# SSC CHSL 10 March 2018 Morning Shift

## Quant

**Instructions**

For the following questions answer them individually

**Question 1**

**Find the number that is as much greater than 49 as is less than 95.**

**A** 23

**B** 55

**C** 72

**D** 76

Answer: C

**Explanation:**

Number that is as much greater than 49 as is less than 95 is the average of both 49 and 95

=> Average = $\frac{(49+95)}{2}$

= $\frac{144}{2} = 72$

=> Ans - (C)

**Question 2**

**Tanzeem spent 1/5 of his salary on his friends, 1/10 of his salary on accommodation and 1/4 of his salary on savings. If he has Rs. 1800 left in his wallet, then Find his total expenditure on accommodation and savings.**

**A** Rs. 1,200

**B** Rs. 1,400

**C** Rs. 1,600

**D** Rs. 1,800

Answer: B

**Explanation:**

Let total salary = Rs. $20x$

Amount spent on friends = $\frac{1}{5} \times 20x = Rs.\, 4x$

Amount spent on accommodation = $\frac{1}{10} \times 20x = Rs.\, 2x$

Amount in savings = $\frac{1}{4} \times 20x = Rs.\,5x$

=> Amount left = $20x - (4x + 2x + 5x) = 1800$

=> $20x - 11x = 9x = 1800$

=> $x = \frac{1800}{9} = 200$

∴ Total expenditure on accommodation and savings = $2x + 5x = 7x$

= $7 \times 200 = Rs.\,1,400$

=> Ans - (B)

**Question 3**

**What is the value of $(2 - 2z + z^2)(2 + 2z - z^2)$, when $z + \frac{2}{z} = 2$ ?**

**A** 0

**B** 2

**C** 4

**D** 8

**Answer:** A

**Explanation:**

Given : $z + \frac{2}{z} = 2$

=> $\frac{z^2 + 2}{z} = 2$

=> $z^2 = 2z - 2$ ----------(i)

To find : $(2 - 2z + z^2)(2 + 2z - z^2)$

Substituting value from equation (i), we get :

= $[2 - 2z + (2z - 2)][2 + 2z - (2z - 2)]$

= $(0) \times (0) = 0$

=> Ans - (A)

**Question 4**

**Determine the value of 'Z'** $Z = \sqrt{20 + \sqrt{20 + \sqrt{20 + \sqrt{20 + .....}}}}$

**A** 4

**B** 5

**C** 20

D  25

    **Answer:** B

**Explanation:**

Expression : $Z = \sqrt{20 + \sqrt{20 + \sqrt{20 + \sqrt{20 + .....}}}}$

=> $Z = \sqrt{20 + Z}$

Squaring both sides, we get :

=> $Z^2 = 20 + Z$

=> $Z^2 - Z - 20 = 0$

=> $Z^2 + 4Z - 5Z - 20 = 0$

=> $Z(Z + 4) - 5(Z + 4) = 0$

=> $(Z + 4)(Z - 5) = 0$

=> $Z = -4, 5$

But $Z$ cannot be negative, => $Z = 5$

=> Ans - (B)

## Question 5

**The point at which the perpendicular bisectors of the sides of a triangle intersect is known as _____.**

A   circum-centre

B   orthocenter

C   centroid

D   in-center

    **Answer:** A

**Explanation:**
The point at which the perpendicular bisectors of the sides of a triangle intersect is known as *circum-centre.*

=> Ans - (A)

## Question 6

**The radius of the circle circumscribing the three vertices of an equilateral triangle is 12 cm. Determine the height (in cm) of the equilateral triangle.**
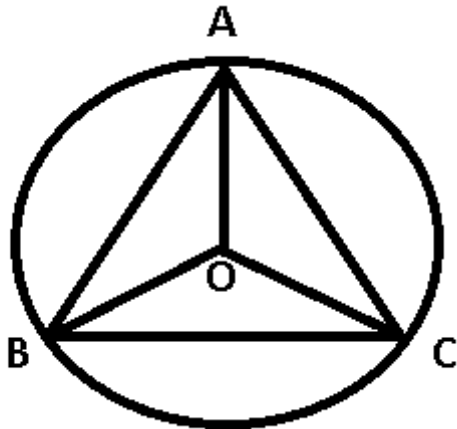
**A** 12

**B** 14

**C** 18

**D** 20

   **Answer:** C

**Explanation:**



Let the median = height of the triangle = $h$ cm

ABC is an equilateral triangle with circum-radius = 12 cm

Now, O is the circumcentre of the triangle and it divides the median in the ratio 2:1

=> $AO = \frac{2}{(2+1)} \times h$

=> $12 = \frac{2}{3} \times h$

=> $h = 12 \times \frac{3}{2}$

=> $h = 6 \times 3 = 18$ cm

=> Ans - (C)

**Question 7**

**If P = 350 and Q = 600, then P is how much percentage less than Q?**

**A** 41.66

**B** 58.33

**C** 71.42

**D** 35.33

   **Answer:** A

**Explanation:**

$P = 350$ and $Q = 600$

=> Required % = $\frac{(600-350)}{600} \times 100$

= $\frac{250}{6} = 41.66\%$

=> Ans - (A)

## Question 8

**The ratio of two numbers is 5 : 4. If the sum of both the numbers is 180, then what is the smaller number among both the numbers?**

**A** 100

**B** 80

**C** 60

**D** 75

**Answer:** B

**Explanation:**

Let the numbers be $5x$ and $4x$

Sum = $5x + 4x = 180$

=> $9x = 180$

=> $x = \frac{180}{9} = 20$

∴ Smaller number = $4 \times 20 = 80$

=> Ans - (B)

## Question 9

**P started a business by the investing Rs 35000 and Q joined him after one year with an amount of Rs. 21000. After two years from the starting of the business, they earned profit of Rs 26000. What will be the P's share (in Rs) in the profit?**

**A** 15000

**B** 18000

**C** 20000

**D** 16000

**Answer:** C

**Explanation:**

Amount invested by P = Rs. 35,000 for 2 years

Amount invested by Q = Rs. 21,000 for 1 year

=> Ratio of profit of P:Q = $(35000 \times 2) : (21000 \times 1)$

= $70 : 21 = 10 : 3$

Total profit = Rs. 26,000

=> P's share = $\frac{10}{(10+3)} \times 26,000$

= $10 \times 2,000 = Rs. 20,000$

=> Ans - (C)

## Question 10

**If 31x + 31y = 403, then what is the average of x and y?**

A   3.5

B   5

C   6.5

D   13

   **Answer:** C

**Explanation:**

Given : $31x + 31y = 403$

=> $31(x + y) = 403$

=> $(x + y) = \frac{403}{31} = 13$

Dividing both sides by 2, we get :

∴ Required average = $\frac{(x+y)}{2}$

= $\frac{13}{2} = 6.5$

=> Ans - (C)

## Question 11

**A sum of Rs 7500 is divided into two parts. The simple interest on first part at the rate of 12% per annum is equal to the simple interest on second part at the rate of 18%. What is the interest (in Rs) on each part for one year?**

A   600

**B**  360

**C**  480

**D**  540

    **Answer:** D

**Explanation:**

Let sum invested for 12% = Rs. $100x$ and sum invested for 18% = Rs. $(7500 - 100x)$

Time period = 1 year

=> Simple interest = $\frac{P \times R \times T}{100}$

According to ques,

=> $\frac{100x \times 12 \times 1}{100} = \frac{(7500 - 100x) \times 18 \times 1}{100}$

=> $12x = (75 - x) \times 18$

=> $12x = 1350 - 18x$

=> $12x + 18x = 30x = 1350$

=> $x = \frac{1350}{30} = 45$

$\therefore$ Interest for each part = $\frac{100 \times 45 \times 12 \times 1}{100}$

= Rs. 540

=> Ans - (D)

**Question 12**

**Selling price of a calculator is Rs 13924 and proit percentage is 18%. If selling price is Rs 10266, then what will be the loss percentage?**

**A**  17.2

**B**  13

**C**  14.9

**D**  11

    **Answer:** B

**Explanation:**

Selling price = Rs. 13,924

Profit % = 18%

=> Cost price = $\frac{13,924}{(100+18)} \times 100 = Rs. 11,800$

If selling price = Rs. 10,266

$\therefore$ Loss % = $\frac{(11,800 - 10,266)}{11,800} \times 100$

$= \frac{1534}{118} = 13\%$

=> Ans - (B)

## Question 13

**Rohit wants to earn 21% profit on a belt after offering 45% discount. By how much percentage more should he mark the price of his article above the cost price?**

**A** 75.45

**B** 120

**C** 66

**D** 102.5

Answer: B

**Explanation:**

Let marked price of article = Rs. $100x$

Discount % = 45%

=> Selling price = $100x - \left(\frac{45}{100} \times 100x\right) = Rs.\, 55x$

Profit % = 21%

=> Cost price = $\frac{55x}{100+21} \times 100 = Rs.\, \frac{500x}{11}$

$\therefore$ Required % = $\frac{100x - \frac{500x}{11}}{\frac{500x}{11}} \times 100$

$= \frac{1100-500}{5} = \frac{600}{5} = 120\%$

=> Ans - (B)

## Question 14

**What is the value of $\sqrt{513 - \sqrt{144} - \sqrt{81} - \sqrt{64}}$**

**A** 22

**B** 21

**C** 28

**D** 19

Answer: A

**Explanation:**

Expression : $\sqrt{513 - \sqrt{144} - \sqrt{81} - \sqrt{64}}$

= $\sqrt{513 - 12 - 9 - 8}$

= $\sqrt{484} = 22$

=> Ans - (A)

**Question 15**

**Two taps P and Q can fill a tank in 24 hours and 18 hours respectively. If the two taps are opened at 11 a.m., then at what time (in p.m.) should the tap P be closed to completely fill the tank at exactly 2 a.m.?**

**A**  5

**B**  2

**C**  3

**D**  4

**Answer:** C

**Explanation:**

Let the total capacity of the tank = L.C.M. (24,18) = 72 litres

Tap P fill it in 24 hours, => P's efficiency = $\frac{72}{24} = 3$ l/hr

Similarly, Q's efficiency = $\frac{72}{18} = 4$ l/hr

Both taps are opened at 11 a.m., let P be closed after $'t'$ hours

=> Q alone operated for = $(15 - t)$ hours

According to ques, => $(3 + 4)t + 4(15 - t) = 72$

=> $7t + 60 - 4t = 72$

=> $3t = 72 - 60 = 12$

=> $t = \frac{12}{3} = 4$

$\therefore$ Tap P should be closed after 4 hours = 11 a.m. + 4 hours = 3 p.m.

=> Ans - (C)

**Question 16**

**If Anuj walks at the speed of 4 km/hr, then he reaches his school 6 minutes late but if he walks at the speed of 5 km/hr, then he reaches 6 minutes before the scheduled time. What is the distance (in km) of his school from his house?**

**A**  4

**B**  3

**C**  6

**D** 3.5

**Answer:** A

**Explanation:**

Let distance between school and house = $d$ km and ideal time to reach school = $t$ hours

When he walks at a speed of 4 km/hr, he reaches school 6 minutes late, => using distance = speed $\times$ time

=> $d = 4 \times (t + \frac{6}{60})$ -------------(i)

Similarly, $d = 5 \times (t - \frac{6}{60})$ -------------(ii)

Comparing, equations (i) and (ii), we get :

=> $4(t + \frac{6}{60}) = 5(t - \frac{6}{60})$

=> $4t + \frac{2}{5} = 5t - \frac{1}{2}$

=> $5t - 4t = \frac{2}{5} + \frac{1}{2}$

=> $t = \frac{(4+5)}{10} = \frac{9}{10}$

Substituting it in equation (i), => $d = 4(\frac{9}{10} + \frac{6}{60})$

= $4(\frac{(54+6)}{60}) = \frac{60}{15} = 4$ km

=> Ans - (A)

**Instructions**

The line graph shows the number of students who passed with distinction in the given year from a certain university. Study the diagram and answer the following questions.

**Students who passed with distinction**
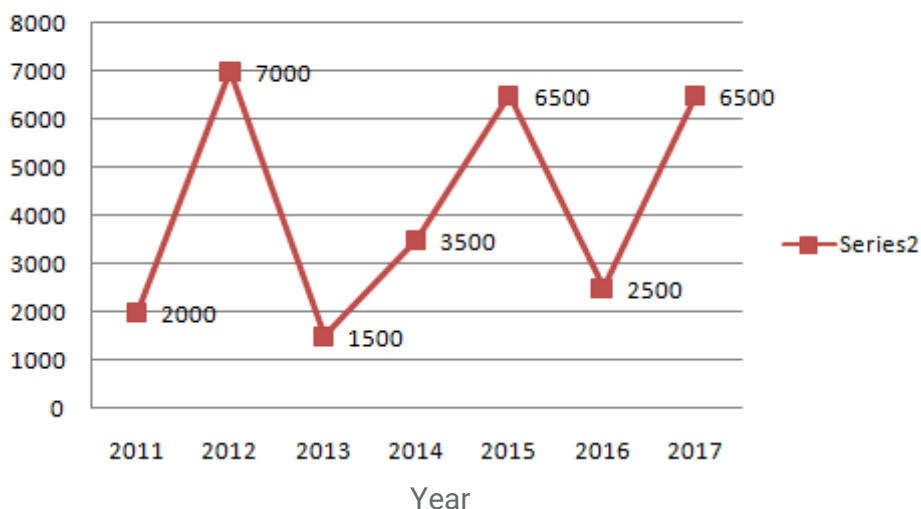


**Question 17**

**In which year were number of students who passed with distinction were lesser than those who passed in the previous year?**

**A** 2012

**B** 2014

**C** 2015

**D** 2013

    **Answer:** D

**Explanation:**

In **2013** and 2016, the number of students who passed with distinction were lesser than those who passed in the previous year.

=> Ans - (D)

**Question 18**

**What was the difference in the number of students who passed with distinction between the years 2017 and 2014?**

**A** 6000

**B** 5000

**C** 4000

**D** 3000

    **Answer:** D

**Explanation:**

Number of students who passed with distinction in 2017 = 6500

Number of students who passed with distinction in 2014 = 3500

=> Required difference = $6500 - 3500 = 3000$

=> Ans - (D)

**Question 19**

**Number of students who passed with distinction in 2012 were greater than that in 2011 by _____.**

**A** 350%

**B** 100%

**C** 200%

**D** 250%

    **Answer:** D

**Explanation:**

Number of students who passed with distinction in 2012 = 7000

Number of students who passed with distinction in 2011 = 2000

=> Required % = $\frac{(7000-2000)}{2000} \times 100$

= $\frac{5000}{20} = 250\%$

=> Ans - (D)

**Question 20**

**If students who pass with distinction are given a certificate, what is the number of certificates awarded in the last three years?**

**A** 16500

**B** 15500

**C** 14500

**D** 13500

**Answer:** B

**Explanation:**

Number of certificates awarded in the last three years = Number of students who passed with distinction in 2015, 2016 and 2017

= 6500 + 2500 + 6500 = 15500

=> Ans - (B)

**Instructions**

For the following questions answer them individually

**Question 21**

**The length and breadth of a rectangle are 24 cm and 7 cm respectively. What must be the length of its diagonal (in cm)?**

**A** 50

**B** 25

**C** 28

**D** 56

**Answer:** B

**Explanation:**

Length of rectangle, $l = 24$ cm and breadth, $b = 7$ cm

=> Diagonal, $d^2 = l^2 + b^2$

=> $d^2 = (24)^2 + (7)^2$

=> $d^2 = 576 + 49 = 625$

=> $d = \sqrt{625} = 25$ cm

=> Ans - (B)

**Question 22**

**Find the circumference (in cm) of a circle of radius 10.5 cm.**

**A**  84

**B**  35

**C**  70

**D**  66

   **Answer:** D

**Explanation:**

Radius of circle = $r = 10.5$ cm

=> Circumference = $2\pi r$

= $2 \times \frac{22}{7} \times 10.5$

= $44 \times 1.5 = 66$ cm

=> Ans - (D)

**Question 23**

**Find the total surface area (in cm²) of a right circular cylinder of diameter 42 cm and height 14 cm.**

**A**  4488

**B**  4250

**C**  4010

**D**  4620

   **Answer:** D

**Explanation:**

Height of cylinder, $h = 14$ cm and radius, $r = \frac{42}{2} = 21$ cm

Total surface area of cylinder = $2\pi r(r + h)$

= $2 \times \frac{22}{7} \times 21 \times (21 + 14)$

= $132 \times 35 = 4620 \ cm^2$

=> Ans - (D)

**Question 24**

**What is the value of (2-sin30°) ?**

A $\quad \frac{3}{2}$

B $\quad \frac{3}{\sqrt{2}}$

C $\quad 2 - \sqrt{3}$

D $\quad \frac{2\sqrt{3}-\sqrt{6}}{2\sqrt{2}}$

$\quad$ **Answer:** A

**Explanation:**
Expression : $2 - sin(30°)$

= $2 - \frac{1}{2}$

= $\frac{(4-1)}{2} = \frac{3}{2}$

=> Ans - (A)

**Question 25**

**ΔPQR is right angled at Q. If cosP = 5/13, then what is the value of cosecR ?**

A $\quad$ 13/5

B $\quad$ 5/12

C $\quad$ 5/13

D $\quad$ 13/12

$\quad$ **Answer:** A

**Explanation:**
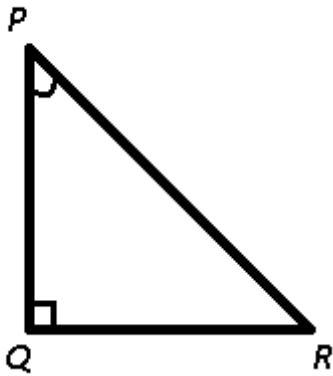
Given : $\cos P = \frac{5}{13}$

Also, $\cos P = \frac{PQ}{PR} = \frac{5}{13}$

Let PQ = 5 cm and PR = 13 cm

To find : $\operatorname{cosec} R = \frac{PR}{PQ}$

= $\frac{13}{5}$

=> Ans - (A)

# Reasoning

**Instructions**

For the following questions answer them individually

**Question 26**

**In the following question, select the related word pair from the given alternatives.**
**Truck : Vehicle : : ? : ?**

**A**  Car : Road

**B**  Road : Stones

**C**  Scooter : Tyre

**D**  Green : Colour

   **Answer:** D

**Explanation:**

Expression = Truck : Vehicle : : ? : ?

