum substituting the values

SI = $\frac{1000 \times 12.5 \times 2}{100}$ = 250

Amount = P + SI = 1000 + 250 = 1250

## Question 63

**What is the greatest number which when divides 460, 491 and 553, leave 26 as remainderin each case?**

**A**   33

**B**   27

**C**   35

**D**   31

  **Answer:** D

**Explanation:**
Subtract each number by 26

so we get

460 - 26 = 434

491 - 26 = 465

553 - 26 = 527

now taking HCF (434, 465 , 527) = 31 (  since 31 divides all the 3 numbers)

## Question 64

**Average of a and b is 36. Average of b and c is 42. Whatis the difference between c and a?**

**A**   12

**B**   16

**C**   14

**D**   18

  **Answer:** A

**Explanation:**
average of a and b is 36

$\frac{a+b}{2}$ = 36

a + b = 36 $\times$ 2 = 72 -------------------------------------------> equation 1

average of b and c is 42

$\frac{b+c}{2}$ = 42

b + c = 42 $\times$ 2 = 84-------------------------------------------> equation 2

subtracting equation 2 from equation 1

(b + c )$-$ (a + b) = c - a = 84 -72 = 12

c -a = 12

**Question 65**

The marked price ofan article is ₹2800. Theselling price of the article is ₹2408. What is the discount percentage?

**A** 24%

**B** 18%

**C** 14%

**D** 16%

   **Answer:** C

**Explanation:**

marked price (MP)= 2800

selling price (SP) = 2408

discount = MP - SP = 2800 - 2408 = 392

discount % = $\frac{discount}{MP} \times 100 = \frac{392}{2800} \times 100 = 14\%$

**Question 66**

A person goes from A to B with a speed of 30 km/h. He comesback from B to A with a speed of 20 km/h. What is his average speed forthe entire journey?

**A** 27.5 km/h

**B** 25 km/h

**C** 24 km/h

**D** 26.5 km/h

   **Answer:** C

**Explanation:**

let us take the distance between A and B as LCM(30, 20) which is 60 km

now speed of the person to travel A to B = 30 km/hr

Time taken to travel from A to B = $\frac{distance}{speed} = \frac{60}{30}$ = 2 hrs

now speed of the person to travel B to A = 20 km/hr

Time taken to travel from B to A = $\frac{distance}{speed} = \frac{60}{20}$ = 3 hrs

average speed of the entire journey = $\frac{totaldistance}{totaltimetaken}$

total distance = 60 + 60 =120      ( A to B and then from B to A)

total time = 5 hrs

average speed for the entire journey= $\frac{120}{5}$ = 24 km/hr

**Question 67**

What is the total surface area and the curved surface area of a solid hemisphere of radius 14 cm?

**A** $924 \ cm^2$ , $616 \ cm^2$

**B** $5544 \ cm^2$, $1848 \ cm^2$

**C** $1848 \ cm^2$, $1232 \ cm^2$

**D** $2772 \ cm^2$, $1848 \ cm^2$

  **Answer:** C

**Explanation:**
we know that

total surface area of a solid hemisphere $= 3\pi r^2$  ( radius r = 14 cm)

$= 3 \times \pi \times 14 \times 14 = 3 \times \frac{22}{7} \times 14 \times 14 = 1848 \ cm^2$

curved surface area of a solid hemisphere $= 2\pi r^2$ ( radius r = 14 cm)

$= 2 \times \pi \times 14 \times 14 = 2 \times \frac{22}{7} \times 14 \times 14 = 1232 \ cm^2$

**Question 68**

**A alone can do a work in 20 days. A and B together can do the same work in 15 days. B and C together can do the same work in $\frac{75}{2}$ days. What is the ratio of the efficiency of A, B and in terms of doing the work?**

**A** $5 : 3 : 1$

**B** $5 : 4 : 3$

**C** $15 : 5 : 3$

**D** $10 : 4 : 1$

  **Answer:** C

**Explanation:**
if x and y are no of days taken by A and B respectively then

work done by A and B $= \frac{1}{x} + \frac{1}{y}$

total time taken $= \frac{x+y}{xy}$

work done by A in 1 day $= \frac{1}{20}$

work done by A and B in 1 day $= \frac{1}{15}$

work done by B in 1 day $= \frac{1}{15} - \frac{1}{20} = \frac{1}{60}$

work done by B and C in 1 day $= \frac{2}{75}$

work done by C in 1 day $= \frac{2}{75} - \frac{1}{60} = \frac{1}{100}$
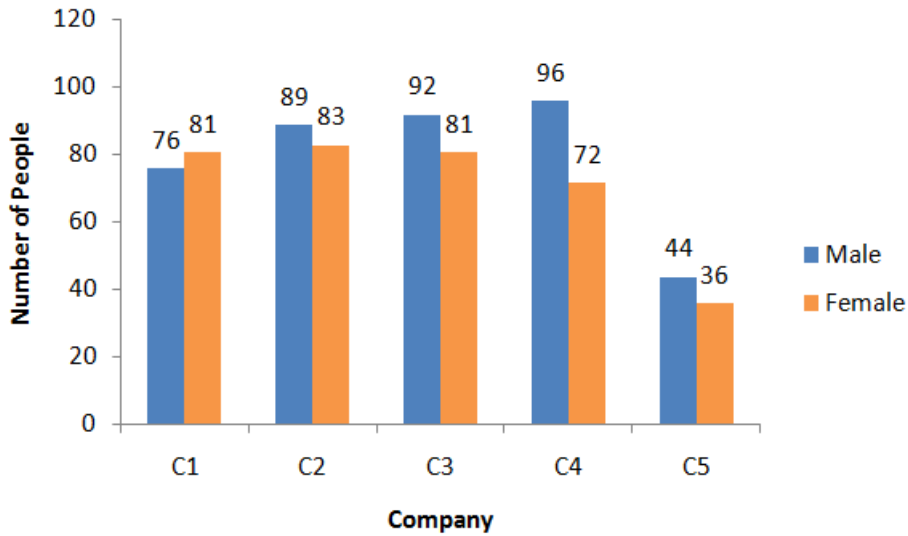
ratio of efficiencies A: B : C is ratio of work done by A:B:C

$\frac{1}{20} : \frac{1}{60} : \frac{1}{100}$

$15 : 5 : 3$

## Question 69

**The Bar graph given below presents the number of males and females working in five different companies.**



**The total number of males working in these five companies is how much percent (approximately) more than the total number of females working in these five companies?**

**A** 8.52%

**B** 9.67%

**C** 12.46%

**D** 14.67%

  **Answer:** C

**Explanation:**

total number of males working in companies C1+C2+C3+C4+C5 = 76+89+92+96+44= 397

total number of females working in companies C1+C2+C3+C4+C5 = 81+83+81+72+36 = 353

% of total no of males more than total number of females = $\frac{397-353}{353} \times 100$ = 12.46%


## Question 70

**The sum of two numbers is 77 and their ratio is 6 : 5. What is their difference?**

**A** 6

**B** 4

**C** 5

**D** 7

  **Answer:** D

**Explanation:**

let the numbers be 6x and 5x

sum of the numbers is 6x+5x = 11x

11x = 77 therefore x = 7

difference of the numbers is $6x - 5x = x = 7$

alternatively

ratio of two numbers given is 6:5

sum of the numbers is 6+5 = 11 units

now 11 units is 77

1 unit = 7

difference between the numbers is $6 - 5 = 1$ unit = 7

**Question 71**

**side of a hexagon is 4 cm. Side of a square is $4\sqrt{2}$ cm. What is the ratio of their areas?**

**A** $3\sqrt{3} : 2$

**B** $\frac{\sqrt{3}}{2} : 1$

**C** $3\sqrt{3} : 4$

**D** $2\sqrt{3} : 1$

 **Answer:** C

**Explanation:**

Area of hexagon $= 6 \times \frac{\sqrt{3}}{4} \times a^2$

Area of a square $= s^2$

area of hexagon : area of square

$6 \times \frac{\sqrt{3}}{4} \times 4^2 : 4\sqrt{2} \times 4\sqrt{2}$

$3\sqrt{3} : 4$

**Question 72**

**The radius of a right circular cylinder is 7 cm. Its height is twice its radius. What is the curved surface area of the**

**cylinder? (Take $\pi = \frac{22}{7}$ )**

**A** $896 \ cm^2$

**B** $476 \ cm^2$

**C** $616 \ cm^2$

**D** $1232 \ cm^2$

 **Answer:** C

**Explanation:**

radius r = 7cm

height h = 2r = 14cm

curved surface area of cylinder $= 2\pi rh = 2 \times \frac{22}{7} \times 7 \times 14 = 616 \ cm^2$

**Question 73**

A train crosses a stationary pole in 3 minutes. It crosses a 600 meter long platform in 5 minutes. What are the length and the speed of the train?

