

**R.C. Reddy IAS Study Circle**  
**TSPSC GROUP-1 SERVICES (2024 Notification)**  
**PRELIMINARY TEST**  
**SECTIONAL TEST-3**  
**(LOGICAL REASONING: ANALYTICAL ABILITY**  
**AND DATA INTERPRETATION)**

**Key and Explanation**

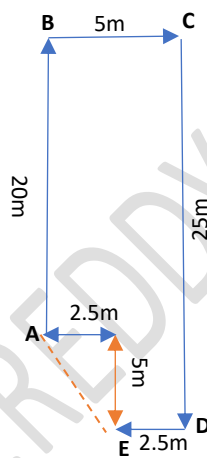
Q1.

Answer: (3)

Mr. X is at the point A and went 20 meters to the north and reached the point B. From there he turned towards east and walked another 5 meters and reached point C, then he turned towards right, covered 25 meters and reached the point D. He again took a right turn and walked 2.5 meters, where finally he stopped at the point E. the shortest distance from point E to point A will be EA.

$$EA = \sqrt{5^2 + 2.5^2} = \sqrt{25 + 6.25} = \sqrt{31.25} = 5.59m$$

And as can be seen from the below mentioned diagram, E is in the South-East direction from the starting point A. hence option (3) is the answer.



Q2.

Answer: (2)

Movement of Ram can be traced from the point A to E as shown in the diagram. Clearly, he will meet his friend at the point E, who is in the North-East direction from the point A and at a shortest distance AE from the starting point.

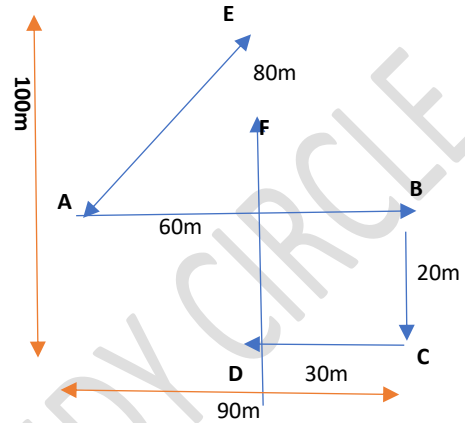
$$AF = AB - BF = 90 - 30 = 60m$$

And,

$$EF = DE - DF = 100 - 20 = 80m$$

Finally,

$$EA = \sqrt{60^2 + 80^2} = \sqrt{3600 + 6400} = \sqrt{10000} = 100m$$



Q3.

Answer: (2)

The movement of John can be traced from point A to F. clearly from the figure the end point is in North-East direction from the starting point.

The shortest distance between A and F is AF.

$$GF = EF - GF = 60 - (20 + 10) = 30m$$

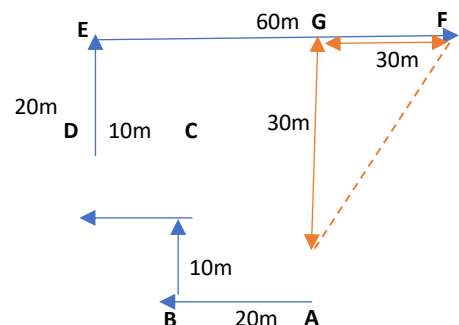
And,

$$AG = BC + DE = 10 + 20 = 30m$$

Finally,

$$EA = \sqrt{30^2 + 30^2} = \sqrt{900 + 900} = \sqrt{1800} = 30\sqrt{2}m$$

Hence option (2) is correct answer.



Q4.

Answer: (2)

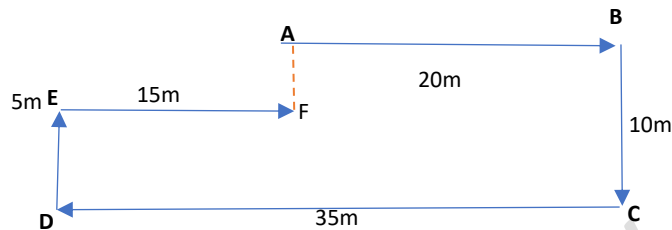
The movement of Sita can be traced from point A (her house) to point F (her office).

AF in the figure shows the distance from Sita's house to her Office, and her house is in North direction to her office.

Since AF is in line with A,

$$AF = BC - BD = 10 - 5 = 5m$$

Hence Sita's office is 5m away from her home and her home is in north direction of her office. **Hence option (2) is correct**



Q5.

Answer: (2)

From the table,

Number of student left college-1 in 2008=50

Number of student left college-4 in 2012=108

Number of students admitted in college-2 in 2009=172

Number of students admitted in college-3 in 2011=165

Hence the required percentage =  $\frac{50+108}{172+165} \times 100 = \frac{158}{337} \times 100 = 46.88\% \approx 47\%$

Q6.

Answer: (1)

State	Area Under rice cultivation (thousands hectare)	Production of rice (Million Kg)	Productivity Million Kg/thousands hectare
Assam	135	310	2.296296
West Bengal	300	630	2.1
Punjab	150	700	4.666667
Uttar Pradesh	450	965	2.144444

Tamil Nadu	300	770	2.566667
Kerala	120	260	2.166667
Bihar	110	245	2.227273
All Total	1565	3874	2.475399

Q7.

Answer: (1)

Since, it is given that import of company A in 2008=120000 units

Hence, import of company B in 2008= 120000 + 120000\*10/100 = 1.1\*120000

Ratio of import to export of company A in 2008=0.75

Hence, export of company A in 2008 = import/0.75 = 120000/0.75

Ratio of import to export of company B in 2008=1.2

Hence, export of company B in 2008 = import/1.20 = 1.1\*120000/1.2

Hence,

The ratio of export of company A to Company B in 2008  $\frac{120000/0.75}{1.1*120000/1.2} = \frac{1.2}{1.1*0.75} = \frac{16}{11}$

Hence,

**The required ratio is 16:11, that is option (1)**

Q8.

Answer: (3)

Afghanistan GDP in 2011= \$17,890 million

Albania's GDP in 2011 = \$12,899 million

The GDP growth rate of Afghanistan from 2011 to 2012 = 12.8 %

Hence,

Afghanistan's GDP in 2012 = 17,890 + 17,890\*12.8/100 = \$ 20,179.92 million

The GDP growth rate of Albania from 2011 to 2012 = 1.4 %

Hence,

Albania's GDP in 2012 = 12,899 + 12,899\*1.4/100 = \$13,079.59 million

Hence difference in GDPs of Afghanistan and Albania in 2012 = 20,179.92 – 13,079.59 = 7,100.3 million. **Hence option 3 is correct.**

**9. Answer: 3**

Average production of Company X in the period 1998-2000

$$= \frac{1}{3} \times (25 + 50 + 40) = 41.67 \text{ lakh tons.}$$

	3			3	
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Average production of Company Y in the period 1998-2000

$$= \left[ \frac{1}{3} \times (35 + 40 + 50) \right] = \left[ \frac{125}{3} \right] \text{ lakh tons.}$$

$$\therefore \text{ Required ratio} = \frac{\left( \frac{115}{3} \right)}{\left( \frac{125}{3} \right)} = \frac{115}{125} = \frac{23}{25}$$

Q10.

Answer: (3)

Input cost of company in 2016 = 32000

Sales of company in 2016 = 46000

Profit = 46000 - 32000 = 14000

Also,

Input cost of company in 2019 = 20000

Sales of company in 2016 = 33000

Profit = 33000 - 20000 = 13000

Hence,

Profit percentage in 2016 is more than that in 2019 =  $\frac{14000-13000}{13000} \times 100 = 7.69\% \approx 7.7\%$

**Hence option (3) is correct.**

Q11.

Answer: (3)

Since, H is the grandfather of R. D is the wife of H. It is clear that D is the grandmother of R. Hence the answer is Grandson.

Q12.

Answer: (2)

Here, according to the question, W\*X means W is sister of X and X-Y means X is mother of Y and Y+Z means Y is brother of Z. So, it is clear that X is sister of W.

Hence the answer is X is sister of W.

**Hence option (2) is correct.**

Q13.

Answer: (4)

Observing the pattern carefully you will find that this question belongs to the category of squares and cube series.

$$2^3 - 2^2 = 8 - 4 = 4$$

$$3^3 - 3^2 = 27 - 9 = 18$$

$$4^3 - 4^2 = 64 - 16 = 48$$

$$5^3 - 5^2 = 125 - 25 = 100$$

$$6^3 - 6^2 = 216 - 36 = 180$$

$$7^3 - 7^2 = 343 - 49 = 294$$

$$8^3 - 8^2 = 512 - 64 = 448$$

Hence option (4) is the correct answer.