The first comes under the category of second, i.e. truck is a vehicle, similarly green is a type of colour.

=> Ans - (D)

**Question 27**

In the following question, select the related number from the given alternatives.
446 : 443 : : 552 : ?

A   445

B   549

C   543

D   551

Answer: B

**Explanation:**
Expression = 446 : 443 : : 552 : ?

The numbers are of the form = $x : (x - 3)$

Eg :- $446 - 3 = 443$

Similarly, $552 - 3 = 549$

=> Ans - (B)

**Question 28**

In the following question, select the related letter/letters from the given alternatives.
HER : SVI : : MET : ?

A   AVT

B   RKG

C   NVG

D   LVA

Answer: C

**Explanation:**
Expression = HER : SVI : : MET : ?

The pattern followed is that each letter is replaced by the letter at its position, when the alphabets are reversed, i.e. first is replaced by last, second by second last and so on.

ABCDEFGHIJKLMNOPQRSTUVWXYZ

ZYXWVUTSRQPONMLKJIHGFEDCBA

Eg :- H -> S , E -> V , R -> I

Similarly, M -> N
E -> V

T -> G

∴ MET : **NVG**

=> Ans - (C)

**Question 29**

**In the following question, select the odd word pair from the given alternatives.**

**A**  Patient - Doctor

**B**  Criminals - Police

**C**  Student - Teacher

**D**  Animal - Bird

   **Answer:** D

**Explanation:**
Among the given pairs, the second commands the first, i.e. a doctor treats his patients, police catches criminals and teacher teaches their students. But, bird and animal are different types of fauna, hence it is the odd one out.

=> Ans - (D)

**Question 30**

**In the following question, four number pairs are given. The number on left side of (-) is related to the number of the right side of (-) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives .**

**A**  10 - 14

**B**  14 - 18

**C**  12 - 16

**D**  16 - 24

   **Answer:** D

**Explanation:**
The difference between each of the pair of numbers is 4.

But in the last option => $24 - 16 = 8$

Thus, (16 - 24) is the odd one out.

=> Ans - (D)

**Question 31**

**In the following question, select the odd letter/letters from the given alternatives.**

**A** CDFI

**B** RSUX

**C** JKMP

**D** FGJM

   **Answer:** D

**Explanation:**

(A) : C (+1 letter) = D (+2 letters) = F (+3 letters) = I

(B) : R (+1 letter) = S (+2 letters) = U (+3 letters) = X

(C) : J (+1 letter) = K (+2 letters) = M (+3 letters) = P

(D) : F (+1 letter) = G (**+3** letters) = J (+3 letters) = M

=> Ans - (D)

**Question 32**

**Arrange the given words in the sequence in which they occur in the dictionary.**
**1. Jumbo Jet**
**2. Juggling**
**3. Justice**
**4. Jewel**
**5. Jealous**

**A** 54213

**B** 23415

**C** 12345

**D** 42315

   **Answer:** A

**Explanation:**

As per the order of dictionary :

= Jealous -> Jewel -> Juggling -> Jumbo Jet -> Justice

≡ 54213

=> Ans - (A)

**Question 33**

**In the following question, select the missing number from the given series.**
**5, 9, 13, 17, 21, ?**

**A** 32

**B** 26

**C** 25

**D** 29

   **Answer:** C

**Explanation:**
'4' is added to all the numbers.

5 + 4 = 9

9 + 4 = 13

13 + 4 = 17

17 + 4 = 21

21 + 4 = **25**

=> Ans - (C)

**Question 34**

**A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**

**XJ, WL, VN, UP, ?**

**A** TU

**B** TR

**C** ST

**D** SU

   **Answer:** B

**Explanation:**
Series : XJ, WL, VN, UP, ?

The pattern followed in each letter of the terms is :

1st letter : X (-1 letter) = W (-1 letter) = V (-1 letter) = U (-1 letter) = T

2nd letter : J (+2 letters) = L (+2 letters) = N (+2 letters) = P (+2 letters) = R

Thus, missing term = **TR**

=> Ans - (B)

## Question 35

**In a row of boys, Rahul's position from the right end is 39th and Pankaj's position from the left end is 53rd. After interchanging their position, Rahul's position becomes 64th from the right end. How many boys are there in the row?**

A  118

B  117

C  116

D  120

**Answer:** C

**Explanation:**

Pankaj's position from the left end = 53rd

After interchanging their position, Rahul's new position = 64th from right = Pankaj's old position

=> Total number of boys = $(53 + 64) - 1 = 116$

=> Ans - (C)

## Question 36

**From the given alternatives, select the word which CANNOT be formed using the letters of the given word. Ranking**

A  Ink

B  Rain

C  King

D  Acting

**Answer:** D

**Explanation:**
The word RANKING does not contain any 'C' or 'T', thus the term **Acting** cannot be formed.

=> Ans - (D)

**Question 37**

In a certain code language, "PRANK" is written as "RUESQ". How is "RATES" written in that code language?

**A** XDTYF

**B** ZFTDX

**C** FDXTZ

**D** TDXJY

    **Answer:** D

**Explanation:**

"PRANK" is written as "RUESQ"

The pattern followed is :

| P | R | A | N | K |
|------|------|------|------|------|
| (+2) | (+3) | (+4) | (+5) | (+6) |
| R | U | E | S | Q |

Similarly, for RATES :

| R | A | T | E | S |
|------|------|------|------|------|
| (+2) | (+3) | (+4) | (+5) | (+6) |
| T | D | X | J | Y |

=> Ans - (D)

**Question 38**

In a certain code language, '-' represents '+', '+' represents 'x', 'x' represents '÷' and '÷' represents '-'. Find out the answer to the following question.
10 + 20 x 10 ÷ 20 - 8 = ?

**A** 43

**B** 9

**C** 30

**D** 8

    **Answer:** D

**Explanation:**

Expression : 10 + 20 x 10 ÷ 20 - 8 = ?

$\equiv 10 \times 20 \div 10 - 20 + 8$

$= \frac{200}{10} - 12$

= $20 - 12 = 8$

=> Ans - (D)

## Question 39

**The following equation is incorrect. Which two signs should be interchanged to correct the equation?**
**16 ÷ 8 - 5 x 2 + 6 = 9**

**A** + and x

**B** + and ÷

**C** - and +

**D** ÷ and x

   **Answer:** A

**Explanation:**
Expression : 16 ÷ 8 - 5 x 2 + 6 = 9

(A) : + and x

$\equiv 16 \div 8 - 5 + 2 \times 6 = 9$

L.H.S. = $\left(\frac{16}{8}\right) - 5 + (2 \times 6)$

= $2 - 5 + 12 = 9 =$ R.H.S.

=> Ans - (A)

## Question 40

**If 4!4 = 4, 14!2 = 8 and 10!18 = 14, then find the value of 2!6 = ?**

**A** 4

**B** 8

**C** 18

**D** 12

   **Answer:** A

**Explanation:**
Given : 4!4 = 4, 14!2 = 8 and 10!18 = 14

If we replace '!' with '+', and divide the sum by 2, we get the desired result.

Eg :- $\frac{4+4}{2} = 4$

and $\frac{14+2}{2} = 8$ and $\frac{10+18}{2} = 14$

Similarly, $\frac{2+6}{2} = 4$

=> Ans - (A)

### Question 41

**Which of the following terms follows the trend of the given list?**
**BAAAAAA, AAAAAAB, ABAAAAA, AAAAABA, AABAAAA, _____.**

A   ABAAABA

B   AAAABAA

C   BAAAAAA

D   AAAAABA

Answer: B

**Explanation:**
Expression : BAAAAAA, AAAAAAB, ABAAAAA, AAAAABA, AABAAAA, _____.

The pattern followed is that in each term there are combinations of 6 A's and 1 B, and in the alternate terms, the position of B starting from each extremes is moved one place up.

Thus, in the missing term, the third last term will be 'B' = **AAAABAA**

=> Ans - (B)

### Question 42

**A river connects two towns A and B. It flows 37 miles South from town A, then it turns West and flows 23 miles, then it turns North and flows 40 miles, then it turns to its right and flows 23 miles to reach town B. Where is town A with respect to town B?**

A   3 miles South

B   13 miles South

C   3 miles North

D   13 miles North

Answer: A

**Question 43**

In the question two statements are given, followed by two conclusions, I and II.You have to consider the statements to be true even if it seems to be at variance from
commonly known facts. You have to decide which of the given conclusions, if any, follows fromthe given statements.
Statement I: All mobiles are phones
Statement II: All phones are devices
Conclusion I: Some phones are devices
Conclusion II: No devices are phones

A   Only conclusion I follows

B   Only conclusion II follows

C   Both conclusions I and II follow

D   Neither conclusion I nor conclusion II follows
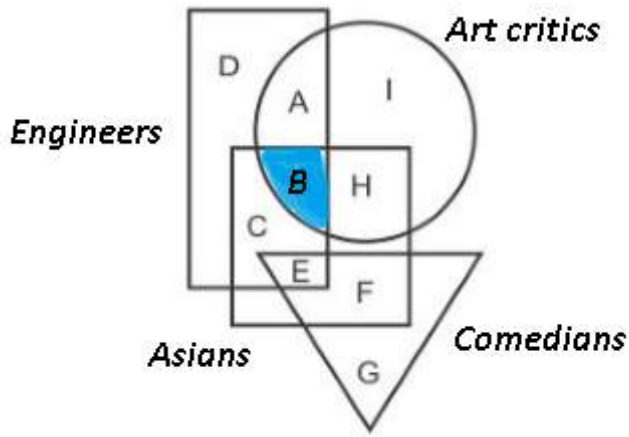
   **Answer:** A

**Question 44**

In the following figure, rectangle represents Engineers, circle represents Art critics, triangle represents Comedians and square represents Asians. Which set of letters represents Asians who are both Art critics as well as Engineers?
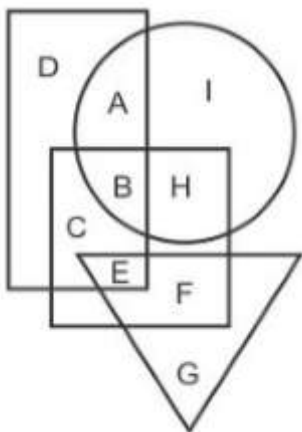


A   ECB

B   AB

C   B

D   BH

   **Answer:** C

**Explanation:**

Asians who are both Art critics as well as Engineers = B

=> Ans - (C)

## Question 45

**A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**
**PEN, MBK, JYH, GVE, ?**

**A**  ESB

**B**  DRC

**C**  DSB

**D**  ERC

**Answer:** C

**Explanation:**
Series : PEN, MBK, JYH, GVE, ?

The pattern followed in each letter of the terms is :

1st letter : P (-3 letters) = M (-3 letters) = J (-3 letters) = G (-3 letters) = D

2nd letter : E (-3 letters) = B (-3 letters) = Y (-3 letters) = V (-3 letters) = S

3rd letter : N (-3 letters) = K (-3 letters) = H (-3 letters) = E (-3 letters) = B

Thus, missing term = **DSB**

=> Ans - (C)

## Question 46

**In the following question, select the missing number from the given series.**
**101, 97, 93, 89, ?, 81**

**A** 85

**B** 84

**C** 83

**D** 86

    **Answer:** A

**Explanation:**
'4' is subtracted from all the numbers.

101 - 4 = 97

97 - 4 = 93

93 - 4 = 89

89 - 4 = **85**

85 - 4 = 81

=> Ans - (A)

**Question 47**

**In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.**

**A** (2, 22, 222)

**B** (3, 33, 333)

**C** (1, 11, 111)

**D** (4, 44, 4444)

    **Answer:** D

**Explanation:**
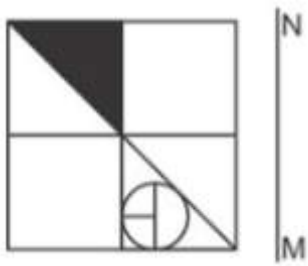The numbers are of the form : $(x, 11x, 111x)$

But in the last option, we have = $111 \times 4 = 444 \neq 4444$

Thus, (4, 44, 4444) is the odd one out.
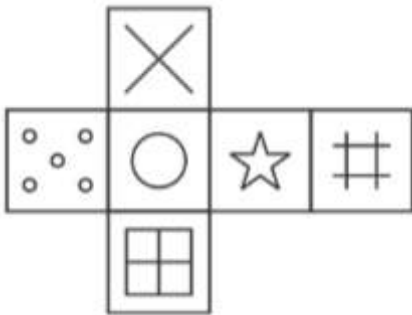
=> Ans - (D)

**Question 48**

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



A



B



C



D



**Answer:** B

## Question 49

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



A



B



C



D



**Answer:** B

## Question 50

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix·I are numbered from 0 to 4 and that of Matrix·II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example 'A' can be represented by 31, 23 etc and 'P' can be represented by 86, 97 etc. Similarly, you have to identify the set for the word 'KILT'.

| Matrix - I | | | | | |
|---|---|---|---|---|---|
|   | 0 | 1 | 2 | 3 | 4 |
| 0 | H | J | F | F | I |
| 1 | C | D | F | M | H |
| 2 | B | H | D | A | B |
| 3 | K | A | L | K | C |
| 4 | F | J | I | F | J |

| Matrix - II | | | | | |
|---|---|---|---|---|---|
|   | 5 | 6 | 7 | 8 | 9 |
| 5 | Z | V | Q | Y | X |
| 6 | Y | U | W | V | X |
| 7 | V | Z | T | V | T |
| 8 | Y | P | R | W | W |
| 9 | N | R | P | T | X |

**A** 33,86,33,78

**B** 14,58,22,56

**C** 30,42,32,77

**D** 21,79,42,97

    **Answer:** C

**Explanation:**

(A) : 33,86,33,78 = KPKV

(B) : 14,58,22,56 = HYDV

(C) : 30,42,32,77 = **KILT**

(D) : 21,79,42,97 = HTIP

=> Ans - (C)

# English

**Instructions**

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

**Question 51**

**Her behaviour (a)/ around him (b)/ was a little oddly. (c)/ No error (d)**

**A** Her behaviour

**B** around him

**C** was a little oddly

**D** No error

    **Answer:** C

**Question 52**

**The more energy we give to a particular thought (a)/, the greater is its power toattract its corresponding circumstance into (b)/ their physical world through the law of attraction.
(c)/ No error (d)**

**A** The more energy we give to a particular thought

**B** the greater is its power to attract its corresponding circumstance into

**C** their physical world through the law of attraction

**D** No error

    **Answer:** C

## Instructions

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

**Question 53**

**I am tired _____ this, Chandler.**

**A** with

**B** over

**C** of

**D** for

    **Answer:** C

**Question 54**

**The main use of friendship is that it _____ man to express his feelings and emotions.**

**A** enables

**B** capables

**C** stables

**D** ables

    **Answer:** A

## Instructions

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

**Question 55**

**Unruly**

A   Cooperative

B   Disobedient

C   Compliant

D   Yielding

    **Answer:** B

**Question 56**

**Ennui**

A   Continuation

B   Boredom

C   Anger

D   Strange

    **Answer:** B

**Instructions**

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

**Question 57**

**Temporal**

A   Material

B   Fleshly

C   Earthly

D   Spiritual

    **Answer:** D

**Question 58**

**Capacious**

A   Cramped

B   Broad

C   Comfortable

D   Generous

   **Answer:** A

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

**Question 59**

**Rearrange the parts of the sentence in correct order.**
**In order to tone up**
**P : it should be**
**Q : the physical education programme,**
**R : reoriented and implemented**

A   PQR

B   PRQ

C   RQP

D   QPR

   **Answer:** D

**Question 60**

**A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.**
**My sister will write an application.**

A   An application would be wrote by my sister.