**A** 1200 m, 15 km/h

**B** 900 m, 15 km/h

**C** 3600 m, 18 km/h

**D** 900 m, 18 km/h

  **Answer:** D

**Explanation:**

let the length of the train be x meters

speed of the train = $\frac{trainlength}{timetaken} = \frac{x}{3}$

speed of the train when train crosses the platform = $\frac{trainlength+platformlength}{timetaken} = \frac{x+600}{5}$

equating both ($\because$ speed of the train is same)

$\frac{x}{3} = \frac{x+600}{5}$

5x = 3x + 1800

2x = 1800 , x = 900 meters

speed of the train = $\frac{x}{3}$ ( substituting value of x)

$\frac{900}{3\times60}$ = 5 m/s ($\because$ 1 minute = 60 seconds)

converting it into km/h

$5 \times \frac{18}{5}$ = 18 km/h

**Question 74**

If ₹ 12000 is invested for two years at compound interest (compounded annually) at the rate of 20% per annum,then what is the interest?

**A** ₹5640

**B** ₹4280

**C** ₹4800

**D** ₹5280

  **Answer:** D

**Explanation:**

principal p = 12000

rate of interest R= 20%

1st year interest = 20% of 12000 = 2400

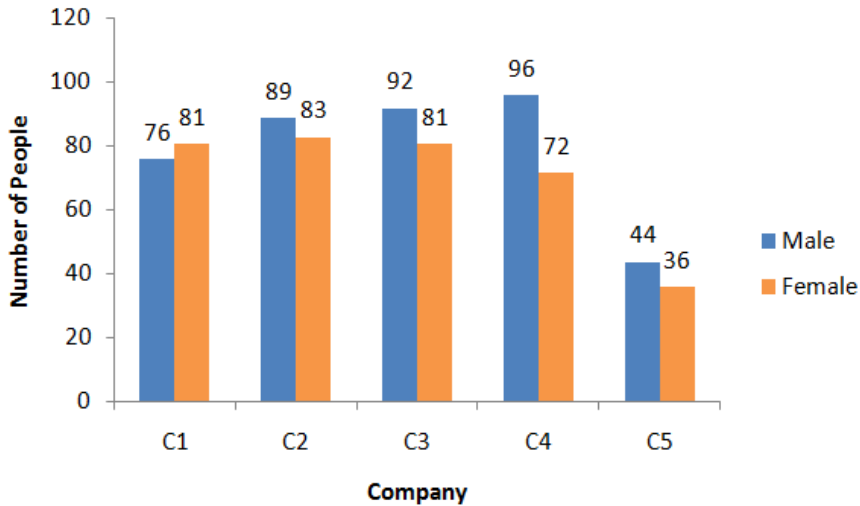2nd year interest = 20 % of 12000 + 20% of 2400 (20% on interest earned in 1st year)

 2400+480 = 2880

total interest after 2 years = 2400+2880 = 5280

**Question 75**

The Bar graph given below presents the number of males and females working in five different companies.



What is the average number of females working per company?

**A**  74.6

**B**  72.2

**C**  71.8

**D**  70.6

  **Answer:** D

**Explanation:**
From the bar graph

number of females working in the companies{C1=81, C2=83, C3=81, C4 = 72,C5= 36}

total number of females working in the companies = 81+83+81+72+36 = 353

average no of females working in the companies = $\frac{353}{5}$ = 70.6

# General knowledge

**Instructions**
For the following questions answer them individually

**Question 76**

Who of the following Indians has NOT been awarded with the Noble Prize?

**A**  Rabindranath Tagore

**B**  Kailash Satyarthi

**C**  Hargobind Khorana

**D**  Mahatma Gandhi

  **Answer:** D

**Question 77**

Nationalist Congress Party was formed in which year?

**A** 1992

**B** 1999

**C** 1980

**D** 1984

Answer: B

**Question 78**

Who is the Leader of the House in the Seventeenth Lok Sabha?

**A** Sushil Kumar Shinde

**B** Amit Shah

**C** Narendra Modi

**D** Rajnath Singh

Answer: C

**Question 79**

Our national anthem 'Jana Gana Mana' hasbeen adopted from which language?

**A** Marathi

**B** Assamese

**C** Hindi

**D** Bengali

Answer: D

**Question 80**

Mohenjo-daro lies on bank of which river?

**A** Ravi

**B** Indus

**C** Ghaggar

**D** Saraswati

Answer: B

**Question 81**

$15^{th}$ **Finance commission is headed by:**

**A**   Amitabh Kant

**B**   NK Singh

**C**   Y V Reddy

**D**   Urjit Patel

   **Answer:** B

**Question 82**

**Which among the following states has the longest coastline?**

**A**   Goa

**B**   Andhra Pradesh

**C**   Tamil Nadu

**D**   Maharashtra

   **Answer:** B

**Question 83**

**What is the symbol of gold?**

**A**   Hg

**B**   Ag

**C**   Au

**D**   Mg

   **Answer:** C

**Question 84**

**Who of the following personalities is known as 'Loknayak'?**

**A**   Rajiv Gandhi

**B**   Atal Bihari Vajpayee

**C**   A. P. J. Abdul Kalam

**D**   Jayaprakash Narayan

   **Answer:** D

**Question 85**

**In July 2019, which of the following cities inscribed on UNESCO's World Heritage List?**

**A**  Orchha

**B**  Hyderabad

**C**  Ahmedabad

**D**  Jaipur

   **Answer:** D

## Question 86

**Who among the following was the youngest personto receive a Nobel Prize?**

**A**  Marie Curie

**B**  William Lawrence Bragg

**C**  Kenneth Arrow

**D**  James Watson

   **Answer:** B

## Question 87

**Which among the following is NOT a metal?**

**A**  copper

**B**  selenium

**C**  iron

**D**  tin

   **Answer:** B

## Question 88

**World Aids Day is celebrated on:**

**A**  $8^{th}$ March

**B**  $1^{st}$ December

**C**  $5^{th}$ June

**D**  $1^{st}$ November

   **Answer:** B

## Question 89

**With reference to the Hindu Mythology, which ofthe following is NOT a part of ten incarnations of Lord Vishnu?**

**A**   Garuda

**B**   Varaha

**C**   Matsya

**D**   Kurma

   **Answer:** A

## Question 90

**The branch of medical science that deals with kidneys is known as:**

**A**   Nephrology

**B**   Opthalmology

**C**   Cardiology

**D**   Otorhinolaryngology

   **Answer:** A

## Question 91

**Which part of the Constitution deals with amendments of the Constitution?**

**A**   Part X

**B**   Part XV

**C**   Part VIII

**D**   Part XX

   **Answer:** D

## Question 92

**Five year plan was introducedin India in which year?**

**A**   1951

**B**   1947

**C**   1955

**D**   1958

   **Answer:** A

## Question 93

**Which of the following is NOT a scheduled languageof India?**

**A**   Manipuri

**B**   Sindhi

**C** Bodo

**D** Rajasthani

**Answer:** D

## Question 94

**Which of the following pairs is correct?**

**A** Keoladeo GhanaNational Park-Assam

**B** Gir National Park-Maharashtra

**C** Nandadevi National Park-Uttar Pradesh

**D** Great Himalyan National Park-Himachal Pradesh

**Answer:** D

## Question 95

**Dronacharya award is associated with ...........**

**A** Dance

**B** Sports

**C** Music

**D** Education

**Answer:** B

## Question 96

**Which organization publishes 'World Development Report'?**

**A** International Monetary Fund (IMF)

**B** United Nations Development Programme (UNDP)

**C** World Bank

**D** World Economic Forum

**Answer:** C

## Question 97

**Which of the following countries does NOT share border with India?**

**A** Myanmar

**B** Bangladesh

**C** Nepal

**D** Iran

**Answer:** D

## Question 98

**Which of the following text is referred as 'Vedanta'?**

**A**   Brahmanas

**B**   Upanishads

**C**   Aranyakas

**D**   Vedangas

  **Answer:** B

## Question 99

**Michael Phelps, the celebrated swimmer belongs to ..........**

**A**   Australia

**B**   Switzerland

**C**   America

**D**   Norway

  **Answer:** C

## Question 100

**Which awardis often referred to as the 'Nobel Prize of architecture'?**

**A**   Abel prize

**B**   Pritzker prize

**C**   Ramon Magsaysay

**D**   Jawaharlal Nehru prize

  **Answer:** B

## English

**Instructions**
For the following questions answer them individually

**Question 1** _____

**Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No Improvement.**
**Luckily we have got the few minutes to spare.**