Q14.

Answer: (4)

The difference of the two consecutive numbers is 1, 4, 9, 16, 25, 35.

This is clearly,  $+(1^2)$ ,  $+(2^2)$ ,  $+(3^2)$ ,  $+(4^2)$ ,  $+(5^2)$ ,  $+(6^2)$

Here 35 is wrong, so our wrong number is 91

Hence option (4) is correct.

Q15.

Answer: (3)

The logic behind series is that the numerators and denominators in the consequent position is increasing by  $+n^3$ , where n starts from 1,2,3,.....

Hence,

$$\frac{3}{11} = \frac{2+1^3}{3+2^3};$$

$$\frac{11}{38} = \frac{3+2^3}{11+3^3};$$

$$\frac{38}{102} = \frac{11+3^3}{38+4^3};$$

$$\frac{102}{227} = \frac{28+4^3}{38+5^3};$$

$$\frac{227}{443} = \frac{102+5^3}{227+6^3}$$

Hence the fraction 36/104 is wrong in the sequence. Hence option (3) is correct.

Q16.

Answer: (2)

The alphabets are coded as shown:

R	O	S	E	C	H	A	I	P
6	8	2	1	7	3	4	5	9

So, in SEARCH,

S is coded as 2,

E as 1,

A as 4,

R as 6,

C as 7,

H as 3.

Thus, the code for SEARCH is 214673

Q17.

Answer: (1)

Here the logic behind coding is each letter is presented by two numbers, which are +1, -1 of the letter's position number, i.e., H is presented by 7 & 9, which is +1 & -1 of 8.

Hence

Letter	Position Number	Code
B	2	1,3
I	9	8,9
R	18	17,19
D	4	3,5

Hence the given code is 1389171935. **Hence option (1) is correct.**

Q18.

Answer: (3)

Time from 7 a.m. to 4.15 p.m. = 9 hrs 15 min. =  $37/4$  hrs.

3 min. 5 sec. of this clock = 3 min. of the correct clock.

Hence,

$$\frac{37}{720} \text{ hours of this clock} = 1/20 \text{ hours of correct clock}$$

$$\frac{37}{4} \text{ hours} = \frac{1}{20} * \frac{720}{37} * \frac{37}{4} \text{ hours of the correct clock} = 9 \text{ hrs of correct clock}$$

Hence,

The correct time is 9 hrs after 7 a.m. i.e. 4 p.m.

**Hence option (3) is correct.**

Q19.

Answer: (4)

The given information may be analysed as under

	English	Hindi	Mathematics	Geography	History	French
A	Y	Y	Y			
B	Y	Y		Y	Y	Y
C	Y			Y		
D		Y	Y			
E					Y	Y

Hence both A and D like Mathematics and Hindi. **Hence option 4 is correct.**

Q20.

Answer: (1)

The angle between the minute hand and the hour hand at 5 a.m. is 150 degrees.

The angle between the hands becomes 34 degrees when the angle changes by 116 degrees and 184 degrees, i.e.  $(150-34)$  and  $(150+34)$ .

The angle changes by 5.5 degrees in 1 min.

The angle changes by 116 degrees in  $1/5.5 \times 116 = 21 \frac{1}{11}$  min.

The angle changes by 184 degrees in  $1/5.5 \times 184 = 33 \frac{5}{11}$  min.

Therefore, the angle between the two hands is 34 degrees when the time is 5 a.m.  $21 \frac{1}{11}$  min, and again at 5 a.m.  $33 \frac{5}{11}$  min.

Q21.

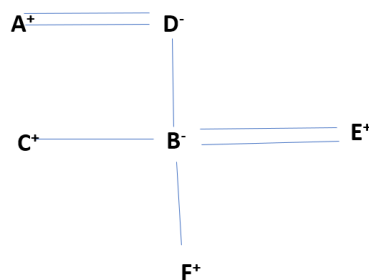
Answer: (4)

Since the family has two married couple,

And it is given that E is son in law of A, D is mother of C and D. It can be concluded that A and D are married and B and E are married.

And also given that F is nephew of C, hence F is son of B and E and A is grandfather of F. Hence F is grandson of A.

**Hence option 4 is correct.**





Q22.

Answer: (4)

The numbers can be arranged as per given statements as

$$S < P < Q, R < T < V$$

Since, the relative position of Q and R cannot be determined from given position. **Hence the 4<sup>th</sup> position from top cannot be determined. Hence option 4 is correct.**

Q23.

Answer: (3)

Explanation:

One couple is B & A.

C and F are the children of E.

So, the other couple is E & D.

E is a director.

D is a female writer.

B is a lawyer.

So, A is a Chef and hence a female.

D is the mother of C and F.

A has one son and one grandson.

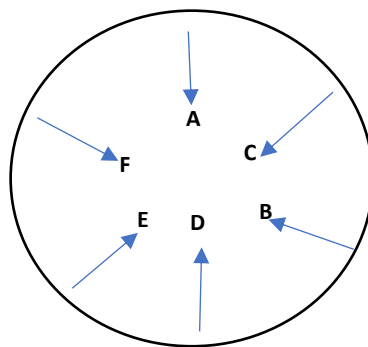
So, E is the son of A and C or F is the grandson.

The grandson is a male civil engineer and the grand-daughter is a college going student.

A is the grandmother of C.

Q24.

Answer: (1)



Q25.

Answer: (3)

B is between F and D, hence let us assign two possible positions for this statement

F	B	D			
&					
D	B	F			

Next conditions states that E is between A and C. There are 3 empty spaces, in which three students has to be assigned. One condition state that A cannot stand beside F and D. Hence, we will fill the student in the sequence of C-E-A; but since C cannot stand beside D. Hence the 1<sup>st</sup> possible case can be rejected and we will get the final solution as-

D	B	F	C	E	A
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Hence F sits between B and C. hence option 3 is correct.

Q26.

Answer: (1)



Q27. D

$$\text{Sum of cubes} = \left[ \frac{n*(n+1)}{2} \right]^2$$

1. Calculate the sum of cubes from 1 to 20 using the formula:

$$\text{Sum} = \left[ \frac{20*(20+1)}{2} \right]^2 = 210^2 = 44100$$

2. Calculate the sum of cubes from 1 to 10 using the same formula for n = 10:

$$\text{Sum} = \left[ \frac{10*(10+1)}{2} \right]^2 = 55^2 = 3025$$

3. The desired sum is the difference between the two calculated sums:

- Sum (11 to 20) = Sum (1 to 20) - Sum (1 to 10)
- Sum (11 to 20) = 44100 - 3025 = 41075

Hence option 4 is correct answer.

Q28.

Answer: (2)

For above number to be divided by 8, the last three digits, i.e. 58N must be divided by 8,

$$\Rightarrow N=4$$

Now, for the number M390484584 to be divided by 11, difference between sum of even digits and sum of odd digits must be divided by 11.

$$\Rightarrow \text{Sum of even digits} = (3+5+8+0+4) = 20$$

$$\Rightarrow \text{Sum of odd digits} = (8+4+4+9+M) = (25+M)$$

$$\text{required difference} = (25+M) - 20 = 11(25+M) - 20 = 11$$

$$\Rightarrow M = 6$$

Hence, (M, N) = (6, 4)

**Hence option (2) is correct.**

Q29.

Answer: (4)

Explanation:

To find the remainder when the number is divided by 9, we need to add up the digits and find the remainder of the sum when divided by 9.

The sum of the digits from 1 to 29 can be calculated using the formula for the sum of an arithmetic series:

$$\text{sum} = \frac{n}{2} * (\text{1st term} + \text{last term}) = \frac{29 * (1 + 29)}{2} = 29 * 15 = 435$$

The remainder when 435 is divided by 9 is 3.

Therefore, the remainder when the number 1234567891011121314151617181920212223242526272829 is divided by 9 is also 3.

**Hence option (4) is correct.**

Q30.

Answer: (4)

First two codes reveal that 'take' = eff

Middle two codes reveal that 'your' = iuee

Last two codes reveal that 'jump' = fgrr

First and third codes reveal that 'turn' = rre

First and fourth code reveal that 'instant' = ntw

Second and fourth gives 'out' = bhrr

Thus, we have

take = eff

instant = ntw

right = tyrr

turn = rre

your = iuee

shoes = poqq

out = bhtt

jump = fgrr

on = litt

again = rfg**h**

**hence option 4 is correct.**

Q31.