B   An application will be wrote by my sister.

C   An application will be written by my sister.

D   An application would written by my sister.

   **Answer:** C

**Question 61**

A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/Direct Speech.
Rita said, "Alas! I am undone."

A   Rita said that she was undone.

B   Rita told me that she was undone.

C   Rita exclaimed sadly that she was undone.

D   Rita said that alas, she was undone.

   **Answer:** C

**Question 62**

In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.

A   Mellnia

B   Millennia

C   Milleinia

D   Meillenia

   **Answer:** B

**Instructions**

In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.
One who has witnessed a debate _____ argument between two men _____ strong intellectually, one of whom is a trained logician and the other lacking this advantage, will never forget the impression produced _____ him by the unequal struggle. The conflict is like that of a _____ wrestler, untrained in the little tricks and turns of the science, in the various principles of applying force in a certain way at a certain time, at a certain place, with a _____ and experienced wrestler.

**Question 63**

witnessed a debate _____ argument between

A   of

**B** or

**C** but

**D** so

Answer: B

## Question 64

**two men _____ strong intellectually,**

**A** equal

**B** equality

**C** equals

**D** equally

Answer: D

## Question 65

**impression produced _____ him by the unequal**

**A** up

**B** upon

**C** into

**D** in

Answer: B

## Question 66

**like that of a _____ wrestler, untrained**

**A** powerful

**B** power

**C** powerfully

**D** powering

**Answer:** A

**Question 67**

**certain place, with a _____ and experienced wrestler**

A   trained

B   train

C   training

D   trains

   **Answer:** A

**Instructions**

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

**Question 68**

**Be on the air**

A   Broadcast over the radio or on TV.

B   Float like a bird.

C   To pass bodily gases.

D   Be very arrogant.

   **Answer:** A

**Question 69**

**A diamond in the rough**

A   Someone or something with potential or talent but lacking training or polish

B   A person who dresses shabbily

C   A diamond will shine out even when it is not polished.

D   A person of character will shine through even in tough times.

   **Answer:** A

## Instructions

In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

## Question 70

**An opinion or conclusion formed on the basis of incomplete information**

**A** Proof

**B** Conjecture

**C** Clincher

**D** Averment

    **Answer:** B

## Question 71

**Protection or exemption from something, especially an obligation or penalty**

**A** Castigation

**B** Immunity

**C** Penance

**D** Ostracism

    **Answer:** B

## Instructions

In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

## Question 72

**I (has been) fortunate to travel with interesting co-passengers.**

**A** have been

**B** have being

**C** has being

**D** no improvement

**Answer:** A

## Question 73

**A bed sheet hung on the doorway sufficed till the doors (is finally installed).**

**A** was finally installed

**B** were finally installed

**C** were finally install

**D** no improvement

**Answer:** B

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

## Question 74

**The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.**

**Everyone around**
**A: stood as a misfit among them**
**B: me turned out to be**
**C: an early-riser and I**

**A** BAC

**B** ACB

**C** ABC

**D** CBA

**Answer:** A

## Question 75

**In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.**

**A** declination

**B** declenation

**C** declinasion

**D** declenasion

Answer: A

# General Awareness

**Instructions**

For the following questions answer them individually

**Question 76**

**The existence of a parallel economy (black money) _____.**

**A** makes economy more competitive

**B** makes the monetary policies less effective

**C** ensures a better distribution of income and wealth

**D** ensures increasing productive investment

Answer: B

**Question 77**

**'Garibi Hatao' (removal of poverty) and 'Growth with Justice' were the main objectives of _____.**

**A** Plan Holiday

**B** Fourth Five Year Plan

**C** Rolling Plan

**D** Fifth Five Year Plan

Answer: B

**Question 78**

**"Dhamek Stupa" is located at which of the following places?**

**A** Bodh Gaya

**B** Sarnath

**C** Sanchi

**D** Kaushambi

Answer: B

## Question 79

How long the Non-cooperation Movement was conducted?

**A** April 1920 to February 1922

**B** September 1920 to April 1922

**C** June 1920 to December 1922

**D** December 1920 to June 1922

Answer: B

## Question 80

The Equator does NOT pass through which of the following countries?

**A** Kenya

**B** Mexico

**C** Indonesia

**D** Brazil

Answer: B

## Question 81

The boundary of which of the following state/country does NOT touch with Arunachal Pradesh?

**A** Assam

**B** Nagaland

**C** Bhutan

**D** Manipur

**Answer:** D

## Question 82

**Achchhan Maharaj is associated with which of the following fields?**

**A**  Instrumental music

**B**  Dance

**C**  Painting

**D**  Writing

**Answer:** B

## Question 83

**In December 2017 Which country has signed an agreement with Sudan to build a nuclear power plant in the nation?**

**A**  China

**B**  Pakistan

**C**  Russia

**D**  India

**Answer:** C

## Question 84

**Which university has been ranked at the top in the Swachhta Ranking 2017 released by the Union Government?**

**A**  Banaras Hindu University

**B**  Hyderabad University

**C**  O.P. Jindal University

**D**  Madurai University

**Answer:** C

**Question 85**

The area of Nepal is approximately _____ square kilometres.

A   115187

B   128540

C   135789

D   147181

   **Answer:** D

**Question 86**

Which among the following has lowest electron affinity?

A   Fluorine

B   Chlorine

C   Bromine

D   Argon

   **Answer:** D

**Question 87**

Which of the following statement(s) about acids is/are CORRECT?
I. They change the color of red litmus to blue.
II. They change the color of blue litmus to red.
III. They have pH value less than 7.

A   Only I and III

B   Only II and III

C   Only I

D   Only II

   **Answer:** B

**Question 88**

Comptroller and Auditor General of India submits the audit reports to _____.

A   President of India

B   Prime Minister of India

C   Finance Minister of India

D   Home Minister of India

Answer: A

## Question 89

**Anti-defection law was passed in which Constitutional Amendment Act?**

A   41st Constitutional Amendment Act

B   46th Constitutional Amendment Act

C   48th Constitutional Amendment Act

D   52th Constitutional Amendment Act

Answer: D

## Question 90

**Why do the plant closes stomata when it does NOT need carbon dioxide for photosynthesis?**

A   To store carbon dioxide

B   To prevent water loss

C   To release stored oxygen

D   No option is correct.

Answer: B

## Question 91

**Alveoli are balloon like structures within the _____.**

A   lungs

B   kidney

**C**  liver

**D**  heart

**Answer:** A

## Question 92

The SAMPADA (Scheme for Agro-Marine Processing Development of Agro-processing Clusters) scheme has been renamed to 'PMKSY'. What does 'K' stand for in 'PMKSY'?

**A**  Kisan

**B**  Kritrim

**C**  Kaushal

**D**  Kalyaan

**Answer:** A

## Question 93

Which is the second country in the world after France to construct a photovoltaic highway?

**A**  China

**B**  Japan

**C**  Germany

**D**  Canada

**Answer:** A

## Question 94

As per a report released by RBI in August 2017, approximately how much percent of the demonetised currency returned to the central Bank?

**A**  99

**B**  90

**C**  85

**D** 80

**Answer:** A

## Question 95

On 19 September 2017, Law Ministry approved Fugitive Economic Offenders Bill, 2017. It will allow FIU, the premier technical snoop wing under the Finance Ministry, to file an application for declaration of fugitive economic offender. What does 'I' stand for in 'FIU'?

**A**   Intellectual

**B**   Intelligence

**C**   Instruction

**D**   Introduction

**Answer:** B

## Question 96

What is the power rating (in W) of a bulb if a current of 0.3 A passes through on application of 240 V of potential difference across its terminals?

**A**   800

**B**   36

**C**   400

**D**   72

**Answer:** D

## Question 97

In the equation of motion v = u + at, u represents _____.

**A**   initial velocity

**B**   final velocity

**C**   kinetic energy

**D**   potential energy

**Answer:** A

**Question 98**

A cyclone is known by different names in different parts of the world. It is called a '_____' in Japan and Philippines .

A   funnel

B   whirlpool

C   twister

D   typhoon

   **Answer:** D

**Question 99**

Which of the statements given below are correct?
A) Julio Granda won the 2017 World Senior Chess Championship.
B) Tan Zhongyi won the 2017 World Junior Chess Championship.
C) Russia hosted the Golf 2017 Players Championship.

A   Only A

B   Only C

C   Both B and C

D   None of these

   **Answer:** A

**Question 100**

To delete columns or rows we can use the delete option under the _____ in Microsoft Word.

A   Menu

B   Standard toolbar

C   Table Menu

D   Drawing toolbar

   **Answer:** C

# SSC CHSL 10 March 2018 Afternoon Shift

## Quant

**Instructions**

For the following questions answer them individually

**Question 1**

**Find the value of** $\sqrt{7\sqrt{7\sqrt{7\sqrt{7\sqrt{7\sqrt{7}}}}}}$

A  31/64

B  1/64

C  63/64

D  7/64

**Answer:** C

**Question 2**

**Find the value of x. if** $\sqrt{1 - \frac{x}{324}} = \frac{13}{18}$

A  155

B  157

C  159

D  161

**Answer:** A

**Explanation:**

Expression : $\sqrt{1 - \frac{x}{324}} = \frac{13}{18}$

=> $\sqrt{\frac{324-x}{324}} = \frac{13}{18}$

=> $\frac{324-x}{324} = \left(\frac{13}{18}\right)^2$

=> $\frac{324-x}{324} = \frac{169}{324}$

=> $324 - x = 169$

=> $x = 324 - 169 = 155$

=> Ans - (A)

**Question 3**

If $x - \frac{1}{x} = 10$ then find the value of $\frac{x^4+1}{x^2}$

A   98

B   100

C   102

D   106

   **Answer:** C

**Explanation:**
Given : $x - \frac{1}{x} = 10$

Squaring both sides, we get :

=> $(x - \frac{1}{x})^2 = (10)^2$

=> $x^2 + \frac{1}{x^2} - 2(x)(\frac{1}{x}) = 100$

=> $x^2 + \frac{1}{x^2} = 100 + 2$

=> $\frac{x^4+1}{x^2} = 102$

=> Ans - (C)

**Question 4**

If $7^{m+1} = 2401$, then find the value of $2^{2m+2}$

A   224

B   256

C   264

D   286

   **Answer:** B

**Explanation:**
Given : $7^{m+1} = 2401$

=> $7^{m+1} = 7^4$

=> $m + 1 = 4$

=> $m = 4 - 1 = 3$

$\therefore 2^{2m+2} = 2^{2\times3+2}$

= $2^8 = 256$

=> Ans - (B)

## Question 5

**If the triangle ABC and DEF follows the given equation, then these two triangles are similar by which of the following criterion ?**

$\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$

**A** SAS similarity

**B** SSS similarity

**C** AAA similarity

**D** None of the these

**Answer:** B

**Explanation:**
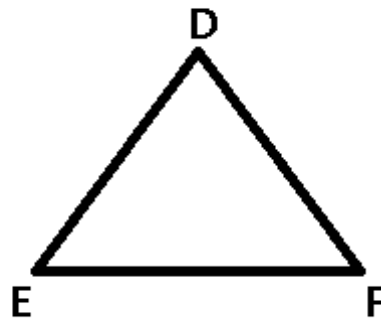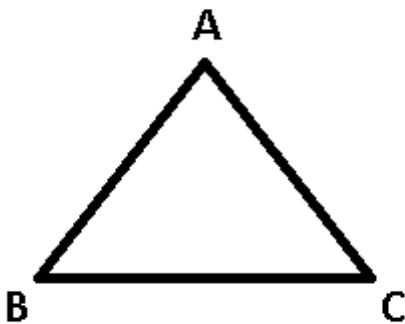


Given : $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$

=> AB = DE , BC = EF , AC = DF

Thus, all corresponding sides of the two triangles are equal.

∴ The two triangles are similar by SSS similarity.

=> Ans - (B)

## Question 6

**Which of the following is the CORRECT option for the triangles having sides in the ratio of 3:4:6?**

**A** Acute angled

**B** Obtuse angled

**C** Right angled

**D**   Either acute or right angled

**Answer:** B

**Explanation:**
Let the sides of $\triangle$ ABC be $a, b, c$, where the largest side $= 'c'$

If $c^2 = a^2 + b^2$, then the angle at $C$ is right angle.

If $c^2 < a^2 + b^2$, then the angle at $C$ is acute angle.

If $c^2 > a^2 + b^2$, then the angle at $C$ is obtuse angle.

Now, according to ques, => $6^2 = 36$

and $3^2 + 4^2 = 9 + 16 = 25$

$\therefore c^2 > a^2 + b^2$, hence it is an obtuse angled triangle.

=> Ans - (B)

**Question 7**

**If 35% of A is equal to 60% of B, then what is the ratio of A and B?**

**A**   8 : 13

**B**   12 : 7

**C**   2 : 3

**D**   13 : 7

**Answer:** B

**Explanation:**
Given : $35\%$ of $A = 60\%$ of $B$

=> $\frac{35}{100}A = \frac{60}{100}B$

=> $35A = 60B$

=> $\frac{A}{B} = \frac{60}{35} = \frac{12}{7}$

$\therefore$ Ratio of $A : B = 12 : 7$

=> Ans - (B)

**Question 8**

**A bag contain equal number of 1 rupee, 50 paisa and 25 paisa coins. If the total amount is Rs 105, then how many coins of each type are there?**

**A** 15

**B** 45

**C** 60

**D** 80

  **Answer:** C

**Explanation:**

Let $x$ type of each coin is in the bag.

Total amount = $(x \times 1) + (x \times 0.5) + (x \times 0.25) = 105$

=> $x + 0.5x + 0.25x = 1.75x = 105$

=> $x = \frac{105}{1.75} = 60$

$\therefore$ There are **60** coins of each type.

=> Ans - (C)

**Question 9**

**The alcohol and water in a mixture are in the ratio of 7 : 8 respectively. If 11 litre water is added to it, then the ratio of alcohol and water in the new mixture becomes 3 : 5 What is the total quantity (in litres) of the alcohol in the new mixture?**

**A** 21

**B** 24

**C** 35

**D** 32

  **Answer:** A

**Explanation:**

Let initial quantity of alcohol and water in the mixture be $7x$ and $8x$ litres respectively.

According to ques,

=> $\frac{7x}{8x+11} = \frac{3}{5}$

=> $35x = 24x + 33$

=> $35x - 24x = 33$

=> $x = \frac{33}{11} = 3$

$\therefore$ Quantity of alcohol in final mixture = Quantity of alcohol in initial mixture = $7 \times 3 = 21$ litres

=> Ans - (A)

## Question 10

In a committee there are 15 members. If two members whose ages are 45 years and 55 years are replaced by the two new members, then average age of 15 members is increased by 2 years. What is the average age (in years) of the new members?