**A**   No Improvement

**B**   a little

**C**   quite few

**D**   a few

   **Answer:** D

**Question 2**

**Select the most appropriate meaning of the given idiom.**
**To pick up the threads**

**A**   To examine an issue seriously

**B**   Being received very warmly

**C**   To restart from the previous closing point

**D**   At a short distance

   **Answer:** C

**Question 3**

**Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.**
**He has deposits all his money in banks. /No error**

**A**   No error

**B**   up all his

**C**   He has deposits

**D**   money in banks

   **Answer:** C

**Question 4**

**Select the most appropriate synonym of the given word.**
**Profuse**

**A**   Thrifty

**B**   Sparse

**C** Aplenty

**D** Scarce

Answer: C


## Question 5

Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
Her relatives were presented at the station to see her off. /No error

**A** to see her off

**B** Her relatives were

**C** presented at the station

**D** No error

Answer: C

## Question 6

Choose the correctly spelt word.

**A** Noticeable

**B** Noticable

**C** Nauticable

**D** Noteceable

Answer: A

## Question 7

Select the most appropriate option to fill in the blank.
Your answer book will be _____ by a computer.

**A** evaluated

**B** submitted

**C** replied

**D** tested

Answer: A


## Question 8

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No Improvement.
Friends stand by each other <u>on time</u> of need.

**A** for time

**B** in times

**C** No Improvement

**D** of times

   **Answer:** B

## Question 9

**Select the most appropriate option to fill in the blank.**
**He is addicted to alcohol and exerts a bad influence _____ his family.**

**A** for

**B** on

**C** about

**D** in

   **Answer:** B

## Instructions

Choose the most appropriate word that can substitute the given group of words.

## Question 10

**Killing of pests**

**A** Herbicide

**B** Suicide

**C** Pesticide

**D** Patricide

   **Answer:** C

## Question 11

**A group of ships**

**A** Fleet

**B** Bevy

**C** Suite

**D** Army

   **Answer:** A

## Instructions

For the following questions answer them individually

## Question 12

**Select the most appropriate antonym of the given word.**
**Relaxed**

**A**   Calm

**B**   Arrogant

**C**   Peaceful

**D**   Tense

   **Answer:** D

## Question 13

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No Improvement.
In his coming film the Spider-Man <u>will be seen</u> in European cities.

**A**   was seen

**B**   No Improvement

**C**   has seen

**D**   had been seen

   **Answer:** B

## Question 14

Select the most appropriate meaning of the given idiom.
sail in the same boat

**A**   pay a very low price for something

**B**   be in the same situation as others

**C**   be in heavy debt

**D**   go for a boat ride

   **Answer:** B

## Question 15

Choose the correctly spelt word.

**A**   Pasenger

**B**   Passinger

**C**   Passengger

**D**   Passenger

   **Answer:** D

## Question 16

Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
He went up to her and asks her why she had insulted him. /No error

**A**   He went up to her

**B**   No error

**C**   she had insulted him

**D**   and asks her why

**Answer:** D

## Question 17

**Select the most appropriate option to fill in the blank.**
**Raja _____ the house before Hari got there.**

**A**   left

**B**   had left

**C**   will leave

**D**   leaves

**Answer:** B

## Question 18

**Select the most appropriate synonym of the given word.**
**Rectify**

**A**   Raid

**B**   Bend

**C**   Folly

**D**   Amend

**Answer:** D

## Question 19

**Select the most appropriate option to fill in the blank.**
**The teacher was very _____ in his subject.**

**A**   top

**B**   master

**C**   proficient

**D**   best

**Answer:** C

**Question 20**

Select the most appropriate antonym of the given word.
Steep

**A** Flat

**B** Shallow

**C** Rough

**D** Narrow

   **Answer:** A

**Instructions**

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.
**Comprehension:**

The Thane Municipal Transport (TMT) has seen a 6% drop (1)____ passenger density after the Brihanmumbai Electric Supply and Transport (BEST) reduced (2)____ bus fares recently. The drop, though small is enough to set the (3)____ bells ringing. TMT plies nearly 300 buses and is already facing (4)____ in managing regular schedules. The ticket cost cut by BEST (5)____ TMT routes that overlap that of the BEST.

**Question 21**

Select the most appropriate option for blank No. 1.

**A** in

**B** of

**C** on

**D** from

   **Answer:** A

**Question 22**

Select the most appropriate option for blank No. 2.

**A** his

**B** its

**C** it's

**D** her

   **Answer:** B

**Question 23**

Select the most appropriate option for blank No. 3.

**A** clock-tower

**B** alarm

**C** church

**D** temple

   **Answer:** B

## Question 24

**Select the most appropriate option for blank No. 4.**

**A** difficulties

**B** consequences

**C** facilities

**D** differences

   **Answer:** A

## Question 25

**Select the most appropriate option for blank No. 5.**

**A** has impacting

**B** impacting

**C** impact

**D** has impacted

   **Answer:** D

# Reasoning

**Instructions**

For the following questions answer them individually

## Question 26

**By interchanging which two signs the equation will be correct?**
$6 + 9 \times 2 - 3 \div 4 = 8$

**A** $- \, and \, \div$

**B** $- \, and \, +$

**C** $+ \, and \, \div$

**D** $\div \, and \, \times$

   **Answer:** A

**Explanation:**

$6 + 9 \times 2 - 3 \div 4 = 8$

this results in a fraction so in order to get a whole number which is 8 it is important to place divide symbol such that a whole number is obtained

now if $- \, and \, \div$ is interchanged 9 gets divided by 3 thus resulting in a whole number

$6 + 9 \times 2 \div 3 - 4$ (using BODMAS rule)

$6 + \frac{9 \times 2}{3} - 4$

$= 6 + 6 - 4 = 8$

**Question 27**

**Select the option that is related to the third number in the same way as the second number is related to the first number.**
**16 : 9 :: 36 : ?**

**A**   17

**B**   19

**C**   23

**D**   11

   **Answer:** B

**Explanation:**
16 : 9 :: 36 : ?

16 + 2 = 18 and   $18 \div 2 = 9$

in the same way

36 + 2 = 38  and  $38 \div 2 = 19$

Hence 19 is the answer

**Question 28**

**In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.**
**Statements:**
**I. No T is L.**
**II. All L are K.**
**Conclusions:**
**I. Some K are L.**
**II. Some K are T.**
**III. No K is L.**

**A**   Both conclusion II and III follows

**B**   Neither conclusion follow

**C**   Only conclusion II follows

**D**   Only conclusion I follows

   **Answer:** D

**Explanation:**
basic diagram
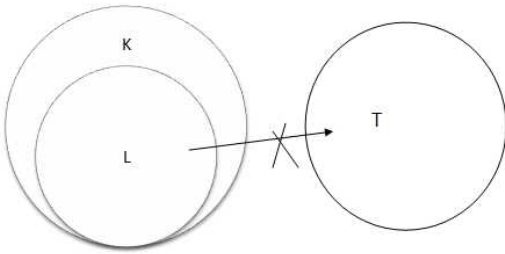
**Conclusions:**
I. Some K are L is correct
II. Some K are T is incorrect (as from the diagram some K's are not T and also an alternative diagram can be made with some K's are T's)
III. No K is L is incorrect

only conclusion I follows


**Question 29**

**Five boys J, K, L, M and T are standing in a queue one after the other (not necessarily in the same order). There is only one boy between K and J. There is only one boy between K and L. There are four boys behind J. T is three places ahead of L. How many boys are ahead of M ?**