Answer: (1)

The logic behind the code is alternative +2 and -2 addition in the consecutive sequences. For example C+2=F; A-2=X...and so on.

Hence on similar logic,

A	+2	D
I	-2	F
4	+2	6
E	-2	B
V	+2	Y
E	-2	B
R	+2	U
Y	-2	V
1	+2	3

Hence DF6BYB**U**V3 is the right code. **Hence option 1 is correct.**

Q32.

Answer: (1)

The number of letters in the terms goes on increasing by 1 at each step. Each term consists of letters in alphabetical order. The last letter of each term and the first letter of the next term are alternate. Hence MNOPQ will be the missing term. **Hence option 1 is correct.**

Q33.

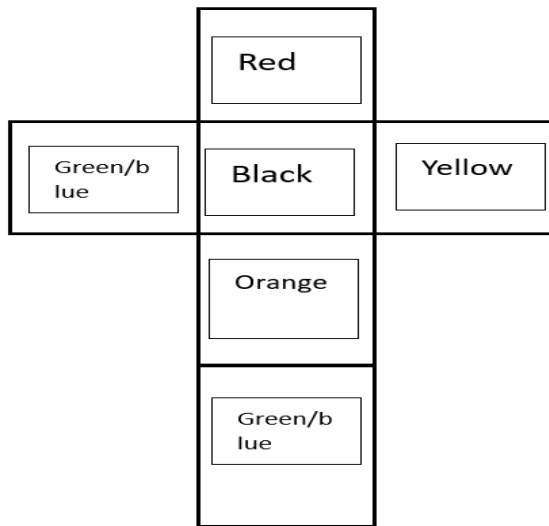
Answer: (2)

The given mathematical expression can be decoded as  $8+10*5/2-6$ , which will be equal to 27. **Hence option 2 is correct.**

Q34.

Answer: (1)

From the below-mentioned diagram below, orange is the opposite face of red. **Hence option 1 is correct.**



Q35.

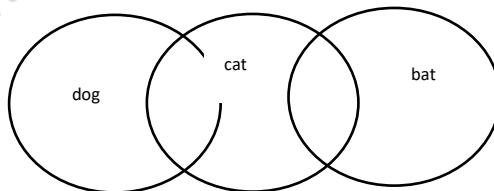
Answer: (4)

POSITION NUMBER	LETTERS	REARRANGED LETTERS
1	B	A
2	E	C
3	N	T
4	E	O
5	F	R
6	A	B
7	C	E
8	T	N
9	O	E
10	R	F

Hence option 4 is correct.

Q36.

Answer: (1)



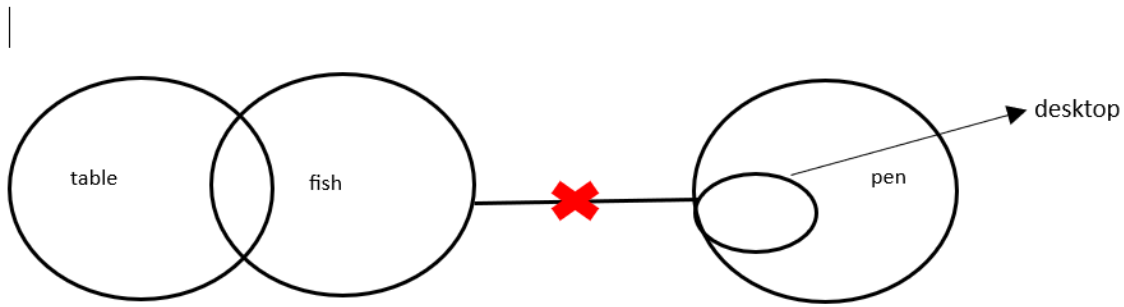
Since both the statements call for the probable conclusion. Hence both statements are not certainly correct. Hence neither of the two conclusion follows. Hence option 1 is correct.

Q37.

Answer: (2)

Since no fish is desktop, hence some table is not desktop conclusion follows the statement.

While conclusion II cannot follow the statements. **Hence option 2 is correct.**



Q38.

Answer: (1)

Statements:  $B > A \geq T > F = Y \leq S < D$

Conclusions:  $F < D, A > S$

For conclusion I:  $F < D$

Here, the common sign between F and D is '<', hence  $F < D$ .

Thus, conclusion I follows.

For conclusion II:  $A > S$

Here, we can see the opposite sign between A and S, thus no relationship can be established between them.

Thus, conclusion II does not follow.

Therefore, only conclusion I follows.

**Hence option 1 is correct.**

Q39.

Answer: (4)

Decoded version of signs:

@ -  $\leq$

! -  $>$

\* -  $\geq$

% -  $<$

# -  $=$

Statements:  $M > H, K < M, G = H$

Conclusions:  $H = K, M \geq G$

From statements I and II, we get:

$$K < M > H$$

Here, we get the opposite signs between H and K, thus no relationship can be established between them.

**Hence conclusion I does not follow.**

From statements I and III, we get:

$$M > H = G$$

Thus  $M \geq G$  is not a true relationship from the above equation.

**Hence conclusion II does not follow.**

**Hence option 4 is correct.**

**Q40.**

Answer: (1)

5 7 2 3 4 7 2 8 6 5 7 3 2 5 7 2 7 8 0 6 5 7 2 5 7 3 6 8 5 7 2 5 7 3

**Q41.**

Answer: (4)

Since Ram and Mahesh interchange positions, so Ram's new position is the same as Mahesh's earlier position.

This position is fourteenth from the left (Ram's new position) and seventeenth from the right (Mahesh's earlier position).

Hence,

$$\text{Number of students in the row} = (13 + 1 + 16) = 30$$

**Hence option 4 is correct.**

**Q42.**

Answer: (4)

Clearly, both the courses directly follow the prerequisites mentioned in the statement.

**Q43.**

Answer: (4)

The availability of vegetables is not mentioned in the given statement. So, I does not follow. Also, II is not directly related to the statement and so it also does not follow. **Hence option 4 is correct.**

**Q44.**

Answer: (3)

Clearly, taxes on an item cannot be increased or decreased based on the financial position of the people who buy it. So, both arguments I and II do not hold strong. **Hence option 3 is correct.**

Q45.

Answer: (4)

As given in statements I and II, we have  $\text{Manu} = \text{Rama} = \text{Nisha}$ ,  $\text{Rama} + \text{Nisha} + \text{Priya} = 32$  and  $\text{Priya} = \text{Rama} + \text{Nisha}$ .

Putting  $\text{Priya} = \text{Rama} + \text{Nisha}$  in second, we get  $\text{Priya} = 16$ .

Thus,  $\text{Rama} + \text{Nisha} = 16$  and  $\text{Rama} = \text{Nisha}$ .

So,  $\text{Rama} = \text{Nisha} = \text{Manu} = 8$ . Thus,  $\text{Glory} = 8$ .

Hence, both the statements are needed.

**Hence option 4 is correct.**

Q46.

answer: (1)

If we consider statement 1 only, we can safely conclude that B is the tallest of all. If we consider statement 2 only, we can safely conclude that A is the shortest of all. Therefore, statement 1 alone is sufficient to answer the question. **Hence option 1 is correct.**

Q47.

Answer: (2)

On 31st December, 2005 it was Saturday.

Number of odd days from the year 2006 to the year 2010 =  $(1 + 1 + 2 + 1 + 1) = 6$  days.

On 31st December 2010, it was Friday.

Thus, on 1st Jan, 2011 it is Saturday. **Hence option 2 is correct.**

Q48.

Answer: (3)

In this letter and number series, the pattern is as follows:

The letter "B" appears at the beginning of each term.

The number represents a sequential count starting from 2 and increasing by 1 with each term.

The letters "C" and "D" appear in each term.

So, the missing term would be "B2C3D" as it continues the pattern. **Hence option 3 is correct.**

Q49.

Answer: (3)

The series is  $\text{babb}/\text{bbab}/\text{bbba}/\text{bbbb}$

Thus, in each sequence, a moves one step forward and b takes its place and finally in the fourth sequence, it is eliminated.

Q50.