A   59

B   61

C   65

D   68

Answer: C

**Explanation:**

Let average age of 15 members = $x$ years

=> Total age of 15 members = $15x$

Let sum of ages of 2 new members = $2z$, thus average age = $z =?$

According to ques,

=> $\frac{15x-45-55+2z}{15} = x + 2$

=> $15x - 100 + 2z = 25x + 30$

=> $2z = 100 + 30 = 130$

=> $z = \frac{130}{2} = 65$

$\therefore$ Average age of the new members = **65**

=> Ans - (C)

## Question 11

Simple interest on a sum of Rs 1400 for 3 years and 4 months is Rs 700. What is the rate (in percentage) of interest per annum?

A   17

B   15

C   18

D   12

Answer: B

**Explanation:**

Principal amount = Rs. 1400 and interest = Rs. 700

Let rate of interest = $r\%$ and time period = $3\frac{4}{12} = 3\frac{1}{3} = \frac{10}{3}$ years

=> Simple interest = $\frac{P \times R \times T}{100}$

=> $\frac{1400 \times r \times 10}{3 \times 100} = 700$

=> $\frac{140r}{3} = 700$

=> $r = \frac{700 \times 3}{140}$

=> $r = 5 \times 3 = 15\%$

=> Ans - (B)

**Question 12**

**The difference between cost price and selling price is Rs 12.54. If loss percentage is 33%, then what is the cost price (in Rs)?**

A   35.44

B   50.54

C   41

D   38

Answer: D

**Explanation:**

Difference between cost price and selling price = Loss = Rs. 12.54

Loss % = $\frac{loss}{C.P.} \times 100$

=> $\frac{12.54}{CP} \times 100 = 33$

=> $CP = \frac{1254}{33} = Rs.\,38$

=> Ans - (D)

**Question 13**

**Selling price of an article is Rs 494 and discount of 5% is offered. What is the marked price (in Rs)?**

A   524.5

B   587

C   520

D   540

Answer: C

**Explanation:**

Selling price = Rs. 494

Discount % = 5%

=> Marked price = $\frac{494}{(100-5)} \times 100$

= $26 \times 20 = Rs.\,520$

=> Ans - (C)

**Question 14**

**What is the simplified value of** $\sqrt{\frac{(0.07)^2 + (0.29)^2 - 0.0203}{(0.07)^3 + (0.29)^3}}$

**A** 0.6

**B** 0.06

**C** (1/0.6)

**D** (1/0.06)

**Answer:** C

**Explanation:**

Expression : $\sqrt{\frac{(0.07)^2 + (0.29)^2 - 0.0203}{(0.07)^3 + (0.29)^3}}$

Let $0.07 = x$ and $0.29 = y$

= $\sqrt{\frac{(x)^2 + (y)^2 - (xy)}{(x)^3 + (y)^3}}$

Using, $(x^3 + y^3) = (x + y)(x^2 + y^2 - xy)$

= $\sqrt{\frac{(x^2 + y^2 - xy)}{(x+y)(x^2 + y^2 - xy)}}$

= $\sqrt{\frac{1}{x+y}} = \sqrt{\frac{1}{0.07 + 0.29}}$

= $\frac{1}{0.36} = \frac{1}{0.6}$

=> Ans - (C)

**Question 15**

**X alone can do a piece of work in 12 days and Y alone can do the same work in 6 days. In how many days will both together complete the same work?**

**A** 3

**B** 4

**C** 5

**D** 2

Answer: B

**Explanation:**

Let total work to be done = L.C.M. (12,6) = 12 units

X alone can do the work in 12 days, => X's efficiency = $\frac{12}{12} = 1$ unit/day

Similarly, Y's efficiency = $\frac{12}{6} = 2$ units/day

Thus, (X+Y)'s 1 day's work = $1 + 2 = 3$ units/day

$\therefore$ Time taken by them together to finish the work = $\frac{12}{3} = 4$ days

=> Ans - (B)

**Question 16**

**A 800 metres long train is running at the speed of 90 km/hr. If it crosses a bridge in 50 seconds, then what is the length (in metres) of the bridge?**

**A** 250

**B** 300

**C** 350

**D** 450

Answer: D

**Explanation:**

Let length of bridge = $l$ m and length of train = 800 m

Speed of train = 90 km/hr = $\left(90 \times \frac{5}{18}\right) = 25$ m/s

Using, distance = speed $\times$ time
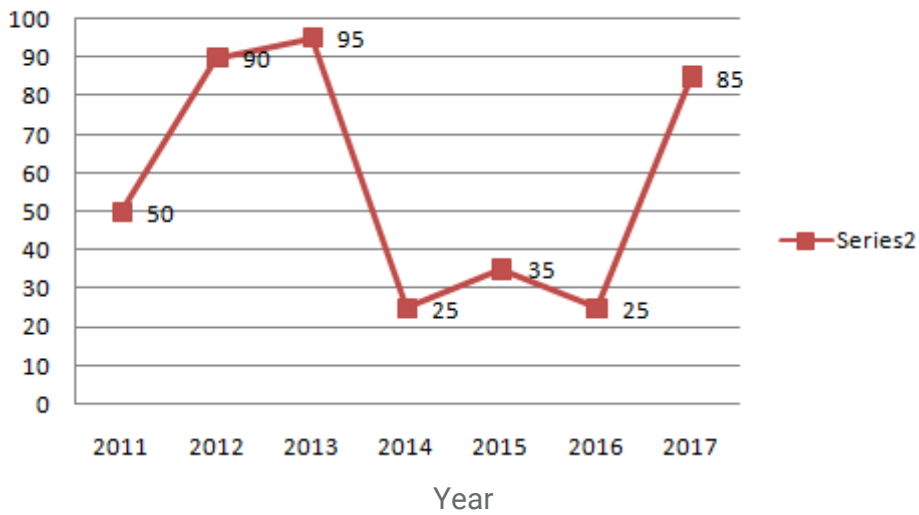
=> $l + 800 = 25 \times 50$

=> $l = 1250 - 800 = 450$ m

=> Ans - (D)

**Instructions**

The line graph shows the number of vacancies for management trainees in a certain company. Study the diagram and answer the following questions.

## Number of Vacancies



**Question 17**

In which year were the number of vacancies lesser than that of the previous year?

A   2015

B   2012

C   2014

D   2013

   **Answer:** C

**Explanation:**
In **2014** and 2016, the number of vacancies were lesser than that of the previous year.

=> Ans - (C)

**Question 18**

What was the difference in the number of vacancies between the years 2011 and 2014?

A   25

B   20

C   15

D   30

   **Answer:** A

**Explanation:**
Number of vacancies in 2011 = 50

Number of vacancies in 2014 = 25

=> Required difference = $50 - 25 = 25$

=> Ans - (A)

**Question 19**

**The number of vacancies in 2015 were lesser than that in 2011 by _____.**

A   30

B   116.7

C   70

D   42.8

Answer: A

**Explanation:**

Number of vacancies in 2011 = 50

Number of vacancies in 2015 = 35

=> Required % = $\frac{(50-35)}{50} \times 100$

= $15 \times 2 = 30\%$

=> Ans - (A)

**Question 20**

**The salary of a management trainee in the company is Rs 15,000, then what was the increase in the expense (in Rs lakhs) due to salaries that had to be paid when posts were filled for the vacancies in the year 2012?**

A   13

B   13.5

C   14

D   14.5

Answer: B

**Explanation:**

Number of vacancies in 2012 = 90

Salary of a management trainee in the company = Rs 15,000

=> Total expense (in Rs. lakhs) = $90 \times 0.15 = 13.5$

=> Ans - (B)

**Instructions**

For the following questions answer them individually

**Question 21**

The length of the diagonal and the breadth of a rectangle is 26 cm and 10 cm respectively. Calculate its area $(in\, cm^2)$

A   480

B   96

C   240

D   192

**Answer:** C

**Explanation:**

Let the length of rectangle = $l$ cm and breadth, $b = 10$ cm

=> Diagonal, $d^2 = l^2 + b^2$

=> $l^2 = (26)^2 - (10)^2$

=> $l^2 = 676 - 100 = 576$

=> $l = \sqrt{576} = 24$ cm

$\therefore$ Area = $24 \times 10 = 240 \, cm^2$

=> Ans - (C)

**Question 22**

If a regular polygon has 10 sides then the measure of its interior angle is greater than the measure of its exterior angle by how many degrees?

A   120

B   132

C   140

D   108

**Answer:** D

**Explanation:**

Sum of all interior angles of $n$ sided polygon = $(n - 2) \times 180°$

Sum of all exterior angles = $360°$

Thus, difference between measure of an interior and exterior angle, when $n = 10$

$= \left[\frac{(10-2) \times 180°}{10}\right] - \left[\frac{360°}{10}\right]$

$= (8 \times 18°) - (36°)$

$= 144° - 36° = 108°$

=> Ans - (D)

## Question 23

**Find the total surface area $(in\, cm^2)$ of a cuboid of length, breadth and height of 10.5 cm, 8 cm and 9 cm respectively.**

**A** 607

**B** 767

**C** 769

**D** 501

**Answer:** D

**Explanation:**

Length, $l = 10.5$ cm, breadth, $b = 8$ cm and height, $h = 9$ cm

Total surface area of cuboid = $2(lb + bh + hl)$

$= 2[(10.5 \times 8) + (8 \times 9) + (9 \times 10.5)]$

$= 2 \times (84 + 72 + 94.5)$

$= 2 \times 250.5 = 501\ cm^2$

=> Ans - (D)

## Question 24

**What is the value of $\left(cot45° - \sqrt{2}\right)$ ?**

**A** $\frac{\sqrt{3}-1}{2\sqrt{3}}$

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

**C** $1 - \sqrt{2}$

**D** $1 - \sqrt{3}$

**Answer:** C

**Explanation:**

Expression : $cot(45°) - \sqrt{2}$

$= 1 - \sqrt{2}$

=> Ans - (C)

**Question 25**

**In ΔDEF measure of angle E is 90o. If tanD = 4/3, and DE = 6cm, then what is the length (in cm) of side EF?**
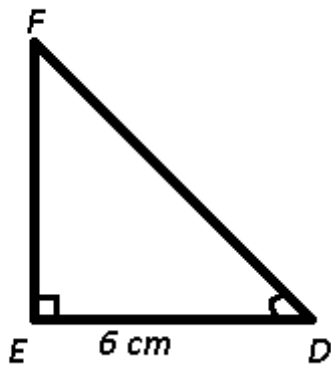
**A** 10

**B** 5

**C** 8

**D** 4

 **Answer:** C

**Explanation:**



Given : DE = 6 cm and tan D = $\frac{4}{3}$

To find : EF = ?

Solution : In right $\triangle$ DEF,

=> $tan(D) = \frac{EF}{DE}$

=> $\frac{4}{3} = \frac{EF}{6}$

=> $EF = \frac{4}{3} \times 6 = 8$ cm

=> Ans - (C)

# Reasoning

**Instructions**

For the following questions answer them individually

**Question 26**

In the following question, select the related word pair from the given alternatives.
Bulb : Electricity : : ? : ?

A   Fuel : Diesel

B   Car : Petrol

C   Scooter : Vehicle

D   Pen : Pencil

  **Answer:** B

**Explanation:**
Expression = Bulb : Electricity : : ? : ?

The first works using second, i.e. a bulb uses electricity to glow, similarly a car needs petrol to operate.

=> Ans - (B)


**Question 27**

In the following question, select the related number from the given alternatives.
432 : 234 : : 789 : ?

A   876

B   795

C   987

D   894

  **Answer:** C

**Explanation:**
Expression = 432 : 234 : : 789 : ?

The pattern followed is that the second number in the pair is reverse of the first number.

Similarly, reverse of 789 : **987**

=> Ans - (C)

**Question 28**

In the following question, select the related letter/letters from the given alternatives.
TMP : QJM : : PIK : ?

**A** MFH

**B** RHK

**C** GFI

**D** AHK

   **Answer:** A

**Explanation:**

Expression = TMP : QJM : : PIK : ?

The pattern followed is :

| T | M | P |
|---|---|---|
| (-3) | (-3) | (-3) |
| Q | J | M |

Similarly, for PIK : **MFH**

| P | I | K |
|---|---|---|
| (-3) | (-3) | (-3) |
| M | F | H |

=> Ans - (A)

**Question 29**

**In the following question, select the odd word pair from the given alternatives.**

**A** Red - Colour

**B** Colour - Green

**C** Pink - Colour

**D** Blue - Colour

   **Answer:** B

**Explanation:**

The second word is colour and first is one of the colour names, but in second option, colour is written as first word in the pair, hence it is the odd one out.

=> Ans - (B)

**Question 30**

In the following question, four number pairs are given. The number on left side of(-) is related to the number of the right side of (-) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd oneout from the given alternatives.

A   23 - 25

B   27 - 29

C   21 - 23

D   25 -29

   **Answer:** D

**Explanation:**

The difference between each of the pair of numbers is 2.

But in the last option => $29 - 25 = 4$

Thus, (25 - 29) is the odd one out.

=> Ans - (D)

**Question 31**

In the following question, select the odd letter/letters from the given alternatives.

A   IJLO

B   EFHI

C   KLNQ

D   GHJM

   **Answer:** B

**Explanation:**

(A) : I (+1 letter) = J (+2 letters) = L (+3 letters) = O

(B) : E (+1 letter) = F (+2 letters) = H (**+1** letter) = I

(C) : K (+1 letter) = L (+2 letters) = N (+3 letters) = Q

(D) : G (+1 letter) = H (+2 letters) = J (+3 letters) = M

=> Ans - (B)

**Question 32**

Arrange the given words in the sequence in which they occur in the dictionary.
1. Participle
2. Parking
3. Parrot
4. Pedestrian
5. Peach

A   13245

B   23154

C   54213

D   43125

   Answer: B

Explanation:
As per the order of dictionary :

= Parking -> Parrot -> Participle -> Peach -> Pedestrian

≡ 23154

=> Ans - (B)

**Question 33**

In the following question, select the missing number from the given series.
5, 8, 11, 14, 17, ?

A   21

B   19

C   20

D   23

   Answer: C

Explanation:
'3' is added to each of the numbers.

5 + 3 = 8

8 + 3 = 11

11 + 3 = 14

14 + 3 = 17

17 + 3 = **20**

=> Ans - (C)

## Question 34

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
KNJ, NQM, QTP, TWS, ?

A   XYZ

B   YXV

C   WYZ

D   WZV

   **Answer:** D

**Explanation:**

Series : KNJ, NQM, QTP, TWS, ?

The pattern followed in each letter of the terms is :

1st letter : K (+3 letters) = N (+3 letters) = Q (+3 letters) = T (+3 letters) = W

2nd letter : N (+3 letters) = Q (+3 letters) = T (+3 letters) = W (+3 letters) = Z

3rd letter : J (+3 letters) = M (+3 letters) = P (+3 letters) = S (+3 letters) = V

Thus, missing term = **WZV**

=> Ans - (D)

## Question 35

The ratio of the present ages of Shreya and her husband is 8 : 9. 9 years from now, ages of her husband and her son will be in the ratio of 9 : 4. If the present age of Shreya is 56 years, then what will be her son's present age (in years)?

A   23

B   24

C   19

D   25

   **Answer:** A

**Explanation:**

Shreya's present age = $56$ years

Ratio of present ages of Shreya and her husband = $8:9$

=> Shreya's husband's present age = $\frac{9}{8} \times 56 = 63$ years

Her husband's age 9 years from now = $63 + 9 = 72$ years

Ratio of her husband's age and her son's age 9 years from now = $9:4$

=> Son's age 9 years from now = $\frac{4}{9} \times 72 = 32$ years

$\therefore$ Son's present age = $32 - 9 = 23$ years

=> Ans - (A)

## Question 36

**From the given alternatives, select the word which CANNOT be formed using the letters of the given word. Components**

**A** Cool

**B** Come

**C** Most

**D** Men

**Answer:** A

**Explanation:**
The word COMPONENTS does not contain any 'L', thus the term **Cool** cannot be formed.

=> Ans - (A)

## Question 37

**In a certain code language, "TRAP" is written as "53" and "MADE" is written as "21". How is "LATE" written in that code language?**

**A** 37

**B** 36

**C** 38

**D** 35

**Answer:** B

**Explanation:**
The letters are numbered based on their position according to the English alphabetical order. A=1 , B=2 , C=3 , D=4 and so on.