**A**  3

**B**  0

**C**  2

**D**  1

  **Answer:** A

**Explanation:**
using the statement

There are four boys behind J

| J |
|---|
|   |
|   |
|   |
|   |

T is three places ahead of L

| J |
|---|
| T |
|   |
|   |
| L |
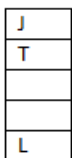
There is only one boy between K and J and There is only one boy between K and L

| J |
|---|
| T |
| K |
|   |
| L |
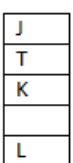
completing the queue

| |
|---|
| J |
| T |
| K |
| M |
| L |

There are 3 boys ahead of M

## Question 30

**By interchanging which two numbers, the value obtained after solving the given equation will be '13'?**
$7 + 8 \div 4 \times 3$

**A**  8 and 3

**B**  8 and 4

**C**  7 and 3

**D**  3 and 4

   **Answer:** A

**Explanation:**
going by the options

A) 8 and 3

$7 + 3 \div 4 \times 8 = 7 + \frac{8}{4} \times 3 = 7 + 6 = 13$ (Option A is correct )

B) 8 and 4

$7 + 4 \div 8 \times 3 = 7 + \frac{4}{8} \times 3 = 7 + \frac{3}{2} = \frac{17}{2}$   (option B is incorrect)

c) 7 and 3

$3 + 8 \div 4 \times 7 = 3 + \frac{8}{4} \times 7 = 3 + 14 = 17$ (option C is incorrect)

d) 3 and 4

$7 + 8 \div 3 \times 4 = 7 + \frac{8}{3} \times 4 = 7 + \frac{32}{3} = \frac{53}{3}$ (option D is incorrect)

## Question 31

**Six cameras G, H, P, S, K and I are placed in a row facing towards north (Not necessarily in the same order). S is placed second to the left of I. H is placed second to the right of G. K is placed third to the left of G. Which of the following statement is correct about camera I ?**

**A**  I is not the immediate neighbour of H

**B**  I is between G and S

**C**  P is third to left of I

**D**  I is to the immediate left of G

   **Answer:** C

**Explanation:**
using the statements

H is placed second to the right of G.
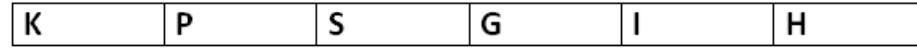
 K is placed third to the left of G.

| K | | | G | | H |
|---|---|---|---|---|---|
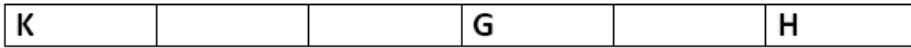
now

S is placed second to the left of I

| K | | S | G | I | H |
|---|---|---|---|---|---|
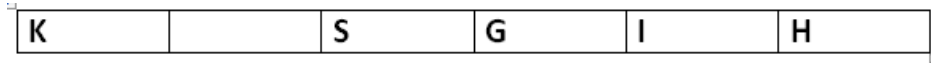
now only one place left so put P there

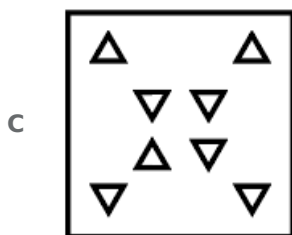| K | P | S | G | I | H |
|---|---|---|---|---|---|

options

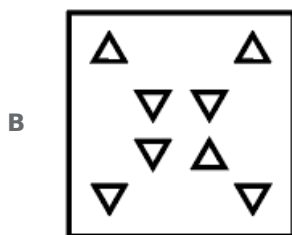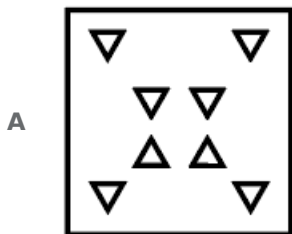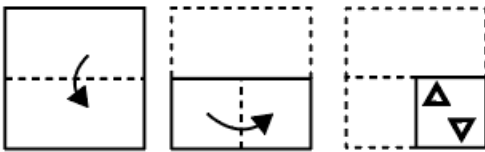I is not the immediate neighbor of H is incorrect
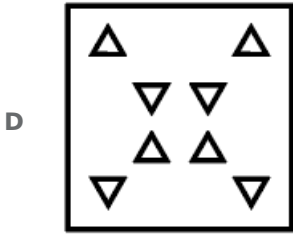
I is between G and S is incorrect

P is third to left of I is correct

I is to the immediate left of G is incorrect

**Question 32**

**A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?**



A



B



C

**D**

**Answer:** D

## Question 33

**In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.**

| 5 | 1 | 3 |
|---|---|---|
| 9 | 9 | 4 |
| 6 | ? | 7 |
| 29 | 22 | 18 |

**A** 5

**B** 3

**C** 6

**D** 4

**Answer:** B

**Explanation:**
consider the first column

here add $5 + 6 + 2 \times 9 = 29$

now consider the last column

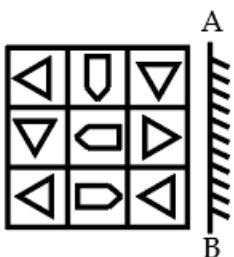here add $3 + 7 + 2 \times 8 = 18$

following the same pattern

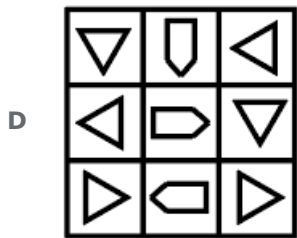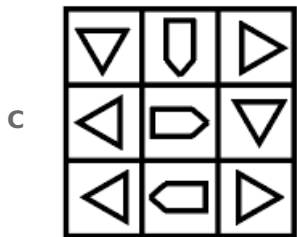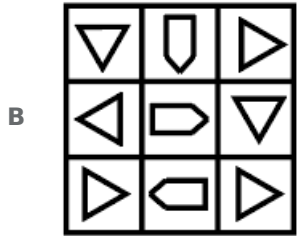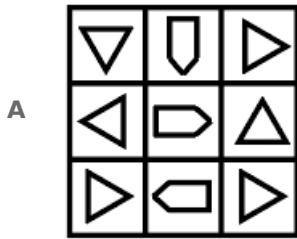we get $1 + x + 2 \times 9 = 22$

$x + 19 = 22$

$x = 3$

## Question 34

**If a mirror is placed on the line AB, then which of the answer figures is the right image of the given figure?**
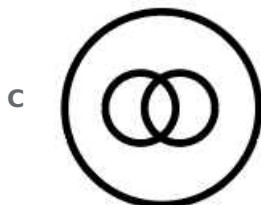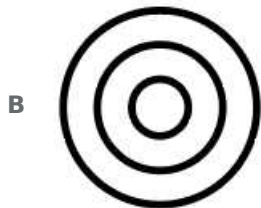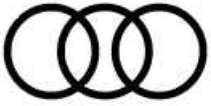
**A**

**B**

**C**

**D**

**Answer:** B

Question 35

Identify the diagram that best represents the relationship among the given classes.
Pentagon, Hexagon, Figure

**A**



**B**



**C**

**D**



Answer: A

## Question 36

In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.

**Statements:**
I. Some numbers are letters.
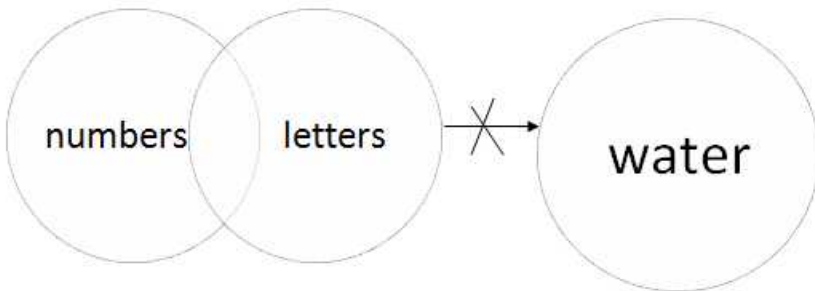II. No letter is water.
**Conclusions:**
I. Some water are numbers.
II. Some letters are number.
III. All letters are water.