Answer: (2)

$$6 \cdot 3 - 1^2 = 17$$

$$5 \cdot 4 - 2^2 = 16$$

$$4 \cdot 5 - 4^2 = 4$$

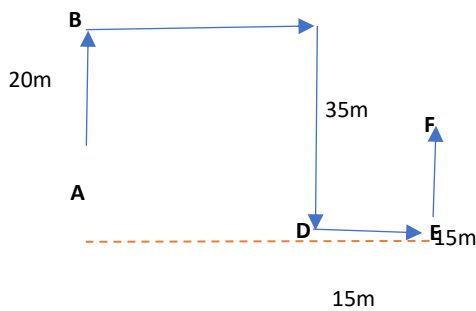
$$7 \cdot 2 - 3^2 = 5$$

Hence 5 is the right answer.

**Hence option 2 is correct.**

Q51.

Answer: (4)



The path taken by Rohan can be traced from the figure from A to F. The required distance is AF, which is equal to,

$$AF = 30 + 15 = 45\text{m.}$$

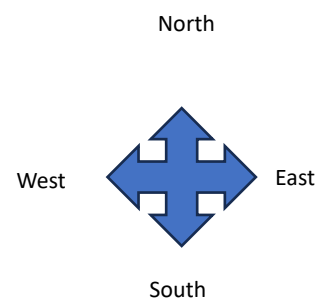
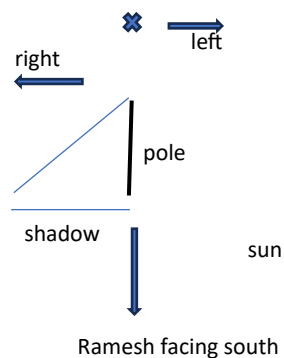
Also, from the figure, F is in East direction from A.

Hence the required answer is '45m East'. **Hence option 4 is correct.**

Q52.

Answer: (3)

:

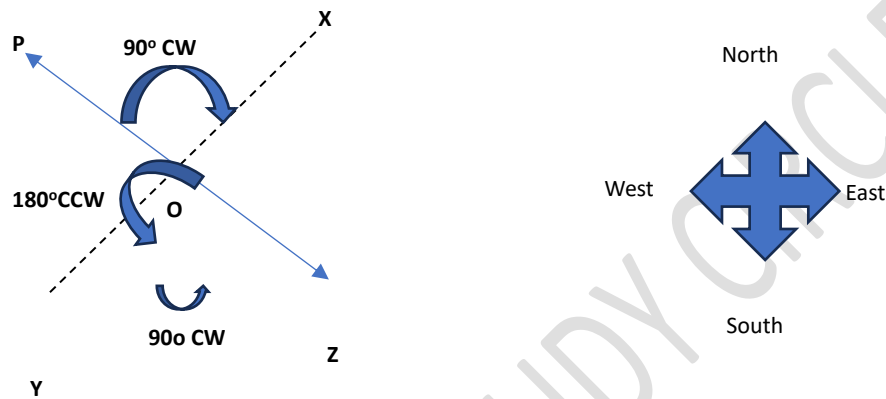


Since, the sun rises in the east in the morning, the poll falls to Ramesh's right. So, he is facing south.  
**Hence option 3 is correct.**

Q53.

Answer: 3

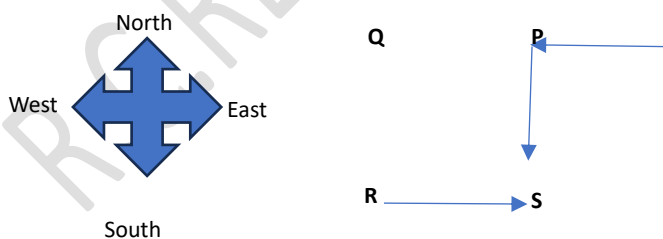
As shown in the figure the man initially faces in the direction OP. On moving  $90^\circ$  clockwise, he faces in the direction OX. On further moving  $180^\circ$  anticlockwise, he faces in the direction OY. Finally, on moving  $90^\circ$  anticlockwise, he faces in the direction OZ, which is South-east. **Hence option 3 is correct.**



Q54.

Answer: 2

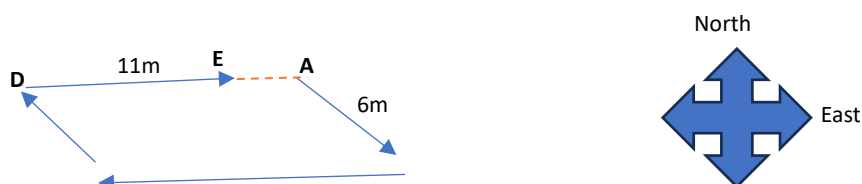
The path  $P \rightarrow Q \rightarrow R \rightarrow S$  will trace a path as shown in the figure below. From the figure, it can be found that S is in the south-east of Q. **Hence option 2 is correct.**



Q55.

Answer: (3)

The path taken by Nisha can be traced from A to E. The required distance AE, which is equal to 4km.



6m

West

B

C

15m

South

Q56.

Answer: (3)

Here, according to the question,  $M@N$  means M is mother of N and  $N\#O$  means N is father of O. So, it is clear that N is son of M.

Hence the answer is N is son of M. **hence option 3 is correct.**

Q57.

Answer: (2)

Here, it is given that Mahesh and Karan are brothers and Priya is Daughter of Mahesh. Nisha is sister of Karan i.e. Nisha is sister of Mahesh. So, it is clear that Nisha is aunt of Priya.

Hence the answer is Aunt. **Hence option 2 is correct.**

Q58.

Answer: (1)

From the given conditions,

M and N are brothers, O is married to N and P is child of O and N.

L is married to M, and Q and R are their children. Here, Q is boy and R is a girl.

Hence R is the daughter of L and M, and sister of Q. **hence option 1 is correct.**

Q59.

Answer: (4)

Here, the man's mother has only one son i.e. the man himself. So, that person is the son of the son of that man i.e. that person is his grandson.

Hence the answer is Grandfather. **Hence option 4 is correct.**

Q60.

Answer: (1)

we have to check one by one from the given options,

Here, according to the question,  $G-R$  means G is mother of R and  $R*N$  means R is sister of N and  $N+E$  means N is brother of E. So, it is clear that R is daughter of G.

Hence the answer is  $G-R*N+E$ . **hence option 1 is correct.**

Q61.

Answer: (3)

The logic behind the 6, 13, 27 is that 2<sup>nd</sup> number is 1<sup>st</sup> number\*2 + 1, similar 3<sup>rd</sup> number is 2<sup>nd</sup> number\*2 + 1.

Hence the similar set of numbers is- 11,  $11*2+1$ ,  $23*2+1$ , i.e., 11, 23, 47. **Hence option 3 is correct.**

Q62.

Answer: (3)

Explanation:

The 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> letters of the second group are respectively the 3<sup>rd</sup>, 4<sup>th</sup>, 2<sup>nd</sup>, and 1<sup>st</sup> letters of the first group.

P	O	S	H
S	H	O	P

**Hence option 3 is correct.**

Q63.

Answer: (4)

The series words are similar on the logic,

$$1^{\text{st}} \text{ digit of number} = (2^{\text{nd}} \text{ digit})^2 - (3^{\text{rd}} \text{ digit})^2$$

854 do not follow this logic, hence it is the odd one. **Hence option 4 is correct.**

Q64.

Answer: (2)

All other group contain alternate letters of the alphabet in order. **Hence option 2 is correct.**

Q65.

Answer: (2)

Clearly,  $5*2=10$ ,  $10*2=20$ ,  $20*2=40$ , .....

So, it is a geometrical progression series in which  $a=5$ , and  $r=2$ .

Let 640 be the  $n$ th term of the series,

Hence,

$$5*2^{n-1}=640$$

$$2^{n-1}=128=2^7$$

$$n-1=7$$

$$n=8$$

hence 640 is the 8<sup>th</sup> term. **Hence option 2 is correct.**

Q66.

Answer: (4)

$$2^{\text{nd}} \text{ term} = 1^{\text{st}} \text{ term} * 1+1=15*1+1=16;$$

$$3^{\text{rd}} \text{ term} = 2^{\text{nd}} \text{ term} * 2+2=16*2+2=34;$$

$$4^{\text{th}} \text{ term} = 3^{\text{rd}} \text{ term} * 3+3=34*3+3=105;$$

$$5^{\text{th}} \text{ term} = 4^{\text{th}} \text{ term} * 4 + 4 = 105 * 4 + 4 = 424;$$

$$6^{\text{th}} \text{ term} = 5^{\text{th}} \text{ term} * 5 + 5 = 424 * 5 + 5 = 2125;$$

Hence 6<sup>th</sup> term should be 2125 instead of 2124. **Hence option 4 is correct.**

Q67.