The numbers are then added and '2' is subtracted to get the final output.

Eg :- TRAP = $(20 + 18 + 1 + 16) - 2 = 55 - 2 = 53$

MADE = $(13 + 1 + 4 + 5) - 2 = 23 - 2 = 21$

Similarly, LATE = $(12 + 1 + 20 + 5) - 2 = 38 - 2 = 36$

=> Ans - (B)

**Question 38**

**In a certain code language, 'x' represents '+', '÷' represents 'x', '-' represents '÷' and '+' represents '-'. Find out the answer to the following question.**
**24 + 12 x 30 ÷ 2 - 6 = ?**

**A** 18

**B** 13

**C** 37

**D** 22

   **Answer:** D

**Explanation:**
Expression : 24 + 12 x 30 ÷ 2 - 6 = ?

$\equiv 24 - 12 + 30 \times 2 \div 6$

= $12 + \frac{60}{6}$

= $12 + 10 = 22$

=> Ans - (D)

**Question 39**

**The following equation is incorrect. Which two signs should be interchanged to correct the equation?**
**21 + 16 x 35 - 70 ÷ 20 = 9**

**A** + and x

**B** - and ÷

**C** - and +

**D** ÷ and +

   **Answer:** B

**Explanation:**

Expression : 21 + 16 x 35 - 70 ÷ 20 = 9

(A) : + and x

$\equiv 21 \times 16 + 35 - 70 \div 20 = 9$

L.H.S. $= 336 + 35 - 3.5 = 367.5 \neq$ R.H.S.

(B) : - and ÷

$\equiv 21 + 16 \times 35 \div 70 - 20 = 9$

L.H.S. $= 21 + \left(16 \times \frac{1}{2}\right) - 20 = 9 =$ R.H.S.

=> Ans- (B)

**Question 40**

**If 2\*10 = 6, 14\*16 = 15 and 4\*16 = 10, then find the value of 16\*8 = ?**

**A** 12

**B** 8

**C** 10

**D** 18

Answer: A

**Explanation:**

Given : 2*10 = 6, 14*16 = 15 and 4*16 = 10

If we replace '*' with '+', and divide the sum by 2, we get the desired result.

Eg :- $\frac{2+10}{2} = 6$

and $\frac{14+16}{2} = 15$ and $\frac{4+16}{2} = 10$

Similarly, $\frac{16+8}{2} = 12$

=> Ans - (A)

**Question 41**

**Which of the following terms follows the trend of the given list?**
**YYYYYYX, YYYYYXX, YYYYXXX, YYYXXXX, YYXXXXX, _____.**

**A** XXXXXXX

**B** YXXXXXX

**C** YYYYYYX

**D** YYYYYXX

Answer: B

**Explanation:**

Expression : YYYYYYX, YYYYYXX, YYYYXXX, YYYXXXX, YYXXXXX, _____.

The pattern followed is that each term is a combination 'XY' (7 letters), and the number of Y's starting from left are decreasing and also number of X's starting from right end are increasing one at a time.

Thus, in the missing term, the second term will also be 'X' = **YXXXXXX**

=> Ans - (B)

## Question 42

**Two autos start from the same stand. Auto A travels 2 km East, then turns to its right and travels a further 3 km. Meanwhile auto B travels 5 km North, then turns West andtravels 3 km, then it turns to its left and travels 8 km. Where is auto B with respect to auto A?**

**A** 5 km West

**B** 1 km West

**C** 5 km East

**D** 1 km East

**Answer:** A

## Question 43

**In the question two statements are given, followed by two conclusions, I and II.You have to consider the statements to be true even if it seems to be at variance from
commonly known facts. You have to decide which of the given conclusions, if any, follows fromthe given statements.
Statement I: No rubber are plastic
Statement II: All polymers are rubber
Conclusion I: Some plastic are polymers
Conclusion II: No polymers are plastic**

**A** Only conclusion I follows

**B** Only conclusion II follows

**C** Both conclusions I and II follow

**D** Neither conclusion I nor conclusion II follows

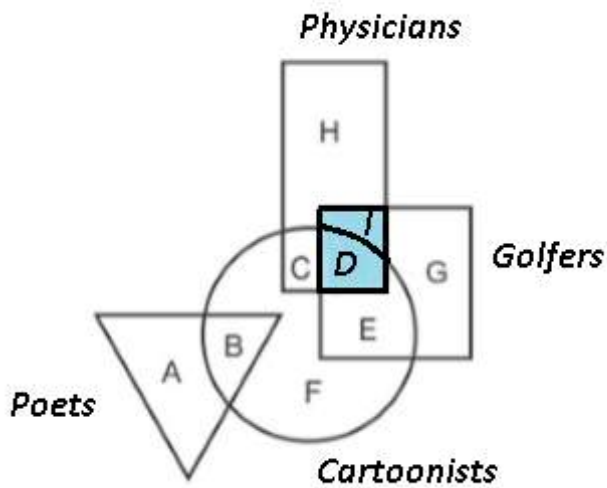**Answer:** B

**Question 44**

In the following figure, rectangle represents Physicians, circle represents Cartoonists, triangle represents Poets and square represents Golfers. Which set of letters represents Physicians who are Golfers?
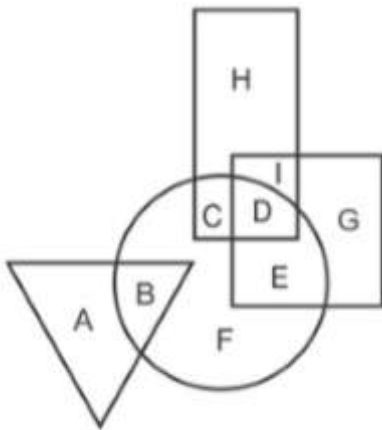


**A**   GE

**B**   HC

**C**   HCIDGE

**D**   ID

  **Answer:** D

**Explanation:**



Physicians who are Golfers = I + D

=> Ans - (D)

**Question 45**

**A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**
**ONU, NKP, MHK, LEF, ?**

**A**   KBA

**B**   KAA

**C**   KBZ

**D**   KAZ

   **Answer:** A

**Explanation:**
Series : ONU, NKP, MHK, LEF, ?

The pattern followed in each letter of the terms is :

1st letter : O (-1 letter) = N (-1 letter) = M (-1 letter) = L (-1 letter) = K

2nd letter : N (-3 letters) = K (-3 letters) = H (-3 letters) = E (-3 letters) = B

3rd letter : U (-5 letters) = P (-5 letters) = K (-5 letters) = F (-5 letters) = A

Thus, missing term = **KBA**

=> Ans - (A)

**Question 46**

**In the following question, select the missing number from the given series.**
**123, 120, 116, 111, ?, 98**

**A**   100

**B**   105

**C**   99

**D**   103

   **Answer:** B

**Explanation:**
Consecutive integers are subtracted.

123 - 3 = 120

120 - 4 = 116

116 - 5 = 111

111 - 6 = **105**

105 - 7 = 98

=> Ans - (B)

## Question 47

**In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.**

A  (19, 22, 27)

B  (41, 44, 49)

C  (61, 64, 71)

D  (83, 86, 91)

**Answer:** C

**Explanation:**
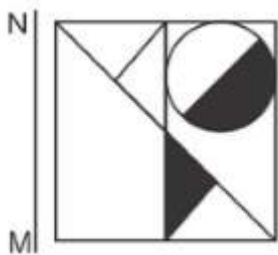The numbers are of the form : $(x, x + 3, x + 8)$

But in the third option, we have = $61 + 8 = 69 \neq 71$

Thus, (61, 64, 71) is the odd one out.

=> Ans - (C)

## Question 48

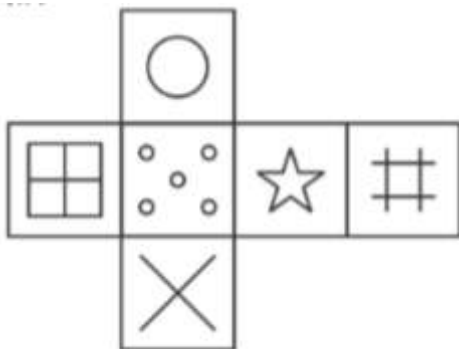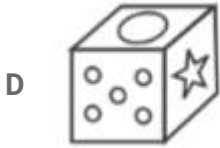**If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?**





A

B



C



D



Answer: D

## Question 49

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



A



B



C

**D**



Answer: C

## Question 50

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix·I are numbered from 0 to 4 and that of Matrb·I are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, fa example 'G can be represented by 31, 24 etc and 'Y can be represented by 86, 97 etc. Similarly, you have to identify the set for the word 'COWS'.

| Matrix - I | | | | | |
|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 |
| 0 | C | C | D | I | J |
| 1 | E | K | I | B | E |
| 2 | I | F | A | K | G |
| 3 | C | G | E | L | I |
| 4 | J | H | I | F | A |

| Matrix - II | | | | | |
|---|---|---|---|---|---|
| | 5 | 6 | 7 | 8 | 9 |
| 5 | O | X | N | W | X |
| 6 | N | Q | N | X | O |
| 7 | Z | T | V | N | T |
| 8 | O | Y | W | O | R |
| 9 | N | P | Y | S | Z |

A   12,88,12,99

B   34,68,21,57

C   30,55,87,98

D   32,98,42,77

Answer: C

**Explanation:**
(A) : 12,88,12,99 = IOIZ

(B) : 34,68,21,57 = IXFN

(C) : 30,55,87,98 = **COWS**

(D) : 32,98,42,77 = ESIV

=> Ans - (C)

# English

**Instructions**

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

**Question 51**

**To his opinion (a)/ every entertainment (b)/ movie is foolish. (c)/ No error (d)**

**A** To his opinion

**B** every entertainment

**C** movie is foolish

**D** No error

**Answer:** A

**Question 52**

**The Hellenistic period covering the period of Mediterranean (a)/ history between the death of Alexander the Great in (b)/ 323 BC and the emergence of the Roman Empire. (c)/**
**No error (d)**

**A** The Hellenistic period covering the period of Mediterranean

**B** history between the death of Alexander the Great in

**C** 323 BC and the emergence of the Roman Empire

**D** No error

**Answer:** A

**Instructions**

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

**Question 53**

**The Police took _____ from there.**

**A** after

**B** over

**C** upon

**D** on

**Answer:** B

## Question 54

**One is caught in the box with what one knows and hence no new ideas _____.**

A   emerge

B   destroy

C   rooted

D   innovate

   **Answer:** A

## Instructions

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

## Question 55

**Clandestine**

A   Truthful

B   Secret

C   Frank

D   Upright

   **Answer:** B

## Question 56

**Cloistered**

A   Isolated

B   Mendable

C   Improvement

D   Crowded

   **Answer:** A

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

**Question 57**

**Consanguinity**

A   Affinity

B   Kin

C   Race

D   Disunion

   **Answer:** D

**Question 58**

**Deathly**

A   Wasted

B   Blooming

C   Horrible

D   Sick

   **Answer:** B

**Instructions**

For the following questions answer them individually

**Question 59**

**Rearrange the parts of the sentence in correct order.**
**There needs to be a**
**P : more coordinated effort**
**Q : forest diseases in India**
**R : towards dealing with**

A   PRQ

B   PQR

C   RPQ

**D** RQP

Answer: A

## Question 60

A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.
A policeman caught her.

**A** She was caught by a policeman.

**B** She is catch by a policeman.

**C** She caught by a policeman.

**D** She is caught by a policeman.

Answer: A

## Question 61

A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/Direct Speech.
Raju wrote, "He will be going to Mumbai the next weekend."

**A** Raju wrote that he will be going to Mumbai the next weekend.

**B** Raju wrote that he would be going to Mumbai the last weekend.

**C** Raju wrote that he would be going to Mumbai the next weekend.

**D** Raju wrote that he should be gone to Mumbai the next weekend.

Answer: C

## Question 62

In the following questions, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.

**A** Preferred

**B** Prefereed

**C** Prrefored

**D** Prefearred

**Instructions**

In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.

People may see, and hear, and feel all their lives without _____ learning the nature of things they see. But reason is the mind's eye, and enables us to see why things are, and when and how events may be made to happen _____ not to happen. The logician endeavours to _____ exactly what this reason is which makes the power of men. We all, as I havesaid, must reason well or ill, but logic is the science of reasoning and enables us to distinguish_____ the good reasoning which leads to truth, and the bad reasoning which everyday betrays people into error _____ misfortune.

**Question 63**

**their lives without _____ learning the nature**

**A** really

**B** real

**C** reality

**D** realise

   **Answer:** A

**Question 64**

**made to happen _____ not to happen.**

**A** or

**B** but

**C** so

**D** at

   **Answer:** A

**Question 65**

**logician endeavours to _____ exactly what this reason**

**A** learnt

**B** learns

**C** learn

**D** learning

Answer: C

## Question 66

us to distinguish _____ the good reasoning

**A** in

**B** within

**C** between

**D** amidst

Answer: C

## Question 67

people into error _____ misfortune.

**A** nor

**B** neither

**C** also

**D** and

Answer: D

## Instructions

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

## Question 68

**Be worlds apart**

**A** Travel a very long distance.

**B** To go from heaven to hell.

**C** Be very different.

**D** To sustain affection despite living very far away.

Answer: C

## Question 69

**Silver bullet**

**A** A very expensive solution used only as the last measure.

**B** A simple and seemingly magical solution to a complicated problem.

**C** A solution which is worse than the problem.

**D** A thing of beauty but which is actually deadly.

Answer: B

**Instructions**

In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

## Question 70

**The ability to make good judgements and take quick decisions**

**A** Puerility

**B** Acumen

**C** Stupor

**D** Sanity

Answer: B

## Question 71

**A high degree of skill**

**A** Proficiency

**B** Maladroit

**C** Amateur

**D** Gawkiness

**Answer:** A

## Instructions

In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

**Question 72**

**From the early 1990s, salaries shot up and stock options (were introduced).**

A   are introduced

B   is introduced

C   was introduced

D   no improvement

   **Answer:** D

**Question 73**

**I have always (baffle) by the unique melange of languages and dialects that India is home to.**

A   being baffled

B   been baffled

C   baffling

D   no improvement

   **Answer:** B

## Instructions
For the following questions answer them individually

**Question 74**

**The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.**

**There was an old study**
**A: of marathon runners which**
**B: heart muscle during post-mortem**
**C: showed significant fibrosis of the**

A   ABC

**B** ACB

**C** CBA

**D** CAB

   **Answer:** B

## Question 75

In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.

**A** exacerbate

**B** exacarbate

**C** exacerbat

**D** exacarbat

   **Answer:** A

# General Awareness

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

## Question 76

Permanent settlement was a feature of_____.

**A** Zamindari System

**B** Mahalwari System

**C** Ryotwari System

**D** No option is correct.

   **Answer:** A

## Question 77

Who was the Finance Minister of India during the New Economic Policy (1991) ?

**A**    Manmohan Singh

**B**    Uma Kapila

**C**    Pranab Mukherjee

**D**    Jaswant Singh

     **Answer:** A

## Question 78

**Which of the following elements were not found in the form of archaeological remains from Kalibanga?**

**A**    Black bangles

**B**    Fire pit

**C**    Ploughed field

**D**    Couple burial

     **Answer:** D

## Question 79

**Who led the English Army in the Battle of Buxar?**

**A**    Lord Clive

**B**    Vensittart

**C**    Hector Munro

**D**    Eyre Coot

     **Answer:** C

## Question 80

**Which of the following planets has the highest average density?**

**A**    Jupiter

**B**    Mars

**C**    Earth

**D** Mercury

**Answer:** D

## Question 81

**Where is the Girnar hills located?**

**A** Bihar

**B** Gujarat

**C** Karnataka

**D** Rajasthan

**Answer:** B

## Question 82

**The birthplace of the tenth and last guru of Sikhs Guru Gobind Singh is: _____.**

**A** Guwahati

**B** Hemkund Sahib

**C** Amritsar

**D** Patna Sahib

**Answer:** D

## Question 83

**How many agreements have been signed by India and Israel on January 15, 2018?**

**A** 6

**B** 9

**C** 12

**D** 15

**Answer:** B

## Question 84

Which Player has been awarded Padma Bhushan in the year 2018 for his contribution to Cricket?

A   Saurabh Ganguli

B   Rahul Dravid

C   Mahendra Singh Dhoni

D   Virat Kohali

Answer: C

## Question 85

Which state of India does not get the border from Pakistan?