**A** Both conclusion I and III follows

**B** Only conclusion I follows

**C** Only conclusion II follows

**D** Neither conclusion follow

Answer: C

**Explanation:**
basic diagram



conclusion 1 some water are number is incorrect

conclusion 2 some letters are numbers is correct

conclusion 3 all letters are water is incorrect

thus only conclusion 2 follows

## Question 37

In a certain code language, 'JAN' is written as '25', 'WED' is written as '32'. What is the code for 'SEP' in that code language?

**A** 38

**B** 39

C    40

D    41

Answer: C

**Explanation:**

In a certain code language, 'JAN' is written as '25', 'WED' is written as '32'. What is the code for 'SEP' in that code language?

Put numbers corresponding to the letters of alphabet ( A-1,B-2 , C-3 ................. X-24,Y-25,Z-26)

now J-10, A-1, N-14

adding 10+1+14 = 25

similarly W-23, E-5, D-4    adding 23+5+4 = 32

now

S-19, E-5, P-16

adding 19+5+16 = 40

## Question 38

**A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**
**LP, MR, ? , OV, PX**

A    MT

B    NU

C    MU

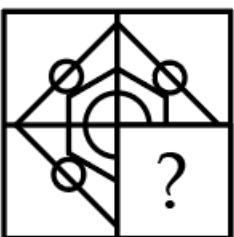D    NT

Answer: D

**Explanation:**

LP, MR, ? , OV, PX

difference between 1st letter of the series is 1, letters in the series is increasing by 1{ L,M ,N,O,P}
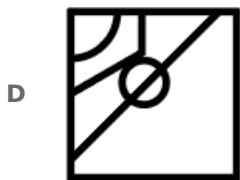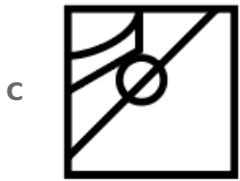
now difference between 2nd letter of the series is 2 {P,R,T,V,X}

therefore missing number is NT

## Question 39

**Study the given pattern carefully and select the figure that will complete the pattern given in the question figure.**

**A**



**B**



**C**



**D**
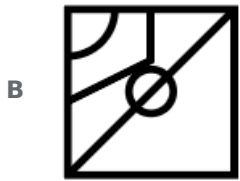
**Answer:** D

## Question 40

**In a certain code language, 'DRAUGH' is written as 'LKYEVH'. What is the code for 'MAHTOS' in that code language?**

**A**  WSXLFQ

**B**  XTYMER

**C**  WSXLEQ

**D**  XTYMFR

**Answer:** C

**Explanation:**
The letters of alphabet is written corresponding to the number{A-1,B-2,C-3,D-4,E-5,F-6 .......................... X-24,Y-25.Z-26}

'DRAUGH' is written as 'LKYEVH'

now add 4 to each numerical value of each letter

D(4) + 4 = 8 (H) { we know H is 8}

R(18) + 4 = 22(V)

A(1) + 4 = 5 (E)

U(21) +4 = 25 (Y)

G(7) + 4 = 11 (K)

H(8) + 4 = 12 (L)

we obtained "HVEYKL" now reverse this to get the answer "LKYEVH"

following the same pattern

MAHTOS

adding 4 to each letter

M(13) + 4 = 17(Q)

A(1) + 4 = 5(E)

H(8) + 4 = 12(L)

T(20) + 4 = 24(X)

O(15) + 4 = 19(S)

S(19) + 4 = 23(W)

we get "QELXSW" now reverse it we get

WSXLEQ

**Question 41**

**Select the option that is related to the third term in the same way as the second term is related to the first term.**
**Rainbow : Sky : : Tsunami : ?**

**A**  Pond

**B**  Sea

**C**  Land

**D**  Atmosphere

  **Answer:** B

**Explanation:**
rainbow occurs  in the sky in the same way  tsunami occurs in the sea

option b is correct

**Question 42**

**Select the number that can replace the question mark (?) in the following series.**
**12, 12, 24, 72, 288, ?**

**A**  1228

**B**  1440

**C**  1680

**D**  1448
  **Answer:** B

**Explanation:**
12, 12, 24, 72, 288, ?

$12 \times 1 = 12$

$12 \times 2 = 24$

$24 \times 3 = 72$

$72 \times 4 = 288$

$288 \times 5 = 1440$

**Question 43**

In a certain code language, 'MOTHER' is written as 'TOMREH'. What is the code for 'STORME' in that code language?

**A** OUSEMR

**B** EMROTS

**C** MROTES

**D** OTSEMR

Answer: D

**Explanation:**
'MOTHER'

divide it into 2 parts "MOT" and "HER"

now write each of the parts in Reverse order

"MOT" becomes "TOM"

"HER" becomes "REH"

combine the 2 parts we get "TOMREH"

following the above pattern

'STORME'

divide it into two parts "STO" and "RME"

now reverse each of the parts

we get "OTS" and "EMR"

combine them we get "OTSEMR"

**Question 44**

In the following question, select the figure which can be placed at the sign of question mark (?) from the given alternatives.

B



C



D
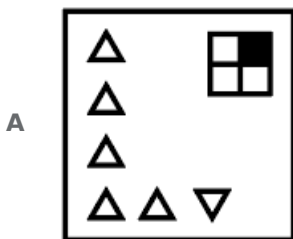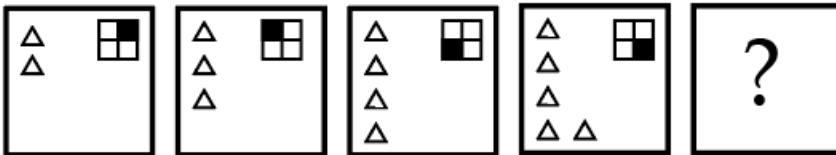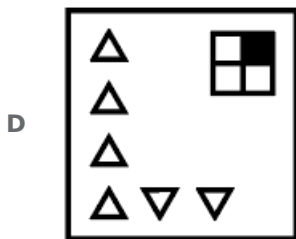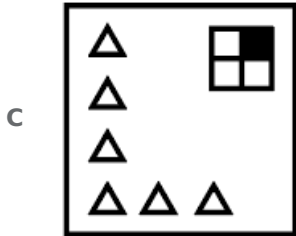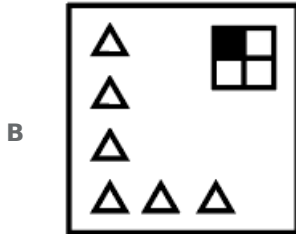
**Answer:** C

## Question 45

In a certain code language, 'ROCKS' is written as '82649', 'MENTR' is written as '01578'. What is the code for 'TROMN' in that code language?

**A**   78205

**B**   78203

**C**   76205

**D**   70581

**Answer:** A

**Explanation:**

R corresponds to 8 , O corresponds to 2 ,C corresponds to 6 , K corresponds to 4 , S corresponds to 9

similarly M-0, E -1, N-5, T-7, R-8

now

T-7

R-8

O-2

M-0

N-5

**Question 46**

From the given answer figures, select the one in which the question figure is hidden/embedded. (Rotation not allowed)



A



B



C



D
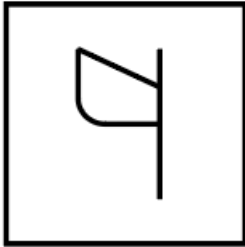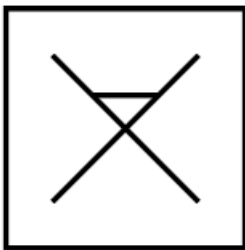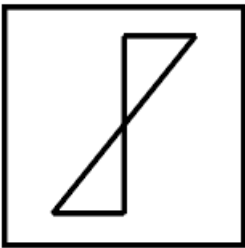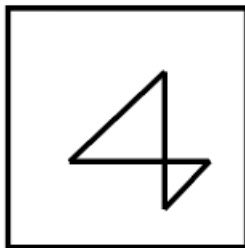


Answer: C

**Question 47**

Select the number that can replace the question mark (?) in the following series.
16, 49, 149, 450, 1354, ?