Answer: 1

There are two sequences (3, 9, 67.5, 810) and (4, 22.5, 202.5).

The pattern is: (1<sup>st</sup> term\*3), (2<sup>nd</sup> term\*7.5), (3<sup>rd</sup> term\*12) for the first sequence and (1<sup>st</sup> term\*5), (2<sup>nd</sup> term\*9) and so on for the second sequence. Hence instead of 4, it must be 4.5. **hence option 1 is correct.**

Q68.

Answer: 4

The difference of the two consecutive numbers are 4, 9, 16, 25, 35, 50

This is clearly ,  $+(2^2)$ ,  $+(3^2)$ ,  $+(4^2)$ ,  $+(5^2)$ ,  $+(6^2)$ ,  $+(7^2)$

Here 35 (36 must be the difference) is wrong (it must be 92), So our wrong number is 91.

**Hence option 4 is correct.**

Q69.

Answer: 4

The given series follows a logic that

11 x 12, 12 x 13, 13 x 14, 14 x 15, 15 x 16,...

So the missing number is  $14 \times 15 = 210$

**Hence option 4 is correct.**

Q70.

Answer: 1

Given series follows the rule of

$$6562.5/2.5 = 2625$$

$$2625/2.5 = 1050$$

$$1050/2.5 = 420$$

$$420/2.5 = 168$$

$$168/2.5 = 67.2$$

**Hence option 1 is correct.**

Q71.

Answer: 3

The series is **abccab/bcaabc/abccab**

Here, the pattern **abccab/bcaabc** is repeated. **Hence option 3 is correct.**

Q72.

Answer: (3)

The series is **acbd/cadb/acbd/cadb/acbd**.

Thus, the pattern **acbd/cabd** is repeated. **Hence option 3 is correct.**

Q73.

Answer: 1

I	+1	K	Hence the	S	+1	U
M	+2	P	solution	U	+2	X
P	+3	T	will be	C	+3	G
R	+4	W		C	+4	H
E	+5	K		E	+5	K
S	+6	Z		S	+6	Z
S	+7	A		S	+7	A

**Hence option 1 is correct.**

Q74.

Answer: (3)

From statement 1 and 2 'good' is common; which state that 'good' is equivalent to 'al'

From statement 2 and 3 'pictures' is common; which state that 'pictures' is equivalent to 'eu'

From these two results we can say that 'see' is equivalent to 'no'. **hence option 3 is correct.**

Q75.

Answer: 1

From the question  $Z = 78$  and  $ACT = 72$ .

This follow a simple logic of  $A=3, B=6, C=9, \dots(\text{position} \times 3) \dots Z=78$ .

$$ACT = 3+9+60 = 72,$$

Hence,

$$RAT = 54 + 3 + 60 = 117$$

**Hence option 1 is correct.**

Q76.

Answer: 4

$$Z \text{ Code} \Rightarrow 26 \Rightarrow 26/2 \Rightarrow 13 \Leftrightarrow (13^3) = 2197$$

$$P \text{ Code} \Rightarrow 16 \Rightarrow 16/2 \Rightarrow 8 \Leftrightarrow (8^3) = 512$$

$$\text{Similarly, L Code} \Rightarrow 12 \Rightarrow 12/2 \Rightarrow 6 \Leftrightarrow (6^3) = 216$$

**Hence option 4 is correct.**

Q77.

Answer: 1

The colour of lemon is 'yellow' and as given, 'red' means 'yellow'.

so, the colour of lemon is 'red'. **Hence option 1 is correct.**

Q78.

Answer: 1

The decoding of the mathematical expression will give  $14 \times 10 + 42 / 2 - 8$ , which is equal to 153. **Hence option 1 is correct.**

Q79.

Answer: 2

The alphabets are coded as follows :

C	H	A	R	O	L	M	E
4	5	1	6	9	3	2	7

R is coded as 6,

E as 7,

A as 1,

L as 3.

So, the code for REAL is 6713. **Hence option 2 is correct.**

Q80.

Answer: (3)

P → \$

R → #

I → @

N → \*

T → !

E → &

Hence the solution will be

I      N      T      E      R      P      R      E      T      E      R  
@      \*      !      &      #      \$      #      &      !      &      #

**Hence option 3 is correct.**

Q81.

Answer: 1

Statements:  $B > A \geq T > F = Y \leq S < D$

Conclusions:  $F < D, A > S$

For conclusion I:  $F < D$

Here, the common sign between F and D is '<', hence  $F < D$ .

**Thus, conclusion I follows.**

For conclusion II:  $A > S$

Here, we can see the opposite sign between A and S, thus no relationship can be established between them.

**Thus, conclusion II does not follow.**

Therefore, only conclusion I follows.

**Hence option 1 is correct.**

Q82.

Answer: 2

For conclusion I:  $A > L$

From statements I, II and III, we get:

$A \geq C > K > J \leq W = L$

Here, we can see the opposite sign between L and A, thus no relationship can be established between them.

Hence conclusion I does not follow.

For conclusion II:  $C > H$

From statements I and II, we get:

$C > K \geq H$

Here, we can see the common sign between C and H as '>'. Thus  $C > H$ .

Hence conclusion II follows.

Therefore only conclusion II follows.

**Hence option 2 is correct.**

Q83.

Answer: 2

For conclusion I:  $L > B$

From statements II and III, we get:

$B < G \leq L$

Here, the common sign between B and L is '<'. Hence  $B < L$  or  $L > B$ .

Thus conclusion I follows.

For conclusion II:  $P > Y$



From statements I, II and III, we get:

$$Y < G = U \geq D > P$$

Here, we can see the opposite sign between P and Y, thus no relationship can be established between them.

Hence conclusion II does not follow.

Therefore, only conclusion I follows.

**Hence option 2 is correct.**

Q84.

Answer: (3)

Step 1 – Decode the given symbols as shown below:

<b>Symbols</b>	%	@	#	&	\$
<b>Meaning</b>	<	≤	=	>	≥

Step 2 – Now decode the given statements with the help of the above table:

So, after decoding the statements, we have;

$$O \geq M; P = M; R < P.$$

After arranging, we have;

$$R < P = M \leq O$$

Step 3 – Now based on the given statement; we can conclude that either  $O > P$  or  $O = P$  will be true.

**So, the correct answer is (3).**

Q85.

Answer: 2

Given series – A # C 6 N O @ 4 \$ J 3 L M \* 2 F & Y U 5

After operation – A C # 6 N O @ 4 J \$ 3 L M \* 2 F Y & U 5

So, third element from the right end = &

**Hence option 2 is correct.**

Q86.

Answer: 1

When the hands of the clock are in the same straight line but not together, they are 30-minute spaces apart.

At 7 o'clock, they are 25 min. spaces apart.

Minute hand will have to gain only 5 min. spaces.

55 min. spaces are gained in 60 min.

5 min spaces are gained in  $(\frac{60}{55} * 5)$  min =  $5\frac{5}{11}$  min

so, Required time =  $5\frac{5}{11}$  min past 7.

**Hence option 1 is correct.**

Q87.

Answer: (1)

In 12 hours, they are at right angles 22 times.

In 24 hours, they are at right angles 44 times.

**Hence option 1 is correct.**

Q88.

Answer: (2)

17<sup>th</sup> July, 1776 = (1775 years + Period from 1st Jan, 1776 to 17<sup>th</sup> July, 1776)

**Counting of odd days:**

1600 years have 0 odd day.

100 years have 5 odd days.

75 years = (18 leap years + 57 ordinary years) = [(18 x 2) + (57 x 1)] = 93 (13 weeks + 2 days) = 2 odd days.

1775 years have (0 + 5 + 2) odd days = 7 odd days = 0 odd day.

Jan Feb Mar Apr May Jun Jul

31 + 29 + 31 + 30 + 31 + 30 + 17 = 198 days = (28 weeks + 3 days)

Total number of odd days = (0 + 3) = 3.

The required day was 'Wednesday'.

**Hence option 2 is correct.**

Q89.

Answer: (1)

We shall find the day on 1st April, 2001.

1st April, 2001 = (2000 years + Period from 1.1.2001 to 1.4.2001)

Odd days in 1600 years = 0

Odd days in 400 years = 0

Jan. Feb. March April

$(31 + 28 + 31 + 1) = 91$  days 0 odd days.

Total number of odd days =  $(0 + 0 + 0) = 0$

On 1st April, 2001 it was Sunday.