A   Gujarat

B   Rajasthan

C   Punjab

D   Himachal Pradesh

Answer: D

## Question 86

In which of the following, Nylon is used?

A   Sleeping bags

B   Parachute

C   Toothbrush

D   All options are correct.

Answer: D

## Question 87

Latek

A   I - 2, II - 1, III - 4, IV - 3

**B** I - 3, II - 1, III - 2, IV - 4

**C** I - 1, II - 2, III - 3, IV - 4

**D** I - 4, II - 3, III - 1, IV - 2

Answer: A

## Question 88

If any Fundamental Right of a citizen is breached, then under Article 32 of Indian Constitution he can directly go to the _____.

**A** Chief Minister of state

**B** Prime Minister of India

**C** Supreme Court of India

**D** Governor of state

Answer: C

## Question 89

Which type of city administration controls transitional areas (from rural to urban)?

**A** Nagar Panchayat

**B** Municipal Council

**C** Municipal Corporation

**D** No option is correct.

Answer: A

## Question 90

The process of acquiring oxygen from outside the body and to use it in the process of breakdown of food sources for cellular needs is commonly called _____.

**A** respiration

**B** nutrition

**C** digestion

D  transportation

Answer: A

## Question 91

**What is the function of guard cells of stomata?**

A  Opening of stomata only

B  Closing of stomata only

C  Both opening and closing of stomata

D  Neither opening nor closing of stomata

Answer: C

## Question 92

**In August 2017, Indian Government has launched a portal to provide a platform to sell agricultural produce called 'e-RAKAM'. What does 'M' stand for?**

A  Market

B  Mandi

C  Management

D  Messaging

Answer: B

## Question 93

**SARAS PT1N, the new upgraded version of indigenous transport aircraft. SARAS has been developed by _____.**

A  Hindustan Aeronautics Limited

B  National Aeronautics Laboratory

C  Bharat Dynamics Limited

D  Defence Research and Development Organisation

Answer: B

## Question 94

In April 2017, N. K. Singh Committee recommended a fiscal deficit of how much percent of GDP by Financial Year 2022-23?

A   2.50%

B   3.00%

C   3.50%

D   4.00%

Answer: A

## Question 95

On 12 April 2017, Parliament passed the HIV/AIDS (Prevention and Control) Bill,2017. This Bill provides essential support to National AIDS controlprogramme. It aims to achieve the target of ending this Epidemic by year _____.

A   2025

B   2022

C   2030

D   2020

Answer: C

## Question 96

Calculate the time period (in seconds) of a sound wave of wavelength 2m travelling with a speed of 250 m/s.

A   500

B   0.008

C   0.016

D   250

Answer: B

# Question 97

The ratio of the total distance travelled by a body to the total time taken by it is its
_____.

A   instantaneous velocity

B   linear velocity

C   average speed

D   acceleration

   **Answer:** C

# Question 98

The average weather pattern taken over a long time, say 25 years, is called the _____ of the place.

A   ecology

B   environment

C   climate

D   habitat

   **Answer:** C

# Question 99

Which of the statements given below are correct?
A) Rajiv Ouseph won the Badminton 2017 BWF Super Series Finals Men's Singles.
B) In 2017, Anthony Davis played for the NBA team New Orleans Pelicans.
C) Lewis Hamilton won the Formula One 2017 Australian Grand Prix.

A   Only A

B   Only B

C   Only C

D   B and C

   **Answer:** B

**Question 100**

**In Microsoft Word, _____ refers to the way our text will look like.**

**A**  Inserting

**B**  Formatting

**C**  Cutting

**D**  Pasting

**Answer:** B

## Quant

**Instructions**

For the following questions answer them individually

**Question 1**

**If the value of** $\sqrt{5} = 2.236$ **then calculate the value of** $\sqrt{405} - \frac{1}{2}\sqrt{80} - \sqrt{125}$

A   2.236

B   4.472

C   1.118

D   8.994

**Answer:** B

**Explanation:**

Given : $\sqrt{5} = 2.236$

To find : $\sqrt{405} - \frac{1}{2}\sqrt{80} - \sqrt{125}$

= $\sqrt{81 \times 5} - \frac{1}{2}\sqrt{16 \times 5} - \sqrt{25 \times 5}$

= $9\sqrt{5} - \frac{4}{2}\sqrt{5} - 5\sqrt{5}$

= $2\sqrt{5} = 2 \times 2.236 = 4.472$

=> Ans - (B)

**Question 2**

**1595 is the sum of the square of three consecutive odd numbers. Find the numbers.**

A   19, 21, 23

B   17, 19, 21

C   21, 23, 25

D   23, 25, 27

**Answer:** C

**Explanation:**

Let the three consecutive odd numbers be $(x-2), (x), (x+2)$

According to ques,

=> $(x-2)^2 + (x)^2 + (x+2)^2 = 1595$

=> $(x^2 - 4x + 4) + (x^2) + (x^2 + 4x + 4) = 1595$

=> $3x^2 + 8 = 1595$

=> $3x^2 = 1595 - 8 = 1587$

=> $x^2 = \frac{1587}{3} = 529$

=> $x = \sqrt{529} = 23$

$\therefore$ Consecutive odd numbers are = $21, 23, 25$

=> Ans - (C)

**Question 3**

**Determine the value of 'x' in** $x = \frac{1}{1+\sqrt{2}} + \frac{1}{\sqrt{2}+\sqrt{3}} + \frac{1}{\sqrt{3}+2}$

**A**  -1

**B**  0

**C**  1

**D**  2

**Answer:** C

**Explanation:**

Expression : $x = \frac{1}{1+\sqrt{2}} + \frac{1}{\sqrt{2}+\sqrt{3}} + \frac{1}{\sqrt{3}+2}$

Rationalizing the denominator, we get :

= $\left(\frac{1}{1+\sqrt{2}} \times \frac{\sqrt{2}-1}{\sqrt{2}-1}\right) + \left(\frac{1}{\sqrt{2}+\sqrt{3}} \times \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}-\sqrt{2}}\right) + \left(\frac{1}{\sqrt{3}+2} \times \frac{2-\sqrt{3}}{2-\sqrt{3}}\right)$

Using, $(a+b)(a-b) = a^2 - b^2$

= $\frac{\sqrt{2}-1}{(2-1)} + \frac{\sqrt{3}-\sqrt{2}}{3-2} + \frac{2-\sqrt{3}}{4-3}$

= $(\sqrt{2}-1) + (\sqrt{3}-\sqrt{2}) + (2-\sqrt{3})$

= $2 - 1 = 1$

=> Ans - (C)

**Question 4**

**What is the value of** $z^2 + \frac{1}{z^2}$ **when** $z = 5 + 2\sqrt{6}$

**A**  49

**B**  50

**C**  98

**D** 100

Answer: C

**Explanation:**

Given : $z = 5 + 2\sqrt{6}$ ----------(i)

$\Rightarrow \frac{1}{z} = \frac{1}{5+2\sqrt{6}}$

$\Rightarrow \frac{1}{z} = \frac{1}{5+2\sqrt{6}} \times \left(\frac{5-2\sqrt{6}}{5-2\sqrt{6}}\right)$

$\Rightarrow \frac{1}{z} = \frac{5-2\sqrt{6}}{25-24} = 5 - 2\sqrt{6}$ ----------(ii)

To find : $z^2 + \frac{1}{z^2}$

Using, $x^2 + y^2 = (x+y)^2 - 2xy$

= $(z + \frac{1}{z})^2 - 2(z)(\frac{1}{z})$

Substituting values from equations (i) and (ii), we get :

= $[(5 + 2\sqrt{6}) + (5 - 2\sqrt{6})]^2 - 2(z)(\frac{1}{z})$

= $(10)^2 - 2 = 100 - 2 = 98$

=> Ans - (C)

## Question 5

**The figure shown below consists of the tangents at the extremities of any chord Choose the correct option given below**
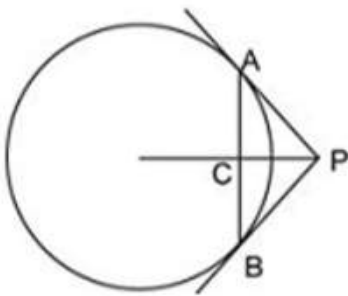


**A** $\angle PAC = \angle PBC$

**B** $\angle APC = \angle BPC$

**C** $\triangle PAC \cong \triangle PBC$

**D** All option are correct

Answer: D

**Explanation:**

In the given figure, PA and PB are tangents from the same point, => $PA = PB$

Thus, in △ ABP, => ∠PAC=∠PBC

Also, ∠APC=∠BPC (perpendicular from centre to the chord bisects the chord and the angle between tangents)

=> △PAC≅△PBC (By ASA criteria)

Thus, all options are correct.

=> Ans - (D)

**Question 6**

**Calculate the angle subtended by the chord at the point on the major arc if the radius and the chord of the circle are equal in length.**
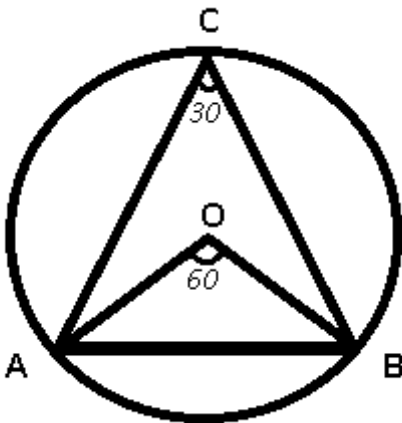
**A** 30°

**B** 120°

**C** 200°

**D** 300°

**Answer:** A

**Explanation:**



Given : Radius and the chord of the circle are equal in length.

To find : ∠ ACB = ?

Solution : It is given that the radius and the chord of the circle are equal in length.

=> OA = OB = AB

=> AOB is an equilateral triangle, => ∠ AOB = $60°$

Now, the angle subtended by an arc at the centre is double the angle subtended by it at any point on the circle.

=> ∠ ACB = $\frac{60}{2} = 30°$

=> Ans - (A)

**Question 7**

If U = 450 and V = 585, then V is how much percentage more than U?

**A**  130

**B**  23.07

**C**  25

**D**  30

   **Answer:** D

**Explanation:**

$U = 450$ and $V = 585$

=> Required % = $\frac{(585-450)}{450} \times 100$

= $\frac{135}{4.5} = 30\%$

=> Ans - (D)

**Question 8**

The ratio of two numbers is 3 : 7. If their product is 1344, then what is the sum of both the numbers?

**A**  80

**B**  60

**C**  30

**D**  168

   **Answer:** A

**Explanation:**

Let the numbers be $3x$ and $7x$

Product = $(3x) \times (7x) = 1344$

=> $x^2 = \frac{1344}{21} = 64$

=> $x = \sqrt{64} = 8$

∴ Sum of numbers = $3x + 7x = 10x$

= $10 \times 8 = 80$

=> Ans - (A)

## Question 9

**P and Q invested some money in a business in the ratio of 4 : 7 respectively. After 6 months P withdraws his capital. If they receive profits in the ratio of 4 : 21, then for how many months did Q invest in the business?**

A   12

B   15

C   18

D   21

Answer: C

**Explanation:**
Let P invested Rs. 4 for 6 months and Q invested Rs. 7 for $x$ months

=> Ratio of profits of P:Q = $(4 \times 6) : (7 \times x)$

According to ques,

=> $\frac{24}{7x} = \frac{4}{21}$

=> $7x \times 4 = 24 \times 21$

=> $x = \frac{24 \times 21}{7 \times 4}$

=> $x = 6 \times 3 = 18$ months

=> Ans - (C)

## Question 10

**A boy buys 5 pencils at Rs 3 each, 3 erasers at Rs 2 each and 3 sharpeners at Rs 5 each. What is the average expenditure (in Rs) per article?**

A   3.27

B   3.5

C   4

D   5

Answer: A

**Explanation:**
Price of 5 pencils = $5 \times 3 = Rs.\,15$

Price of 3 erasers = $3 \times 2 = Rs.\,6$

Price of 3 sharpeners = $3 \times 5 = Rs.\,15$

=> Average expenditure = $\frac{15+6+15}{5+3+3}$

= $\frac{36}{11} = Rs.\ 3.27$

=> Ans - (A)

## Question 11

**An equal sum is invested in two different schemes. One scheme gives simple interest and the other gives compound interest (annual compounding). The total interest obtained after 2 years from both the schemes together is Rs 2090. If both the schemes have 18% per annum interest rate, then what is the first year interest (in Rs) of simple interest scheme?**

**A** 1000

**B** 500

**C** 545

**D** 1045

**Answer:** B

**Explanation:**
Let sum invested in both schemes = Rs. $100x$

Time period = 2 years and rate of interest in both schemes = 18%

Total interest from both schemes = $\left(\frac{P \times R \times T}{100}\right) + \left[P(1 + \frac{R}{100})^T - P\right]$

=> $\left(\frac{100x \times 18 \times 2}{100}\right) + \left[100x(1 + \frac{18}{100})^2 - 100x\right] = 2090$

=> $(36x) + \left[100x(\frac{118}{100})^2 - 100x\right] = 2090$

=> $36x + 139.24x - 100x = 2090$

=> $75.24x = 2090$

=> $x = \frac{2090}{75.24} = 27.78$

$\therefore$ Simple interest in 1st year = $\frac{(100 \times 27.78) \times 18 \times 1}{100}$

= $27.78 \times 18 = 500.04 \approx Rs.\ 500$

=> Ans - (B)

## Question 12

**Two pens are bought at the rate of Rs 20 each. Shopkeeper sells one at the profit of 25% and other at the loss of 25%. What will be the total profit or loss in the whole transaction?**

**A** No profit/loss

**B** Profit of Rs 1

**C** Loss of Rs 1

**D** Loss of Rs 2

Answer: A

**Explanation:**

Cost price of each pen = Rs. 20

Profit % on 1st pen = 25%

=> Selling price of 1st pen = $20 + \left(\frac{25}{100} \times 20\right) = Rs.\ 25$

Similarly, selling price of 2nd pen after 25% loss = $20 - \left(\frac{25}{100} \times 20\right) = Rs.\ 15$

Thus, total cost price = Rs. $(20 + 20) = Rs.\ 40$

and selling price = Rs. $(25 + 15) = Rs.\ 40$

Thus, there is no profit or loss.

=> Ans - (A)

**Question 13**

**A merchant marks the price of his articles 30% above the cost price. He gives some discount on it and earns a profit of 13.75%. What is the discount percentage?**

**A** 12.5

**B** 13.75

**C** 16.25

**D** 10.25

Answer: A

**Explanation:**

Let cost price = Rs. $100x$

Profit % = 13.75%

=> Selling price = $100x + \left(\frac{13.75}{100} \times 100x\right) = Rs.\ 113.75x$

Also, marked price = $100x + \left(\frac{30}{100} \times 100x\right) = Rs.\ 130x$

∴ Discount % = $\frac{(130x - 113.75x)}{130x} \times 100$

= $\frac{162.5}{13} = 12.5\%$

=> Ans - (A)

**Question 14**

**What is the value of $\sqrt[3]{1331} + \sqrt{729} - \sqrt[3]{512}$ ?**

**A**  15

**B**  20

**C**  30

**D**  23

    **Answer:** C

**Explanation:**

Expression : $\sqrt[3]{1331} + \sqrt{729} - \sqrt[3]{512}$

= $\sqrt[3]{11 \times 11 \times 11} + 27 - \sqrt[3]{8 \times 8 \times 8}$

= $11 + 27 - 8 = 30$

=> Ans - (C)

**Question 15**

**Manish is four times as efficient as Puneet. Manish takes 90 days less than Puneet to complete a book. If both of them work together, then in how many days the book will be completed?**

**A**  28

**B**  25

**C**  24

**D**  30

    **Answer:** C

**Explanation:**

Ratio of times taken by Manish and Puneet = 1 : 4

The time difference is (4 - 1) 3 days while Puneet take 4 days and Manish takes 1 day.

If difference of time is 3 days, Puneet takes 4 days.