A    4067

B    4062

C    4066

D    4068

Answer: A

**Explanation:**

16, 49, 149, 450, 1354

16×3 + 1 = 48 + 1 = 49

49 × 3 +2 = 147 + 2 = 149

149 × 3 + 3 = 447 +3 = 450

450 × 3 + 4 = 1350 + 4 = 1354

1354 × 3 + 5 = 4062 + 5 = 4067

## Question 48

**In the following question, select the related letters from the given alternatives.**
**JRM : DLG :: TNL : ?**

**A** NHF

**B** NHE

**C** MHF

**D** MHE

   **Answer:** A

**Explanation:**

Each letter of the alphabet has corresponding number{ A-1, B-2, C-3,D-4,E-5 .......................... X-24,Y-25,Z-26}

JRM : DLG

Mapping J(10) to D(4) { difference between them is 6}

Mapping R(18) to L(12) { difference between them is 6}

Mapping M(13) to G(7) { difference between them is 6}

now following the same pattern as above we get

T (20) - 6 = 14 (N)

N(14) - 6 = 8 (H)

L (12) - 6 = 6(F)

hence

TNL: NHF

## Question 49

**Select the option that is related to the third term in the same way as the second term is related to the first term.**
**Hold : Tongs :: Dig : ?**

**A** pen

**B** Gutter

**C** spoon

**D** Hoe

   **Answer:** D

**Question 50**

Six players C, E, G, I, K and M are standing in a row facing towards north (Not necessarily in the same order). Two players are standing between C and M. I is standing to the immediate left of C. E is standing second to the left of G. K is third to the right of G. Who is standing second to the right of I?

**A**  E

**B**  M

**C**  K

**D**  C

   **Answer:** C

**Explanation:**
From the given statement, E is standing second to the left of G and K is standing third to the right of G, hence the only possibility that we will have is.

| | | | | |

E        G               K

Now I is standing immediate left of C so, I and C are immediate neighbours. Only one place is left which would be beside G. Also, the person left is M who will be placed beside E.

Hence the final arrangement is as follows.

| | | | | |

E   M   G   I   C   K.

Hence, K is standing second right of I.

# Quant

**Instructions**
For the following questions answer them individually

**Question 51**

If $X : Y = 13 : 12$ and $X - Y = 2$, then what is value of $2X + 3Y$ ?

**A**  144

**B**  120

**C**  124

**D**  136

   **Answer:** C

**Explanation:**
Given $\frac{X}{Y} = \frac{13}{12}$

X - Y = 2 OR X = Y+2

Putting the X value in the above equation we get,

$\frac{Y+2}{Y} = \frac{13}{12}$

12×Y +24= 13×Y

So,Y=24 and X=Y+2=26

So, 2X + 3Y =2×26+ 3×24

$\Rightarrow$ 52+72 = 124.

**Question 52**

The radii of a right circular cone and a right circular cylinder are in the ratio 2 : 3. If the ratio of the heights of the cone and the cylinder is 3 : 4, then what is the ratio of the volumes of the cone and the cylinder?

**A**  1 : 6

**B**  1 : 3

**C**  1 : 9

**D**  2 : 3

  **Answer:** C

**Explanation:**

Volume of right circular cylinder = $\frac{1}{3} \pi \times r_1^2 h_1$

Volume of right circular cone = $\pi \times r_2^2 h_2$

,where $r_1, h_1$ and $r_2, h_2$ is radius and height of cylinder and cone respectively.

The given ratio of radius of cone to cylinder = $\frac{2}{3}$

The given ratio of heights of cone to cylinder = $\frac{3}{4}$

Putting this in the formula we get the ratio of right circular cone to right circular cylinder = $\frac{(\frac{1}{3}\pi \times r_1^2 h_1)}{(\pi \times r_2^2 h_2)}$

$\Rightarrow \frac{(\frac{1}{3}\pi \times 2^2 3)}{(\pi \times 3^2 4)}$

After solving we get $\frac{4}{36}$

Hence,the ratio of area of right circular cone to right circular cylinder is = $\frac{1}{9}$

**Question 53**

Average age of 9 menis 45 years. If age of one woman is included, then the average age becomes 44 years. What is the age of the woman?

**A**  44 years

**B**  30 years

**C**  40 years

**D**  35 years

  **Answer:** D

**Explanation:**

Average formula = $\frac{Sum\,of\,the\,ages\,of\,the\,total\,number\,of\,person}{Total\,number\,of\,persons}$

Here, the total age of 9 men = 45 ×9 = 405 years.

When one women is included then the total number of person becomes 10 ,hence total age of all persons = 44 × 10

=440 years

So the age of women = 440-405 = 35 years.

**Question 54**

**P sold an article to Q at a profit of 20%. Q sold the same article to R at a loss of 25%. R sold the same article to T at a profit of 50%. If P bought the article at ₹100, then at what price did T buy that article?**

**A** ₹145

**B** ₹125

**C** ₹115

**D** ₹135

**Answer:** D

**Explanation:**
As given the CP for P =100.

Profit % = $\frac{SP-CP}{CP} \times 100$

Q bought the article from P at 20 % profit i.e. CP for Q =100+(20% of 100) =100+20=120

R bought the article from Q at loss of 25 % i.e. CP for R = 120-25% of 120 =120-30 = 90

Finally,T bought the same article at the profit of 50 % from R i.e. 90+50% of 90=90+45 = 135.

Hence option (D) will be correct.

**Question 55**

**What is the value of** $(6 \, of \, 4 \div 16 \times 48) \div 8 \times 4 + 2 \times 3 \div 6 + 5(6 - 2)?$

**A** 63

**B** 79

**C** 67

**D** 57

**Answer:** D

**Question 56**

**₹480 is invested at simple interest. It becomes ₹520 after 20 months. What is the interest rate per annum?**

**A** 6%

**B** 5%

**C** 8%

**D** 4%

**Answer:** B

**Explanation:**
SI = $\frac{PRT}{100}$ where, P is principle amount, R is rate of interest, T is time period.

According to the question, in 20 months interest is 520-480=40

So,from formula $40=480\times\dfrac{(20R)}{100}$

$\Rightarrow$ R=$\dfrac{5}{12}$,So for getting rate of interest per annum we have to divide the interest by 12.

Hence, rate of interest per annum = $\dfrac{5}{12}\times12$ = 5%

## Question 57

**The monthly incomes of A and B are ₹12000 and ₹15000 respectively. The monthly expenditure of A is ₹8000. If the ratio of the monthly expenditures of A and B is 2 : 3, then what is the sum of their monthly savings?**

**A**   ₹7000

**B**   ₹8000

**C**   ₹5000

**D**   ₹6000

  **Answer:** A

**Explanation:**
Total Income = Total Expenditure + Total Saving

As given the total income of A is 12000 and total expenditure is 8000,

So, Total saving of A = 12000-8000=4000.

Given Ratio of monthly expenditure of A and B = 2:3

therefore, from this we get monthly expenditure of B = $\dfrac{3}{2}\times8000$= 12000.

From question we know that monthly income of B is 15000.

So,Total savings of B = 15000-12000=3000.

Hence the total savings of A and B = 3000+4000=7000.

option (a) is correct.

## Question 58

**The area of a rhombusis 300 cm$^2$. If the length of one ofthe diagonals of the rhombusis 30 cm, then whatis the length (in cm) of the second diagonal?**

**A**   25

**B**   10

**C**   20

**D**   30

  **Answer:** C

**Explanation:**
The area of rhombus is given as Area=$\dfrac{D_1D_2}{2}$ ,

where $D_1$ and $D_2$ are the diagonals of the rhombus.

So, given area=300 and one of the diagonal let $D_1$=30

From the formula we get, $300 = \frac{30D_2}{2}$

$\Rightarrow D_2 = 20$.