Hence Thursday will fall on dates, 5<sup>th</sup>, 12<sup>th</sup>, 19<sup>th</sup>, 26<sup>th</sup>

**Hence option 1 is correct.**

Q90.

Answer: (3)

We already know that the calendar after a leap year repeats again after 28 years.

Here 1988 is a Leap year, then the same calendar will be in the year =  $1988 + 28 = 2016$ .

**Hence option 3 is correct.**

Q91.

Answer: (1)

Solving,  $x^2 - 4x + 4 = 0$ , we get  $(x - 2)^2 = 0$  i. e.,  $x - 2 = 0$  that will give  $x = 2$

Hence statement I is sufficient to find the value of x.

**Hence option 1 is correct.**

Q92.

Answer: (3)

Statement I will tell us that the given quadrilateral could be a rhombus or a square.

Statement II will tell us that the given quadrilateral is a square.

Hence, both the statements are required.

**Hence option 3 is correct.**

Q93.

Answer: (2)

Statement I will not give us the number judges, as the population of state is unknown.

While statement II will give the number of judges, which is equal to  $40 \times 40 = 1600$  judges.

**Hence option 2 is correct.**

Q94.

Answer: (2)

Statement I does not mention the day of the week on the birthday of either Ajay or Sunil.

According to II, Sunil's sister was born on Wednesday and Sunil was born two days before Wednesday i.e. on Monday.

**Hence option 2 is correct.**

Q95.

Answer: (4)

From both statements we can get the relationship as Pooja is Neeraj's sister but it cannot be clearly said that Shubham & Meenal are Pooja's children or not & Shivani is Neeraj's daughter, because there can be other siblings of Neeraj and Pooja also. **Hence option 4 is correct.**

Q96.

Answer: (1)

A	B	C	D	E
GREEN/BLACK	YELLOW	RED	BLUE	GREEN/BLACK

Hence B likes yellow colour. **Hence option 1 is correct.**

Q97.

Answer: (2)

	Mumbai	Chennai	Tall	Short	Girls	Boys
P	Y			Y	Y	
Q	Y			Y		Y
R		Y		Y	Y	
S		Y	Y		Y	
T		Y		Y		Y
U		Y	Y			Y

S is the tall girl from Chennai. **Hence option 2 is correct.**

Q98.

Answer: (4)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
4	3	2	4	3	2	4	3	2	4	3	2	4	3	2	4	3	2	4	3	2	4	3	2	4	3

Hence the sum of numeric values of letters= 2+2+2+3=9

**Hence option 4 is correct.**

Q99.

Answer: (1)

Here the common face number is 3, and it is in the same position. Hence 6 is opposite to 2 and 1 is opposite to 5. Therefore, the opposite of 4 is 3. **Hence option 1 is correct.**

Q100.

Answer: (1)

In the first two positions of dice, one face is common with their position i.e. 5. Therefore, the face opposite to the face which contains 2 is 6.

The same can be verified from images 3 and 4, where 1 is the common face, here also we can observe that face opposite to 2 numbered face is 6 numbered face.

**Hence option 1 is correct.**

Q101.

Answer: 1

The difference between energy used for domestic purposes and other purposes =  $1200 \times (11 - 3) / 100$

The difference between energy used for electricity and transportation purposes =  $1200 \times (31 - 22) / 100$

$$\text{Required ratio} = \frac{1200 \times 8 / 100}{1200 \times 9 / 100} = 8/9$$

**Hence option 1 is correct.**

Q102.

Answer: 2

$$\text{Total eligible votes} = 9 \times 10000 / 10 = 9000$$

$$\text{The Winning Candidate is LSP's candidate with } 32\% \text{ of eligible votes} = 32 \times 9000 / 100 = 2880$$

$$\text{NDP and MNNP combined vote shares} = 36 \times 9000 / 100 = 3240$$

$$\text{GDDP and MNNP combined vote shares} = 40 \times 9000 / 100 = 3600$$

$$\text{JTP and MNNP combined vote shares} = 38 \times 9000 / 100 = 3420$$

NDP and GDDP combined vote share is less than that of LSP's.

Hence, GDDP and MNNP combined vote shares are 720 votes greater than that of LSP's. **hence statement 2 is correct.**

Q103.

Answer: 4

$$\text{Required percentage} = \frac{(1200 + 800 + 700 + 920)}{(7200 + 9100 + 7880 + 9000)} \times 100 = 10.91 \approx 11\%$$

Hence option 4 is correct.

Q104.

Answer: 4

Years	Number of toys sold (in thousands) in different shops					
	S1	S2	S3	S4	S5	S6
2010	75	44	54	32	26	72
2011	82	56	62	36	38	76
2012	94	68	68	38	42	82
2013	72	74	72	66	48	84
2014	68	84	76	56	52	88
2015	88	92	82	62	76	92
Average	79.83	69.67	69	48.33	47	82.33

Hence shop S5 has minimum average sales of toys from 2010 to 2015

Hence option 4 is correct.

Q105.

Answer: 2

The below table shows the maximum marks, actual marks obtained by Rupa, percentage of marks etc.

Maximum marks	Sci. 100	Hist. 100	Maths. 150	Eng. 100	Hindi 100	Geo. 100
Marks obtained	92	68	132	62	74	88
Percentage of marks	92	68	88	62	74	88

From the above table the average of all the percentage =  $(92+68+88+62+74+88)/6 = 78.67\%$

Hence option 2 is correct.

Q106.

Answer: 3

The required ratio =  $\frac{35+45+21+90+128+28}{44+41+20+97+74+37} = 347/313$

Hence option 3 is correct.

Q107.

Answer: 2

Drop in expenditure from 2006 to 2007 =  $34000-22000 = 12000$

Growth in consumption from 2007 to 2008 =  $58000-22000 = 36000$

Hence the required percentage =  $12000*100/36000 = 33.33\%$

Hence option 2 is correct.

Q108.

Answer: 1

Number of handsets sold by company A =  $20000+30000+40000+25000+45000+15000 = 175000$

Number of handsets sold by company C =  $30000+45000+40000+25000+35000+45000 = 220000$

Hence required ratio =  $175000/220000 = 37/44$

**Hence option 1 is correct.**

Q109.

Answer: (3)

	2001	2011	Percentage change
Petroleum	30	42	-40
G&J	24	16	33.33333
Cereals	8	4	50
ITC	18	36	-100
Services	42	54	-28.5714

Hence from the table we can see that for the ITC product there is a 100% growth from 2001 to 2011.

**Hence option 3 is correct.**

Q110.

Answer: 2

The below mentioned table shows the profit of all the companies-

Companies	Expenditure	Income	Profit/loss
A	42	36	-6 (loss)
B	25	28	3
C	35	42	7
D	40	32	-8 (loss)
E	22	28	6

From the table we can say that company C has incurred maximum of 7 Crores of profit. **Hence option 2 is correct.**

Q111.

Answer: 3

The change in numbers of traffic violations from Sunday to Monday for Mumbai =  $1200-700 = 500$

the change in numbers of traffic violations from Friday to Saturday for Delhi =  $1250-1200 = 50$

Hence the required ration=  $500/50 = 10:1$

Hence option 3 is correct.

Q112.

Answer: 4

Number of voters participated in 2004 =  $54 \times 100000 / 10 = 54000$

Number of voters participated in 2005 =  $56 \times 100000 / 10 = 56000$

Growth in numbers = 2000

Hence the required percentage =  $2000 \times 100 / 54000 = 3.7\%$

Hence option 4 is correct.

Q113.

Answer: 1

Export of company A in 2012 =  $140000 / 0.7 = 200000$

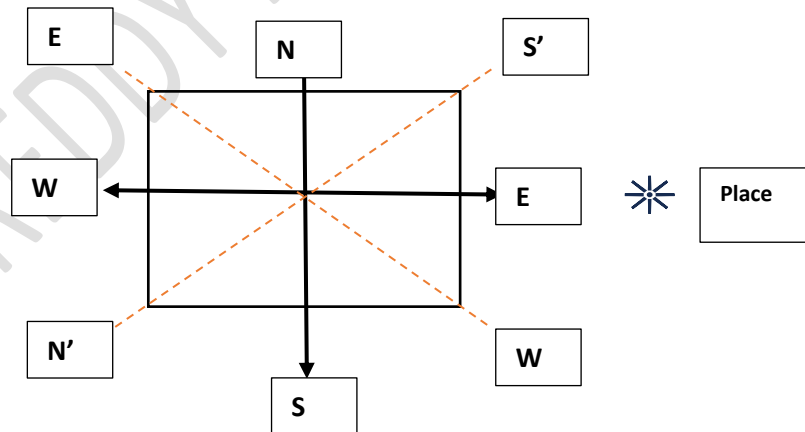
Import of company B in 2014 =  $100000 \times 0.85 = 85000$

Hence the required ratio =  $200000 / 85000 = 200 / 85 = 40 / 17$

Hence option 1 is correct.