If difference of time is 90 days, Puneet takes = $\frac{4}{3} \times 90 = 120$ days

So, Manish takes 30 days

Manish's 1 day's work = $\frac{1}{30}$

Puneet's 1 day's work = $\frac{1}{120}$

(Manish + Puneet)'s 1 day's work together = $\frac{1}{30} + \frac{1}{120} = \frac{5}{120} = \frac{1}{24}$

$\therefore$ Manish and Puneet together can do the work in = **24 days**

=> Ans - (C)

**Question 16**

**A man starts walking from a place X and reaches the place Y in 12 hours. He travels 3/7th of the total distance at the speed of 3 km/hr and the remaining distance at the speed of 4 km/hr. What is the distance (in km) between X and Y?**

**A** 28

**B** 36

**C** 40

**D** 42

**Answer:** D

**Explanation:**

Let total distance between X and Y = $7d$ km

=> Distance travelled at the speed of 3 km/hr = $\frac{3}{7} \times 7d = 3d$ km

Thus, distance travelled at the speed of 4 km/hr = $7d - 3d = 4d$ km

Total time taken = 12 hours

Using, time = distance/speed

=> $\frac{3d}{3} + \frac{4d}{4} = 12$

=> $d + d = 2d = 12$
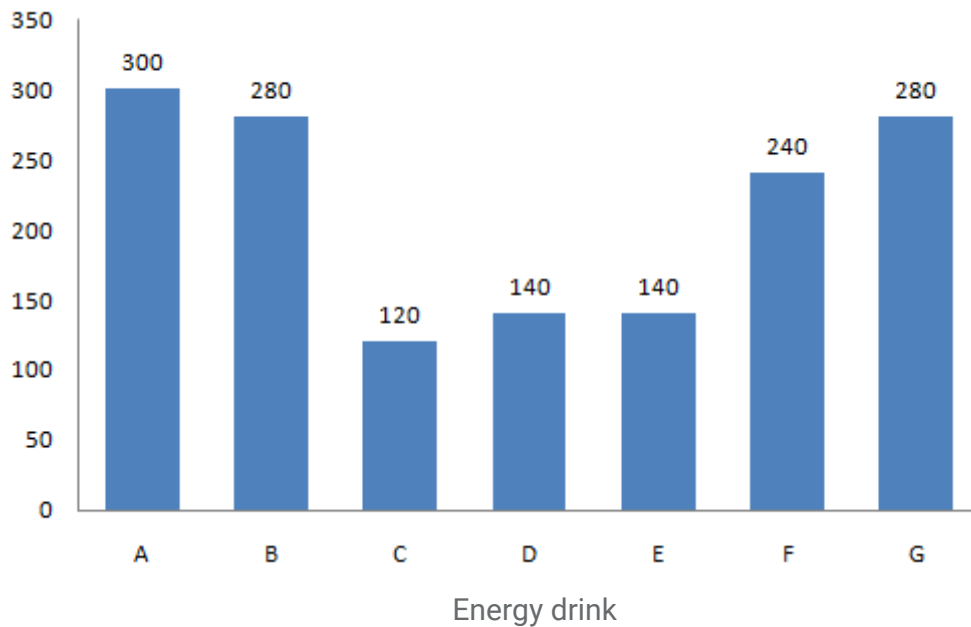
=> $d = \frac{12}{2} = 6$

$\therefore$ Total distance between X and Y = $7 \times 6 = 42$ km

=> Ans - (D)

**Instructions**

The bar graph shows results of a survey carried out within a health club. The members of the club were asked which energy drink they consumed? Study the diagram and answer the following questions.

Number of consumers

**Energy drink**

**Question 17**

**Which energy drink was consumed the least?**

**A** A

**B** C

**C** D

**D** E

   **Answer:** B

**Explanation:**

Clearly, energy drink **C** was consumed the least = by 120 consumers

=> Ans - (B)

**Question 18**

**What is the ratio of consumers of energy drink C to consumers of energy drink G?**

**A** 7 : 3

**B** 3 : 7

**C** 5 : 9

**D** 9 : 5

   **Answer:** B

**Explanation:**
Consumers of energy drink C = 120

Consumers of energy drink G = 280

=> Required ratio = $\frac{120}{280} = 3:7$

=> Ans - (B)

**Question 19**

**Consumers of drink B are greater than that of drink E by _____.**

**A** 50%

**B** 100%

**C** 200%

**D** 150%

   **Answer:** B

**Explanation:**

Consumers of energy drink B = 280

Consumers of energy drink E = 140

=> Required % = $\frac{(280-140)}{140} \times 100 = 100\%$

=> Ans - (B)

**Question 20**

**If 40% of consumers of drink C start consuming drink F then the consumers of drink F would increase by _____.**

**A** 20%

**B** 40%

**C** 48%

**D** 24%

   **Answer:** A

**Explanation:**

Consumers of energy drink C = 120

Consumers that left C and started F = $\frac{40}{100} \times 120 = 48$

Consumers of energy drink F = 240

=> % increase in consumers = $\frac{48}{240} \times 100$

= $\frac{48}{2.4}$ = 20%

=> Ans - (A)

**Instructions**

For the following questions answer them individually

**Question 21**

**The area of an equilateral triangle is 25√3 $cm^2$. Find its side (in cm).**

A   10

B   5

C   20

D   30

**Answer:** A

**Explanation:**

Let side of equilateral triangle = $s$ cm

=> Area = $\frac{\sqrt{3}}{4}s^2 = 25\sqrt{3}$

=> $\frac{s^2}{4} = 25$

=> $s^2 = 25 \times 4 = 100$

=> $s = \sqrt{100} = 10$ cm

=> Ans - (A)

**Question 22**

**Calculate the area (in $cm^2$) of a circle of radius 17.5 cm.**

A   1925

B   962.5

C   809.5

D   1619

**Answer:** B

**Explanation:**

Radius of circle = $r = 17.5$ cm

=> Area = $\pi r^2$

= $\frac{22}{7} \times 17.5 \times 17.5$

= $22 \times 2.5 \times 17.5 = 962.5 \ cm^2$

=> Ans - (B)

## Question 23

**Find the total surface area (in $cm^2$) of a right circular cone of diameter 21 cm and slant height 11 cm.**

A  467.5

B  384

C  724

D  709.5

**Answer:** D

**Explanation:**

Radius of cone, $r = \frac{21}{2} = 10.5$ cm and slant height, $l = 11$ cm

Total surface area of cone = $\pi r (l + r)$

= $\frac{22}{7} \times 10.5 \times (10.5 + 11)$

= $33 \times 21.5 = 709.5 \ cm^2$

=> Ans - (D)

## Question 24

**What is the value of (cosec45° + √3/2) ?**

A  5/6

B  (4+√3)/2√3

C  (2√2+√3)/2

D  3√3/2

**Answer:** C

**Explanation:**

Expression : $\left( cosec45° + \frac{\sqrt{3}}{2} \right)$

= $\left( \sqrt{2} + \frac{\sqrt{3}}{2} \right)$

= $\frac{2\sqrt{2} + \sqrt{3}}{2}$

=> Ans - (C)

**Question 25**

In ∆ABC measure of angle B is 90o. If tanA = 15/8, and AB = 0.8cm, then what is the length (in cm) of side AC?
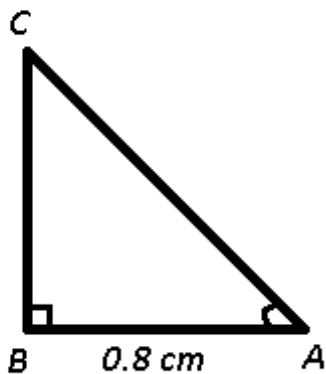
**A** 1.7

**B** 1.5

**C** 2

**D** 2.5

Answer: A

Explanation:



Given : AB = 0.8 cm and tan A = 15/8

To find : AC = ?

Solution : In right △ ABC,

=> $tan(A) = \frac{BC}{AB}$

=> $\frac{15}{8} = \frac{BC}{0.8}$

=> $BC = \frac{15}{8} \times 0.8 = 1.5$ cm

∴ $(AC)^2 = (AB)^2 + (BC)^2$

=> $(AC)^2 = (0.8)^2 + (1.5)^2$

=> $(AC)^2 = 0.64 + 2.25 = 2.89$

=> $AC = \sqrt{2.89} = 1.7$ cm

=> Ans - (A)

# Reasoning

**Instructions**

For the following questions answer them individually

**Question 26**

**In the following question, select the related word pair from the given alternatives. Square : Four : : ? : ?**

A   Triangle : Five

B   Rectangle : Four

C   Octagon : Seven

D   Circle : Five

**Answer:** B

**Explanation:**
Expression = Square: Four:: ?: ?

The first is the polygon and the second is number of its sides, i.e. a square has 4 sides, similarly a rectangle has 4 sides.

=> Ans - (B)

**Question 27**

**In the following question, select the related number pair from the given alternatives.**
**18 : 11 : : ? : ?**

A   33 : 29

B   36 : 29

C   41 : 33

D   49 : 41

**Answer:** B

**Explanation:**
Expression = 18 : 11 : : ? : ?

The difference between the numbers = $18 - 11 = 7$

Similarly, only the difference between $36 - 29 = 7$

=> Ans - (B)

**Question 28**

**In the following question, select the related letter/letters from the given alternatives.**
**MPR : LOQ : : KST : ?**

**A**   JPQ

**B**   LRS

**C**   JPT

**D**   JRS

   **Answer:** D

**Explanation:**

Expression = MPR : LOQ : : KST : ?

The pattern followed is :

| M | P | R |
|------|------|------|
| (-1) | (-1) | (-1) |
| L | O | Q |

Similarly, for KST : **JRS**

| K | S | T |
|------|------|------|
| (-1) | (-1) | (-1) |
| J | R | S |

=> Ans - (D)

**Question 29**

**In the following question, select the odd word from the given alternatives.**

**A**   Lungs

**B**   Nose

**C**   Heart

**D**   Kidney

   **Answer:** B

**Explanation:**

Lungs, Heart and kidney are internal organs of a body, hence **nose** is the odd one out.

=> Ans - (B)

**Question 30**

In the following question, four number pairs are given. The number on left side of (-) is related to the number on the right side of (-) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

A  13 - 26

B  15 - 30

C  17 - 34

D  19 - 31

  Answer: D

**Explanation:**
The second number is equal to two times the first number.

$13 \times 2 = 26$

$15 \times 2 = 30$

$17 \times 2 = 34$

$19 \times 2 = 38 \neq 31$

=> Ans - (D)

**Question 31**

In the following question, select the odd letter/letters from the given alternatives.

A  TQNK

B  URNM

C  VSPM

D  LIFC

  Answer: B

**Explanation:**
(A) : T (-3 letters) = Q (-3 letters) = N (-3 letters) = K

(B) : U (-3 letters) = R (**-4** letters) = N (**-1** letter) = M

(C) : V (-3 letters) = S (-3 letters) = P (-3 letters) = M

(D) : L (-3 letters) = I (-3 letters) = F (-3 letters) = C

=> Ans - (B)

**Question 32**

**Arrange the given words in the sequence in which they occur in the dictionary.**
**1. Attempt**
**2. Alert**
**3. Attach**
**4. Assistant**
**5. Assume**

A 13452

B 24531

C 42531

D 53412

Answer: B

**Explanation:**
As per the order of dictionary :

= Alert -> Assistant -> Assume -> Attach -> Attempt

$\equiv$ 24531

=> Ans - (B)

**Question 33**

**In the following question, select the missing number from the given series.**
**13, 17, 26, 42, 67, ?**

A 99

B 90

C 103

D 94

Answer: C

**Explanation:**
Squares of consecutive integers are added.

$13 + (2)^2 = 17$

$17 + (3)^2 = 26$

$26 + (4)^2 = 42$

$42 + (5)^2 = 67$

$67 + (6)^2 = \textbf{103}$

=> Ans - (C)

**Question 34**

**A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**
**FN, KL, PJ, ?, ZF**

**A** SH

**B** RG

**C** VG

**D** UH

   **Answer:** D

**Explanation:**

Series : FN, KL, PJ, ?, ZF

The pattern followed in each letter of the terms is :

1st letter : F (+5 letters) = K (+5 letters) = P (+5 letters) = U (+5 letters) = Z

2nd letter : N (-2 letters) = L (-2 letters) = J (-2 letters) = H (-2 letters) = F

Thus, missing term = **UH**

=> Ans - (D)

**Question 35**

**In a row, Mohini is at 23rd position from left and 37th position from right. How many girls are there in the row?**

**A** 60

**B** 61

**C** 59

**D** 58

   **Answer:** C

**Explanation:**
Mohini's position from left end = 23rd

Mohini's position from right end = 37th

=> Total number of girls = $(23 + 37) - 1 = 59$

=> Ans - (C)

**Question 36**

**From the given alternatives, select the word which CANNOT be formed using the letters of the given word.
Grandfather**

**A** Rand

**B** And

**C** Grade

**D** Faith

 **Answer:** D

**Explanation:**
The word GRANDFATHER does not contain any 'I', thus the term **Faith** cannot be formed.

=> Ans - (D)

**Question 37**

**In a certain code language, "MUTE" is written as "60" and "TYRE" is written as "69". How is "HYPE" written in that code language?**

**A** 55

**B** 60

**C** 54

**D** 52

 **Answer:** A

**Explanation:**
The letters are numbered based on their position according to the English alphabetical order. A=1 , B=2 , C=3 , D=4 and so on.
Then the numbers are added and '1' is added to get the final output.

Eg :- MUTE = $(13 + 21 + 20 + 5) + 1 = 59 + 1 = 60$

TYRE = $(20 + 25 + 18 + 5) + 1 = 68 + 1 = 69$

Similarly, HYPE = $(8 + 25 + 16 + 5) + 1 = 54 + 1 = 55$

=> Ans - (A)

# Question 38

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
AMJ, DPM, GSP, ?, MYV

A   JUT

B   KVT

C   JVS

D   KUS

Answer: C

Explanation:

Series : AMJ, DPM, GSP, ?, MYV

The pattern followed in each letter of the terms is :

1st letter : A (+3 letters) = D (+3 letters) = G (+3 letters) = J (+3 letters) = M

2nd letter : M (+3 letters) = P (+3 letters) = S (+3 letters) = V (+3 letters) = Y

3rd letter : J (+3 letters) = M (+3 letters) = P (+3 letters) = S (+3 letters) = V

Thus, missing term = **JVS**

=> Ans - (C)

# Question 39

in the following question, select the missing number from the given series.
119, 121, 124, 128, ?, 139

A   130

B   133

C   131

D   132

Answer: B

Explanation:
Consecutive integers are added.

119 + 2 = 121

121 + 3 = 124

124 + 4 = 128

128 + 5 = **133**

133 + 6 = 139

=> Ans - (B)

**Question 40**

**In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.**

**A** (113, 109, 105)

**B** (142, 137, 133)

**C** (197, 193, 189)

**D** (162, 158, 154)

**Answer:** B

**Explanation:**

The numbers are of the form : $(x, x - 4, x - 8)$

But in the second option, we have = $142 - 4 = 138 \neq 137$ and $142 - 8 = 134 \neq 133$

Thus, (142, 137, 133) is the odd one out.

=> Ans - (B)

**Question 41**

**In a certain code language, '-' represents 'x', '÷' represents '+', '+' represents '÷' and 'x' represents '-'. Find out the answer to the following question.**
**23 x 20 ÷ 35 - 2 + 10 = ?**

**A** 19

**B** 10

**C** 16

**D** 20

**Answer:** B

**Explanation:**

Expression : 23 x 20 ÷ 35 - 2 + 10 = ?

$\equiv 23 - 20 + 35 \times 2 \div 10$

= $3 + \frac{70}{10}$

= $3 + 7 = 10$

=> Ans - (B)

## Question 42

**The following equation is incorrect. Which two signs should be interchanged to correct the equation?**
**17- 20 ÷ 25 x 6 + 10 = 12**

**A**   ÷ and +

**B**   ÷ and x

**C**   + and -

**D**   x and -

   **Answer:** A

**Explanation:**
Expression : 17- 20 ÷ 25 x 6 + 10 = 12

(A) : ÷ and +

$\equiv 17 - 20 + 25 \times 6 \div 10 = 12$

L.H.S. = $17 - 20 + \left( \frac{25 \times 6}{10} \right)$

= $-3 + 15 = 12 =$ R.H.S.