Hence the length of the another diagonal is 20.

**Question 59**

If the height of an equilateral triangle is $20\sqrt{2}$ cm, then what is its area (in cm$^2$)?

A $\frac{800}{3}$

B $\frac{1}{3}400\sqrt{3}$

C $\frac{1}{3}800\sqrt{3}$

D $\frac{400}{3}$

**Answer:** C

**Question 60**

A number is first increased by 40% and then it is increased by 30%. What is the net percentage increase?

A 82%

B 96%

C 72%

D 70%

**Answer:** A

**Explanation:**

Let the number be 100

So when it is increased by 40 % then it becomes = 140.

Again it is increased by 30 % then it becomes = 30 % of 140 + 140 = 42 + 140 = 182

Hence, the net percentage change in the number is $\frac{182-100}{100}$ = 82 %.

**Question 61**

Ravika alone can complete three-fifth of a work in 105 days. Mallika can complete one-third of work in 50 days. In how many days Ravika and Mallika working together, can complete $\frac{26}{35}$ of the work?

A 63 days

B 70 days

C 60 days

D 80 days

**Answer:** C

**Explanation:**

Ravika can alone complete three-fifth of work in 105 days.

Time taken by Ravika to complete the work = $\frac{5}{3} \times 105 = 175$

Similarly, Time taken by Mallika to complete the work = $\frac{3}{1} \times 50 = 150$

Taking LCM of (175,150) we get 1050.

Hence the work capacity of Ravika = $\frac{1050}{175} = 6$

The work capacity of Mallika = $\frac{1050}{150} = 7$

The total work capacity of Ravika and Mallika = 7 + 6 = 13.

So the total time taken for completing $\frac{26}{35}$ of work = $\frac{35}{26} \times 13$ = 60 days.

**Question 62**

**The speed of a car is 36 km/h. How much time(in minutes) will a bus traveling at one-fifth of the speed of the car take to cover a distance of 900 m?**

**A**   7 min

**B**   7 .5 min

**C**   8 min

**D**   8.5 min

   **Answer:** B

**Explanation:**

The speed of the car = 36 km/hr= $36 \times \frac{5}{18}$

= $10 \frac{m}{s}$

From the question the bus is travelling at one-fifth of car speed i.e. $2 \frac{m}{s}$

Now,  from the formula Speed = $\frac{distance}{time}$

the time taken to reach 900m by bus = $\frac{900}{2}$ = 450 sec or 7 min 30 sec or 7.5 min.

**Question 63**

**What is the least number of four digits which is exactly divisible by 2, 4, 6 and 8?**

**A**   1016

**B**   1024

**C**   1008

**D**   1096

   **Answer:** C

**Explanation:**

For a number to be divisible 2,4,6,8 should be multiple of 2 and 3,as numbers 2,4,8 have common factor 2 and number 6 is a multiple of 2 and 3.

So, from the options given we get 1008 as a multiple of 2 and 3 both.

Hence option C is a correct choice

**Question 64**

**Average of 50 numbers was calculated as 20 when three numbers, 26, 36 and 64 were wrongly read as 31, 46 and 59 respectively. What is the correct average?**

**A** 26.2

**B** 19.8

**C** 20.2

**D** 24.4

  **Answer:** B

**Explanation:**

Average formula $= \frac{Sum\,of\,all\,observations}{Total\,number\,of\,all\,observations}$

As given the average of 50 numbers is 20 ,i.e. sum of total numbers is $20 \times 50 = 1000$.

Sum of wrongly taken numbers = 31+46+59=136

Sum of correct numbers = 26+36+64 = 126

Hence, the actual change in the observation will be 126-136=(-10)

Now the actual sum of all observations is 1000-10=990

New actual average will be now = $\frac{990}{50}$ = 19.8.

**Question 65**

**The Pie chart given below presents the percentages of the number of motor cycles of different colours out of the total number of motor cycles, parked in an area. The central angles shown in the Pie chart are not as per any chosen scale.**
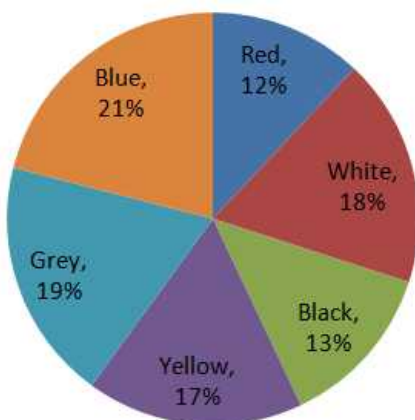


**What is the central angle (nearest to one degree) corresponding to the motor cycle of black colour?**

**A** 44

**B** 45

**C** 46

**D** 47

  **Answer:** D

**Question 66**

The data below shows the number of batsmen having different batting averages.

| Average | Number of batsmen |
|---------|-------------------|
| 40-44   | 12                |
| 44-48   | 10                |
| 48-52   | 8                 |
| 52-56   | 6                 |
| 56-60   | 4                 |

**What is the mean batting average per batsman?**

**A**   48

**B**   47

**C**   46

**D**   45

   Answer: A

**Question 67**

**Mohit is five times efficient as Rohit. If Mohit can complete a piece of work in 28 days less than Rohit, then in how many days can Rohit alone complete the same work?**

**A**   35 days

**B**   32 days

**C**   45 days

**D**   40 days

   Answer: A

**Explanation:**
Let the efficiency of Rohit and Mohit be x and 5x respectively.

So according to the question we have difference in the working days between Rohit and Mohit which is 28 which can be comparable to the efficiency of both the persons.

Hence, 5x -x = 28 ; x=7.

So, the number of days taken by Rohit will be 5x= $5 \times 7$ = 35 days.

**Question 68**

The Pie chart given below presents the percentages of the number of motor cycles of different colours out of the total number of motor cycles, parked in an area. The central angles shown in the Pie chart are not as per any chosen scale.
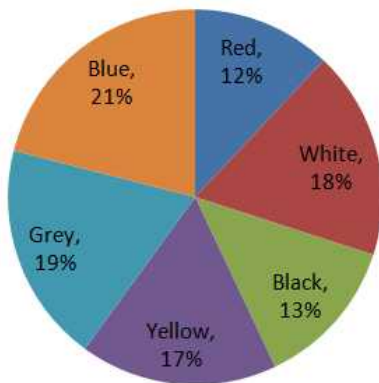


Tf the total number of motor cycles parked is 2300, then what is the number of red colour motor cycles out of them?

**A** 284

**B** 288

**C** 280

**D** 276

   Answer: D

**Question 69**

A sum of ₹2400 becomes ₹3600 in 6 years at a certain rate of compound interest (compounded annually). What will be the amount after 12 years at the same rate of interest?

**A** ₹6000

**B** ₹4800

**C** ₹5400

**D** ₹4500

   Answer: C

**Question 70**

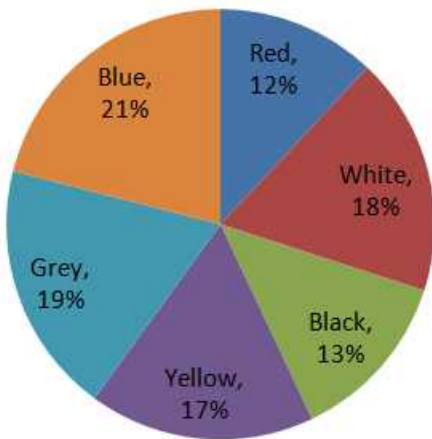The Pie chart given below presents the percentages of the number of motor cycles of different colours out of the total number of motor cycles, parked in an area. The central angles shown in the Pie chart are not as per any chosen scale.



If the total number of motor cycles parked is 2300, the number having white colour is how much less than those having the blue colour?

**A** 66

**B** 72

**C** 63

**D** 69

 **Answer:** D

**Question 71**

A train, 700 m long crosses a pole in 35 seconds. How much time does it take to cross a platform of length 740 m?