Q114.

Answer: 2



From the figure we can say that the place that is perceived by Ram in South-west direction is situated in East direction in actual map. Hence option 2 is correct.

Q115.

Answer: 3

Based on the above-mentioned conditions, following table can be drawn.



	Delhi	Mumbai	Pune	Kanpur	Chennai
Ram	N	Y	N	N	N
Mahesh	N	N	N	N	Y
Ajay	Y	N	N	N	N
Jeet	N	N	Y	N	N
Param	N	N	N	Y	N

From the table option 3 that is Param belongs to Kanpur statement is correct. **Hence option 3 is correct.**

Q116.

Answer: 1

From statement I following sequence can be arranged-

\_\_\_>E>A>B/C>B/C

From Statement II-

\_\_\_>\_\_\_>\_\_\_>B>C

Hence from statement I only we can find out that who will be at the 3<sup>rd</sup> position.

**Hence option 1 is correct.**

Q117.

Answer: 3

Clearly, both the statement gives the code for 'you can', which is 'ka tu'. But both the statement is unable to give the code for 'can'. Hence neither the statements are sufficient. **Hence option 3 is correct.**

Q118.

Answer: 4

Given statements:  $B \leq C < E$ ;  $D \leq F \leq G$ ;  $E = D$ ;  $A > B$  On combining:  $A > B \leq C < E = D \leq F \leq G$

Conclusions:

$E \geq G$ , False since  $E = D \leq F \leq G$

$A < E$ , False since  $A > B \leq C < E$

$B \leq G$ , False since  $B < G$

$C < F$ , True since  $C < E = D \leq F$ .

**Hence, option 4 is the answer.**

Q119.

Answer: (2)

$74^{100}/9$  Dividing 74 by 9, the remainder will be 2,

Hence,  $2^{100}/9 = [(2^3)^{33} \times 2]/9 = [(8)^{33} \times 2]/9$

Dividing 8 by 9, the remainder will be -1,

$[(-1)^{33} \times 2]/9 = -2/9$  Since remainder will never be a negative number.

Therefore, the remainder =  $-2 + 9 = 7$

**Hence option 2 is correct.**

Q120.

Answer: (3)

Series Pattern

13

$13 + 1^2 + 1 = 15$

$15 + 2^2 + 2 = 21$

$21 + 3^2 + 3 = 33$

$33 + 4^2 + 4 = 53$

$53 + 5^2 + 5 = 83$

**Hence option 3 is correct.**

Q121.

Answer: (4)

Since T is not at the end of any row, which means T is in the middle of any of the two. Let us take 2 case scenarios-



R, the neighbour of T, is sitting diagonally opposite to S.



S is second to the left of U



Q is neighbour of U

P  
S

T  
Q

R  
U

U  
P

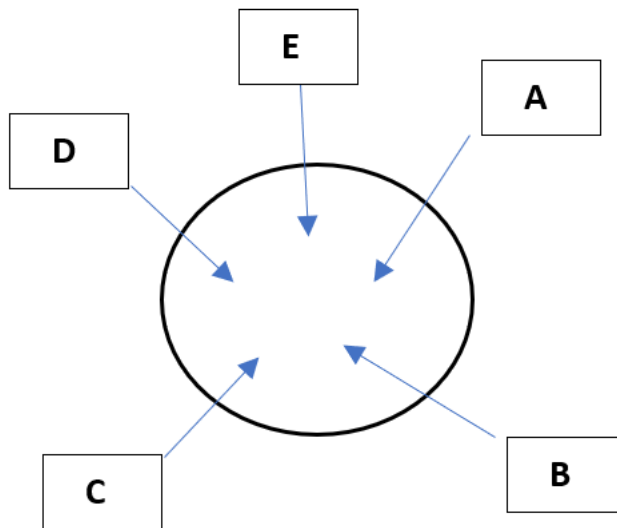
Q  
T

S  
R

Hence T is facing Q in both cases. **Hence option 4 is correct.**

Q122.

Answer: (1)



Q123.

Answer: (1)

From the given conditions-

Jack is taller than Ajay, but shorter than Ram will give- Ram...>Jack>...Ajay

Ram is only taller than Jack and Ajay will give- Ram>Jack>Ajay

Sumesh is only shorter than Shiva will give---Shiva>Sumesh>\_>\_>\_

Combining all conditions will give---Shiva>Sumesh>Ram>Jack>Ajay

Hence shiva is the tallest. **Hence option 1 is correct.**

Q124.

Answer: (2)

English is held in the pre-lunch session and	1 <sup>st</sup>		Geography is the last subject of the day	1 <sup>st</sup>		Mathematics is held before English subject	1 <sup>st</sup>	Mathematics
	2 <sup>nd</sup>	English		2 <sup>nd</sup>	English		2 <sup>nd</sup>	English
	3 <sup>rd</sup>			3 <sup>rd</sup>			3 <sup>rd</sup>	
	Break			Break			Break	
	1 <sup>st</sup>			1 <sup>st</sup>			1 <sup>st</sup>	
	2 <sup>nd</sup>			2 <sup>nd</sup>			2 <sup>nd</sup>	

only one more subject is held after English in that session.	3 <sup>rd</sup>			3 <sup>rd</sup>	Geography		3 <sup>rd</sup>	Geography
--	-----------------	--	--	-----------------	-----------	--	-----------------	-----------

Only two more subjects are held after the Hindi subject in that session			Science is not held at the start or end of any session		
	1 <sup>st</sup>	Mathematics		1 <sup>st</sup>	Mathematics
	2 <sup>nd</sup>	English		2 <sup>nd</sup>	English
	3 <sup>rd</sup>			3 <sup>rd</sup>	History
	Break			Break	
	1 <sup>st</sup>	Hindi		1 <sup>st</sup>	Hindi
	2 <sup>nd</sup>			2 <sup>nd</sup>	Science
	3 <sup>rd</sup>	Geography		3 <sup>rd</sup>	Geography

Hence Hindi is held at the start of post-lunch session. **Hence option 2 is correct.**

Q125.

Answer: (1)

R	E	P	E	R	C	U	S	S	I	O	N	S
S	N	O	I	S	S	U	C	R	E	P	E	R

**Hence option 1 is correct.**

Q126.

Answer: (3)

2 3 4 5 3 4 6 7 6 3 9 4 5 9 3 6 4 2 7 4 9 3 2 4 4 7 5 9

Hence seven odd numbers are being followed by an even number. **Hence option 3 is correct.**

Q127.

Answer: (2)

From the question,

$$C = 2;$$

$$F - C = 7;$$

$$F = 9;$$

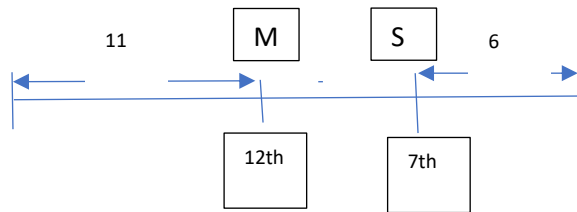
$$F - A = 5;$$

$$A = 4$$

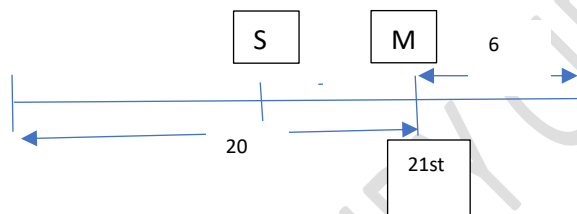
Hence option 2 is correct.

Q128.

Answer: (2)



Based on both figures, the total persons in the row =  $20 + 1 + 6 = 27$



Hence the number of persons standing between Suresh and the Right end =  $27 - 11 - 1 = 15$

Hence Suresh's position will be Sixteenth from right.

Hence option 2 is correct.

Q129.

Answer: (2)

Applying all the substitutions, the operation will look like,

$$5 + 6 \times 4 \div 2 - 8 = 5 + 12 - 8 = 9$$

Hence option 2 is correct.