=> Ans - (A)

## Question 43

**If 9*4 = 26, 4*4 = 16 and 3*6 = 18, then find the value of 5*2 = ?**

**A**   13

**B**   14

**C**   17

**D**   26

   **Answer:** B

**Explanation:**
Given : 9*4 = 26, 4*4 = 16 and 3*6 = 18

If we replace '*' with '+', and multiply the sum by 2, we get the desired result.

Eg :- $(9 + 4) \times 2 = 26$

and $(4 + 4) \times 2 = 16$ and $(3 + 6) \times 2 = 18$

Similarly, $(5 + 2) \times 2 = 14$

=> Ans - (B)

## Question 44

**Which of the following terms follows the trend of the given list?**
**RQPQPQPQ, PSPQPQPQ, PQRQPQPQ, PQPSPQPQ, PQPQRQPQ, _____.**

**A** PQPQPQPQ

**B** RQPQPQPQ

**C** PQPQPSPQ

**D** PSPQPQPQ

Answer: C

**Explanation:**
Expression : RQPQPQPQ, PSPQPQPQ, PQRQPQPQ, PQPSPQPQ, PQPQRQPQ, _____.

The above series is a combination of 4 'PQ', but in each alternative term starting from the left, P is replaced by R and in the even number of terms, Q is replaced by S in increasing order.

Thus, in the missing term (6th term), 3rd Q is replaced by S = **PQPQPSPQ**

=> Ans - (C)

## Question 45

**Two pickup trucks X and Y start from the same place. Truck X travels East 15 km and then turns right and travels 8 km. In the meanwhile truck Y travels 7 km West, then 3 km North, then 2 km West , then it turns left and travels 11 km. Where is truck Y with respect to truck X?**

**A** 6 km West

**B** 24 km East

**C** 6 km East

**D** 24 km West

Answer: D

**Question 46**

In the question two statements are given, followed by two conclusions, I and II You have to consider the statements to be true even if it seems to be at variance from
commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.
Statement I: All magazines are papers
Statement II: Some tabloids are magazines
Conclusion I: Some papers are tabloids
Conclusion II: Some tabloids are papers

A   Only conclusion I follows

B   Only conclusion II follows

C   Both conclusions I and II follow

D   Neither conclusion I nor conclusion II follows
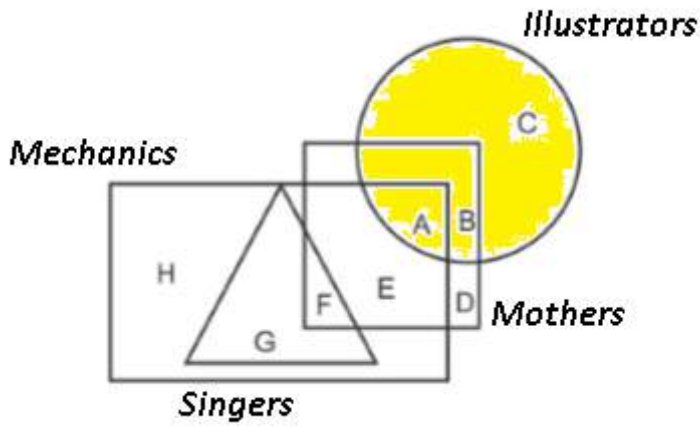
   **Answer:** C

**Question 47**

In the following figure, rectangle represents Mechanics, circle represents Illustrators, triangle represents Singers and square represents Mothers. Which set of letters represents Illustrators who are not Singers?
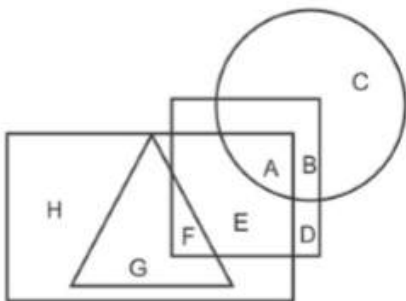


A   FG

B   ED

C   BC

D   ABC

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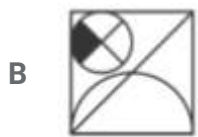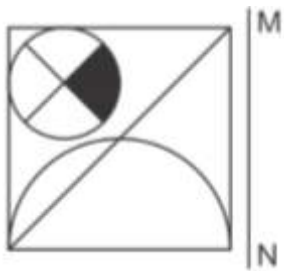
**Explanation:**

Illustrators who are not Singers = A + B + C
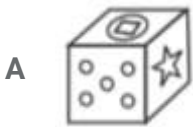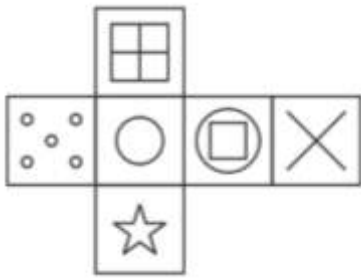
=> Ans - (D)

**Question 48**

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



A 

B 

C 

D 

**Answer:** D

## Question 49

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



A 

B 

C 

D 

**Answer:** B

## Question 50

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matri·I are numbered from 0 to 4 and that of Matrix·II are numbered from S to 9. A letter from these matrices can be represented first by its row and next by its column, for example '1' can be represented by 23, 41 etc and 'R' can be represented by 65, 57 etc. Similarly, you have to identify the set for the word 'DOPE'.

| Matrix - I | | | | | |
|---|---|---|---|---|---|
|   | 0 | 1 | 2 | 3 | 4 |
| 0 | K | A | J | D | H |
| 1 | D | C | B | K | I |
| 2 | D | F | F | J | E |
| 3 | E | C | D | I | C |
| 4 | I | J | I | M | I |

| Matrix - II | | | | | |
|---|---|---|---|---|---|
|   | 5 | 6 | 7 | 8 | 9 |
| 5 | R | R | R | O | O |
| 6 | R | Q | Y | Z | T |
| 7 | Y | X | P | O | X |
| 8 | V | Z | V | T | N |
| 9 | W | S | Y | V | V |

**A** 41,89,10,87

**B** 32,96,13,69

**C** 32,58,77,30

**D** 34,96,32,57

**Answer:** C

**Explanation:**
(A) : 41,89,10,87 = JNDV

(B) : 32,96,13,69 = DSKT

(C) : 32,58,77,30 = **DOPE**

(D) : 34,96,32,57 = CSDR

=> Ans - (C)

# English

**Instructions**

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

**Question 51**

**Although he (a)/ studied regularly, (b)/ his marks didn't improving. (c)/ No error (d)**

**A** Although he

**B** studied regularly

**C** his marks didn't improving

**D** No error

**Answer:** C

**Question 52**

**Buddhism originated in Ancient India around 6th and 4th (a)/ centuries BCE, from where it spread through most (b)/ of Asia, and then it declines in India during the Middle Ages.
(c)/ No error (d)**

**A**   Buddhism originated in Ancient India around 6th and 4th

**B**   centuries BCE, from where it spread through most

**C**   of Asia, and then it declines in India during the Middle Ages

**D**   No error

   **Answer:** C

## Instructions

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

### Question 53

**Is the lipstick natural or _____?**

**A**   artificial

**B**   daydream

**C**   unreal

**D**   vulnerable

   **Answer:** A

### Question 54

**In the court of god we will be judged by our action and _____.**

**A**   steeds

**B**   bleed

**C**   gleeds

**D**   deeds

   **Answer:** D

## Instructions

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

**Question 55**

**Laconic**

A   Brief

B   Verbose

C   Lengthy

D   Unabridged

**Answer:** A

**Question 56**

**Propitious**

A   Luxurious

B   Pitiful

C   Sad

D   Hopeful

**Answer:** D

**Instructions**

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

**Question 57**

**Mellow**

A   Ripe

B   Mature

C   Rich

D   Hard

**Answer:** D

**Question 58**

**Exhume**

A   Dig

B   Reveal

C   Hide

D   Resurrect

    **Answer:** C

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

**Question 59**

**Rearrange the parts of the sentence in correct order.**
**For ages,**
**P : the Indian psyche has been**
**Q : geared towards devoting one's life**
**R : to the welfare of all**

A   PQR

B   RPQ

C   QPR

D   PRQ

    **Answer:** A

**Question 60**

**A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.**
**My cousin has written this essay.**

A   This essay has been written by my cousin.

B   This essay was written by my cousin.

C   This essay has been wrote by my cousin.

D   My cousin wrote this essay.

    **Answer:** A

## Question 61

**A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/Direct Speech.**
**"Don't you know the way to home?" asked the lady.**

**A** The lady asked why he didn't know the way to home.

**B** The lady asked whether he didn't knew the way to home.

**C** The lady asked about the way to home.

**D** The lady asked why he doesn't know the way to home.

**Answer:** B

## Question 62

**In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.**

**A** Foreign

**B** Forien

**C** Foriegn

**D** Foreing

**Answer:** A

## Instructions

In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.
It is a proverbial _____, that every one makes his own destiny; and _____ is usually interpreted, that every one, by his wise _____ unwise conduct, prepares good or evil for himself: but we may also understand it, that whatever it be that he receives _____ the hand of Providence, he may so accommodate _____ to it, that he will find his lot good for him, however much may seem to others to be wanting.

## Question 63

**It is a proverbial _____, that every one makes**

**A** say

**B** said

**C** saying

**D** says

    **Answer:** C

# Question 64

**own destiny; and _____ is usually interpreted,**

**A** these

**B** this

**C** those

**D** here

    **Answer:** B

# Question 65

**by his wise _____ unwise conduct,**

**A** or

**B** but also

**C** but

**D** nor

    **Answer:** A

# Question 66

**that he receives _____ the hand of Providence,**

**A** form

**B** from

**C** of

**D** for

**Question 67**

**so accommodate _____ to it, that he**

**A**  he

**B**  his

**C**  himself

**D**  him

Answer: C

**Instructions**

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

**Question 68**

**Come true**

**A**  Pray hard for your wishes.

**B**  To happen in the way you had hoped.

**C**  Day dream about success.

**D**  Be finally proved that you were right.

Answer: B

**Question 69**

**Great minds think alike**

**A**  When an evil plan is hatched criminals agree.

**B**  Said to those people who don't like each other to make them agree.

**C**  Said when two people have the same opinion or make the same choice.

**D**  Intelligent people will think of plans to which everybody will say yes.

Answer: C

## Instructions

In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

## Question 70

**An urgent need or demand**

**A**   Vindication

**B**   Satiety

**C**   Redress

**D**   Exigency

   **Answer:** D

## Question 71

**Believe in and follow the practices of**

**A**   Atheist

**B**   Pagan

**C**   Agnostic

**D**   Adhere

   **Answer:** D

## Instructions

In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

## Question 72

**We have lost the magic of living, and (is mired) in numbers.**

**A**   was mired

**B**   to mire

**C**   are mired

**D** no improvement

  **Answer:** C

## Question 73

There is something in a train journey that (was fascinated) a lot of people and I am one of them.

**A** has fascinated

**B** have fascinated

**C** has fascinate

**D** no improvement

  **Answer:** A

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

## Question 74

The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.
On the speech front, we
A-can all do something individually
B-idiom of communication
C-if we change our

**A** ABC

**B** CBA

**C** ACB

**D** CAB

  **Answer:** C

## Question 75

In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.

**A** monopoly

**B**   iliterrate

**C**   monnopoly

**D**   monnopolly

   **Answer:** A

# General Awareness

**Instructions**

For the following questions answer them individually

**Question 76**

**"Residex Index" is associated with which of these?**

**A**   Share Prices

**B**   Mutual Fund Prices

**C**   Price Inflation Index

**D**   Housing Prices

   **Answer:** D

**Question 77**

**For internal financing of Five Year Plans, the Government depends on _____.**

**A**   taxation and public borrowing

**B**   taxation, public borrowing and deficit financing

**C**   Only taxation

**D**   public borrowing and deficit financing

   **Answer:** D

**Question 78**

**In which language were the Buddhist literary works generally written?**

**A** Prakrit

**B** Pali

**C** Nepalese

**D** Sanskrit

Answer: B

## Question 79

Which of the following rebellion / agitation did NOT happen in the area of Bengal?

**A** Sannyasi Rebellion

**B** Chuar Rebellion

**C** Pagal Panthi rebellion

**D** Baghera Rebellion

Answer: D

## Question 80

Which of the following cities is closest to the Equator?

**A** Colombo

**B** Jakarta

**C** Manila

**D** Singapore

Answer: D

## Question 81

Which of the following states has NOT met the boundary with Mizoram?

**A** Nagaland

**B** Myanmar

C   Assam

D   Tripura

Answer: A

## Question 82

Who among the following is NOT a famous dancer of Bharatanatyam?

A   Rukmini Devi Arundale

B   T. Balasaraswati

C   Yamini Krishnamurthy

D   Jhaveri sisters

Answer: D

## Question 83

At which place the first BIMSTEC Disaster Management Exercise 2017 (BIMSTEC DMEx 2017), held in October 2017?

A   Dhaka

B   Colombo

C   Delhi

D   Male

Answer: C

## Question 84

Who among the following is a recipient of first Life time Achievement award initiated by Badminton Association of India

A   G.S.S.V.Prasad

B   Nandu Patekar

C   P. Gopichand

D   Prakash Padukone

**Answer:** D

## Question 85

Most of population in Sri Lanka follows _____.

A   Hinduism

B   Islam

C   Christianity

D   Buddhism

**Answer:** D

## Question 86

What is the relative molecular mass of water?

A   8 u

B   9 u

C   16 u

D   18 u

**Answer:** D

## Question 87

What is the pH value of human blood?

A   8.3

B   6.8

C   7.4

D   6

**Answer:** C

## Question 88

In India, who is known as the highest law officer?

A   President of India

B   Attorney General of India

C   Comptroller and Auditor General of India

D   Advocate General of the State

   **Answer:** B

## Question 89

**According to the Indian Constitution, the Union _____ body is called the Parliament.**

A   Judicial

B   Executive

C   Legislative

D   both Judicial and legislative

   **Answer:** C

## Question 90

**Which is NOT an example of organism that breaks down the food material outside the body and then absorb it?**

A   Bread moulds

B   Yeast

C   Mushrooms

D   Snake

   **Answer:** D

## Question 91

**Each trait in the child can be influenced by _____ DNA.**

A   only paternal

B   only maternal

C   both paternal and maternal

D   neither paternal nor maternal

Answer: C

## Question 92

Who launched Pradhan Mantri Vaya Vandana Yojana (PMVVY) in July 2017?

A   Rajnath Singh

B   Arun Jaitley

C   Suresh Prabhu

D   Nirmala Sitharaman

Answer: B

## Question 93

Which organisation has installed India's largest floating solar photovoltaic plant in Kerala?

A   Nuclear Power Corporation of India

B   Power grid Corporation of India

C   National Hydroelectric Power Corporation

D   National Thermal Power Corporation

Answer: D

## Question 94

'ICAR' launched National Agricultural Higher Education Project (NAHEP) in association with World Bank. Where is ICAR (Indian Council of Agricultural Research) located?

A   Mumbai

B   Patna

C   Bengaluru

D   New Delhi

Answer: D

## Question 95

On 19 September 2017, Law Ministry approved Fugitive Economic Offenders Bill, 2017. The Bill entrusts the responsibility to try cases of Fugitive Economic Offenders under _____.

A   Prevention of Money Laundering Act, 2002 (PMLA)

B   Prevention of Money Laundering Act, 2005

C   Prevention of Money Laundering Act, 2010

D   Prevention of Money Laundering Act, 1995

Answer: A

## Question 96

Due to an acceleration of 4 m/s2 the velocity of a body increases from 10 m/s to 30 m/s in a certain period. Find the displacement (in m) of the body in that period.

A   200

B   250

C   100

D   125

Answer: C

## Question 97

The area under a Velocity-Time graph represents _____.

A   distance

B   acceleration

C   force

D   momentum

Answer: A

**Question 98**

A _____ is known by different names in different parts of the world.
It is called a 'hurricane' in North America.

A   funnel

B   whirlpool

C   cyclone

D   twister

   **Answer:** C

**Question 99**

Which of the statements given below are correct?
A) Alexander Norén won the Golf 2017 Masters Tournament.
B) In 2017, Daniel Ricciardo raced in Formula One for Mercedes.
C) In 2017 Pro Kabaddi League, Suraj Desai played for Jaipur Pink Panthers.

A   Only A

B   Only B

C   B and C

D   None of these

   **Answer:** D

**Question 100**

In _____ layout headings can be displayed hiding the text under them in
Microsoft Word.

A   Web

B   Outline

C   Reading

D   Print

   **Answer:** B