**A** 1 min 24 sec

**B** 1 min 30 sec

**C** 1 min 12 sec

**D** 1 min 20 sec

 **Answer:** C

**Explanation:**
Let the speed of the train be x $\frac{m}{s}$

From the formula we have, speed = $\frac{distance}{time}$

So, x = $\frac{700}{35}$ = 20 $\frac{m}{s}$

Time taken by the train to cross a platform of 740 m will be = $\frac{total distance}{total speed}$

$\Rightarrow \frac{(700+740)}{20}$ = 72 sec or 1 min 12 sec.

**Question 72**

If the selling price of an article is 25% of its cost price, then what will be the loss percentage?

**A** 25%

**B** 60%

**C** 75%

**D** 50%

  **Answer:** C

**Explanation:**

Let the CP of the article be 100.

According to the question, SP of the article is 25 % of CP of the article , i.e. SP= 25

Hence, Loss = $\frac{CP-SP}{CP}$ = 100-25 = 75

Loss % = 75 %.

**Question 73**

**A trader marked up his articles 25% more than the cost price. If he offered a discount of 10%, then what will be his profit percentage?**

**A** 10%

**B** 12.5%

**C** 25%

**D** 37.5%

  **Answer:** B

**Explanation:**

Let the CP of the article be 100.

According to the question, MP of the article is 25 % above CP of the article , i.e. MP= 125

After the Discount of 10 % on MP we get SP = 112.5

Hence, Profit = $\frac{SP-CP}{CP}$ = 112.5 - 100 = 12.5

Profit % = 12.5 %.

**Question 74**

**The ratio of the ages of two persons is 3 : 4. If the age of one of them is greater than the other by 8 years, then what is the sum of their ages?**

**A** 54 years

**B** 58 years

**C** 60 years

**D** 56 years

  **Answer:** D

**Explanation:**

Let the ages of both the persons to be x and y. Then,

$\frac{x}{y} = \frac{3}{4}$

$x = 3 \times \overset{y}{4}$,

x = y+8,

putting x value in the given equation we get x=24 and y=32.

Hence total ages of x and y = 24 +32= 56.

**Question 75**

**What is the value of** $\frac{3}{4} \div \left(\frac{1}{2} + \frac{1}{16}\right) + \frac{2}{3} of \frac{4}{9} \div \left(\frac{1}{3} - \frac{11}{81}\right) + \frac{1}{4} \times \frac{2}{3}$**?**

**A** 3

**B** 1

**C** 2

**D** 4

  **Answer:** A

**Explanation:**

$\frac{3}{4} \div \left(\frac{1}{2} + \frac{1}{16}\right) + \frac{2}{3} of \frac{4}{9} \div \left(\frac{1}{3} - \frac{11}{81}\right) + \frac{1}{4} \times \frac{2}{3}$

$\Rightarrow \frac{3}{4} \div \left(\frac{9}{16} + \frac{8}{27}\right) \div \left(\frac{16}{81} + \frac{1}{6}\right)$

$\Rightarrow \frac{3}{4} \times \frac{16}{9} + \frac{8}{27} \times \frac{81}{16} + \frac{1}{6}$

$\Rightarrow \frac{4}{3} + \frac{3}{2} + \frac{1}{6}$

$\Rightarrow 3.$

# General knowledge

**Instructions**

For the following questions answer them individually

**Question 76**

**'Dhansiri' is the tributary of which of the following river?**

**A** Ganga

**B** Narmada

**C** Brahmaputra

**D** Indus

  **Answer:** C

**Question 77**

**'Kajri' folk song is related to which of the following state?**

**A** Maharashtra

**B** Uttar Pradesh

**C** Himachal Pradesh

**D** Rajasthan

Answer: B

## Question 78

**'Rani ki vav' motif is present on which of the following currency notes?**

**A** 50 Rupee Note

**B** 200 Rupee Note

**C** 10 Rupee Note

**D** 100 Rupee Note

Answer: D

## Question 79

**Who has been appointed as the Managing Director and Chief Financial Officer of World Bank in July 2019?**

**A** P.S.Jaykumar

**B** Anshula Kant

**C** Ravneet Gill

**D** Amitabh Chaudhry

Answer: B

## Question 80

**Which of the following Articles is related to Jammu & Kashmir state of India?**

**A** Article 378

**B** Article 374

**C** Article 370

**D** Article 366

Answer: C

## Question 81

**According to the Census 2011,what is the literacy rate of India?**

**A** 0.7404

**B** 0.9401

**C** 0.644

**D** 0.8402

Answer: A

## Question 82

Which of the following ions are responsible for hardness of water?

**A** Sodium and Magnesium ions

**B** Calcium and Magnesium ions

**C** Potassium and Calcium ions

**D** Sodium and Calcium ions

Answer: B

## Question 83

When was the first amendment made to the Indian Constitution?

**A** 1954

**B** 1951

**C** 1953

**D** 1952

Answer: B

## Question 84

In which of the following state of India the only floating park in the world is situated?

**A** Meghalaya

**B** Manipur

**C** Tripura

**D** Assam

Answer: B

## Question 85

When did the Non-Cooperation Movement end?

**A** 1930

**B** 1925

**C** 1922

**D** 1920

**Answer:** C

## Question 86

**Which of the following is the traditional theatre of Jammu and Kashmir?**

**A**  Jatra

**B**  Swaang

**C**  Maach

**D**  Bhand Pather

**Answer:** D

## Question 87

**The concept of 'The Four Noble Truths' belongs to which of the following religions?**

**A**  Jainism

**B**  Sikhism

**C**  Hinduism

**D**  Buddhism

**Answer:** D

## Question 88

**Who among the following received Rajiv Gandhi Khel Ratna Award 2018 in weight lifting?**

**A**  Mirabai Chanu

**B**  Karnam Malleswari

**C**  Swati Singh

**D**  Sanjita Chanu

**Answer:** A

## Question 89

**Who among the following has the power to promulgate ordinance?**

**A**  Prime Minister

**B**  President

**C**  Chief Justice of Supreme Court

**D**  Defence Minister

**Answer:** B

**Question 90**

Who is the inventor of Dynamite?

**A** Alfred Nobel

**B** Marie Currie

**C** Robert Oppenheimer

**D** Otto Hahn

Answer: A

**Question 91**

'Equus caballus' is the scientific name of which of the following animals?

**A** Cheeta

**B** Horse

**C** Wild Ass

**D** Zebra

Answer: B

**Question 92**

As of June 2019, who is the CEO of Central Bank of India?

**A** P. V. Bharti

**B** Shyam Srinivasan

**C** Pallav Mohapatra

**D** T. N. Manoharan

Answer: C

**Question 93**

Which of the following award is given to a University for its all-round good performance in sports?

**A** Maulana Abul Kalam Azad Trophy

**B** Dhyanchand Award

**C** Arjuna Award

**D** Dronacharya Award

Answer: A

**Question 94**

Which of the following Vitamin is related to Osteoporosis?

**A**   Vitamin B

**B**   Vitamin A

**C**   Vitamin C

**D**   Vitamin D

   **Answer:** D

**Question 95**

**Who was the Mughal emperor during the 1857 revolt in India?**

**A**   Shah Alam II

**B**   Alamgir II

**C**   Bahadur Shah II

**D**   Akbar Shah II

   **Answer:** C

**Question 96**

**In which union territory of India, Bastille Day is celebrated?**

**A**   Lakshadweep

**B**   Daman & Diu

**C**   Dadra and Nagar Haveli

**D**   Puducherry

   **Answer:** D

**Question 97**

**Which of the following is a Communicable disease?**

**A**   Measles

**B**   Asthma

**C**   Diabetes

**D**   Alzheimer

   **Answer:** A

**Question 98**

**Who is the writer of the book 'Thoughts on Pakistan'?**

**A**   Muhammad Ali Jinnah

**B**   Dr. B.R. Ambedkar

**C**   Mahatma Gandhi

**D**   Rajendra Prasad

   **Answer:** B

## Question 99

**Dipa Karmakar is associated with which of the following sports?**

**A**   Golf

**B**   Gymnastics

**C**   Tennis

**D**   Badminton

   **Answer:** B

## Question 100

**Which of the following state of India is main producer of Chromite?**

**A**   Goa

**B**   Odisha

**C**   Haryana

**D**   Rajasthan

   **Answer:** B