Q130.

Answer: (4)

$$P + S > R + T \quad (\text{substitute } R = 2Q - S)$$

$$> 2Q - S + T$$

$$> (Q + T) + (Q - S) \quad (\text{since } Q + T > R + S)$$

$$> R + S + Q - S$$

$$P + S > R + Q$$

Hence option 4 is correct.

Q131.

Answer: (1)

The logic behind the matrix is, that the middle row represents an average of the top and bottom rows. Hence applying that logic missing number will be  $(7+13)/2$ , i.e., 10 and the alphabet at 10<sup>th</sup> position is J. Hence J10 will be the missing term. **Hence option 1 is correct.**

Q132.

answer: (4)

We have the order: P,Q,T

From I, we have the order: S,P,Q,T

From II, we get the complete sequence as S, P, Q, T, R.

From that sequence, we can find out that Q is in the middle.

Hence, both statements I and II are required to find the solution.

**Hence option 4 is correct.**

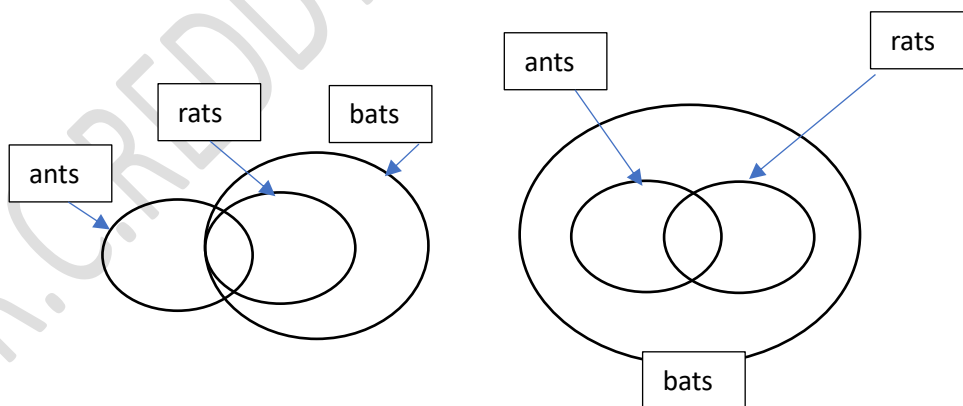
Q133.

Answer: (2)

Clothes are not washed properly in hard water because it does not form lather with soap. However, it is true that hard water contains many minerals. Hence both A and R are true, but R is not the explanation of A. **Hence option 2 is correct.**

Q134.

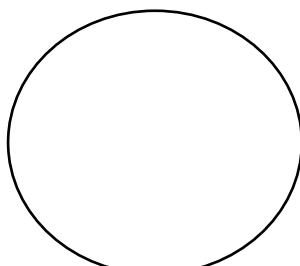
Answer: (2)

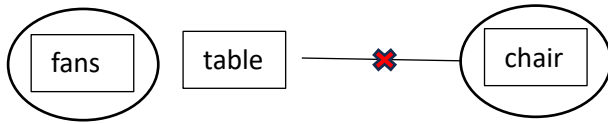


From both the figure we can say that conclusion I does not follow the statement, while conclusion II follows the statements. **Hence option 2 is correct.**

Q135.

Answer: (2)

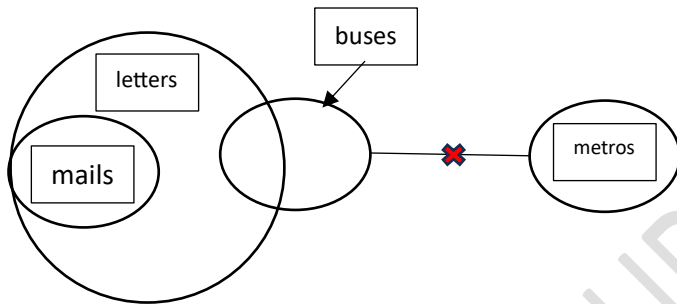




Based on the above figure, we can say that conclusion I follows the statements. Conclusion II does not follow the statement. **Hence option 1 is correct.**

Q136.

Answer: (3)



The conclusion I does not follow as there is no relation between mails and buses in the statements. Similarly, for conclusion II, there is no relation between metros and letters in the statement, hence conclusion II does not follow. **Hence option 3 is the answer.**

Q137.

Answer: (2)

clearly, the purpose of a policy in India cannot be based on the pretext that it is followed in other advanced countries. So, argument I is vague. Argument II sounds good as the English is a much widely spoken language, and hence it must be a medium of instruction in higher education in India. hence argument II holds. **Hence option 2 is correct.**

Q138.

Answer: (2)

The argument I is partially correct. Although India is a peace-loving country, exporting defence equipment does not mean, one is promoting an arms race. The defence equipment can be used for defence purposes also. Hence argument I is not strong.

Argument II holds strong because exporting equipment will produce jobs in India.

**Hence option 2 is correct.**

Q139.

Answer: (4)

Clearly, I directly follows from the statement. So, I is implicit. Also, according to the statement, this particular book gives 'most comprehensive' information on the issue. So, it can be assumed that other books are also available on this topic. Hence both I and II are implicit.

**Hence option 4 is correct.**

Q140.

Answer: (2)

We cannot assume that girls are not marrying at or above the age of 21 years in India. hence assumption I is not implicit. Assumption II states that at the age of 21 years girls are mature enough to make independent decisions. This could be the reason why the advice for raising the marriage age in India is given. Hence assumption II is implicit. **Hence option 2 is correct.**

Q141.

Answer: (3)

Doing away with cinema halls is no solution. Hence, none of the courses follows. Instead, certain incentives and promotional schemes should be awarded to cinema hall owners so that they could manage to draw in crowds.

**Hence option 3 is correct.**

Q142.

Answer: (2)

A sound policy to check the evasion of GST is by strengthening the cross-checking of the GST invoices. Hence II course of action looks logical. While shutting the businesses might help, it may also lead to other problems like employment loss, reduction in economic activities etc.

Hence only II course of action follows. **Hence option 2 is correct.**

Q143.

Answer: (1)

Clearly, I follows directly from the given statement. However, II is not related to the given statement and so does not follow. **Hence option 1 is correct.**

Q144.

Answer: (2)

The statement talks of jade plants only and not all plants with thick leaves. So, I does not follow. Also, since jade plants require little water, so they can be grown in places where water is not in abundance. So, II follows. **Hence option 2 is correct.**

Q145.

Answer: (1)



$$50 + 100 + 150 + 200 + \dots + 500 = 50(1 + 2 + 3 + 4 + \dots + 10) = 50 * 55 = 2750$$

**Hence option 1 is correct.**

Q146.

Answer: (1)

Since the unit place digit is 2, hence the product of all unit places of the product must give 2 at the unit place.

Hence,

$4 \times 4 \times * \times 7$  must give a product which has 2 at its unit place. Hence value of \* as 1 will give a product 112 which has 2 at unit place. **hence option 1 is correct.**

Q147.

Answer: (2)

The number of multiples of 2 between 1 and 120 = 60

The number of multiples of 5 between 1 and 120 which are not multiples of 2 = 12

The number of multiples of 7 between 1 and 120 which are not multiples of 2 and 5 = 7

Hence, a number of the integers 1, 2, ... , 120, are divisible by none of 2, 5 and 7 =  $120 - 60 - 12 - 7 = 41$ .

**Hence option 2 is correct.**

Q148.

Answer: (1)

Maximum five-digit number which can be formed using the given numbers is 43210

Minimum five-digit number = 10234

Difference =  $43210 - 10234 = 32976$

**Hence option 1 is correct.**

Q149.

Answer: (3)

For the value of the given expression, let's take an average value of 30 i.e., 7.5 and assign values 7 and 8 to all the numbers. (Since a, b, c, and d are integers). Putting these values in the equation, we get-

$(8-8)^2 + (8-7)^2 + (8-7)^2 = 2$ . This we can check by allotting 8 and 7 to all the numbers, we will get 2 as the answer. **Hence option 3 is correct.**

Q150.

Answer: (4)

$$= 7^{6n} - 6^{6n}$$

$$= 7^6 - 6^6$$

$$= (7^3)^2 - (6^3)^2$$

$$= (7^3 - 6^3)(7^3 + 6^3)$$

$$= (343 - 216)(343 + 216)$$

$$= 127 * 559$$

$$= 127 * 13 * 43$$

It is divisible by all three numbers. **Hence option 4 is correct.**

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