Directions (11-20) : In the following questions, read the following passage carefully and answer the questions given below it. Certain words/phrases are given in **bold** to help you locate them while answering some of the questions.
Over the past few days alone. the China's central bank has pumped extra cash into the financial system and cut interest rates. The aim is to **free** more cash for banks to lend and provide a boost for banks seeking to improve the return on their assets. The official data though, suggested that bad loans make up only 1.4% of their balance sheets. How to explain the discrepancy? One possible answer is that bad loans are a **tagging** indicator i.e. it is only after the economy has struggled for a while that borrowers began to suffer. Looked at this way, China is trying to anticipate problems keeping its banks in good health by susteining economic growth of nearly 7% year on year. Another more worrying possibility is that bad loans are worse than official data indicate. This does not look to be the cause for China's biggest banks, which are managed conservatively and largely focus on the county's biggest value and quality borrowers. But there is **mounting** evidence that when it comes to smaller banks, especially those yet to list on the stock market, bad loans piling up. That is important because unlisted lenders account for just over a third of the Chinese banking sector, making them as big as Japan's entire banking industry.
Although, non-performing loans have edged up slowly, the increase in special-mention loans (a category that includes those overdue but not yet classified as impaired loans.) has been much bigger. Special-mention loans are about 2% at most of China's big listed banks, suggesting that such loans must be much higher at their smaller, unlisted peers. Many of these loans are simple bad debts which banks have not yet admitted to. Another troubling fact is that fifteen years ago, the government created asset-management companies (often referred to as bad-banks) to take on the non-performing loans of the lenders. After the initial transfer these companies had little to pay. But, last year, Cinda, the biggest of the bad banks, bought nearly 150 billion Yuan ($24 billion) of distressed assets last year, two-thirds more than in 2013. These assets would have raised the banks bad-loans ratio by a few tenths of a percentage point. Although such numbers do not seem very alarming, experts who reviewed last year's results for 158 banks, of which only 20 are listed found that "shadow loans", loans recorded as investments which may be a disguise for bad loans have grown to as much as 5.7 billion Yuan, or 5% of the industry's assets. These are heavily concentrated on the balance sheets of smaller-unlisted banks, and at the very least, all this **points** to a need for recapitalisation of small banks.

11. Choose the word which is most nearly the same in meaning to the word 'TAGGING' given in bold as used in the passage.
(1) delayed

(2) breaking
(3) stopping
(4) protecting
(5) tying

Solution:5

12. Choose the word which is opposite in meaning to the word FREE given in bold as used in the passage.
(1) expensive
(2) secret
(3) complimentary
(4) restrict
(5) charged

Solution:4

13. According to the passage, which of the following can be said about China's large banks?
(A) These are cautiously run.
(B) Their clients are mainly high value.
(C) 2 percent of their loans have been classified as overdue but not impaired.
(1) Only (B) (2) Only (A)
(3) All (A), (B) and (C)
(4) Only (A) and (C)
(5) Only (B) and (C)

Solution:5

14. Which of the following is the central idea of the passage?
(1) Small banks should be permitted to become listed on the stock exchange.
(2) The government should do away with asset management companies.
(3) China's financial crisis is not as serious as it is being made out to be.
(4) China's central bank has failed to predict and stop the decline of its banks.
(5) There is trouble brewing in China's small unlisted banks.

Solution:5

15. Choose the word which is most nearly the same in meaning to the word 'POINTS' given in bold as used in the passage.
(1) peaks
(2) moments
(3) arguments
(4) indicates

(5) plugs

Solution:4

16. Which of the following is true in the context of the passage?
(1) China has not implemented any resources to help its banking sector in recent times.
(2) Approximately 32% of China's banking sector is unlisted.
(3) China's stock market has plummeted in recent times.
(4) Japan's banking industry is experiencing a boom unlike that of China.
(5) None of the given options is true in the context of the passage.

Solution:5

17. What does the example of the Cinda convey?
(1) Many of the loans given by China's banks are in trouble.
(2) Many such large Chinese asset management companies are failing.
(3) China's economy is overly dependent on large banks.
(4) China is the ideal destination for small banks to flourish.
(5) Such companies have become obsolete.

Solution:2

18. Choose the word which is opposite in meaning to the word MOUNTING given in bold as used in the passage.
(1) melting
(2) accumulating
(3) removing
(4) submerging
(5) decreasing

Solution:5

19. Which of the following best describes experts' findings regarding shadow loans?
(1) Shadow loans have been steadily falling and are negligible at present.
(2) These are growing substantially and indicate the need for reform of small banks.
(3) Shadow loans are unfairly being passed onto asset management companies.
(4) These loans are inconsequential for the health of banks.
(5) The findings are faulty as if only includes few listed banks.

Solution:2

20. What is the author's view regarding small banks?
(1) These have a better loan portfolio than large banks.

(2) These are a good health helping to sustain economic growth of 7 percent.
(3) These should be merged with large banks to bail them out of trouble.
(4) Regulations governing these banks should be relaxed.
(5) Other than those given as options

Solution:5

Directions (21-25) : Rearrange the given six sentences/group of sentences (A), (B), (C), (D), (E) and (F) in a proper sequence as to form a meaningful paragraph and then answer the given question.
(A) Global investors are quaking over the prospect of a devastating stump in the world's second biggest economy.
(B) A possible answer could be that the country's troubles raise doubts about whether its policy-makers have the tools to keep their economy growing at a healthy place something that has been a constant reassurance for more than two decades
(C) And they are fast losing confidence that the country's policy-makers, seemingly so sure-footed in the past know how to solve the problem.
(D) However, such a domino effect is significant but hardly catastrophic so why the hysteria?
(E) China is exporting something new to the world economy Fear?
(F) Apart from the shrinking confidence, the biggest fear is that a collapsing Chinese economy would derail others around the world — from emerging markets in Chile and Indonesia to industrial powers such as the United States.

21. Which of the following should be the SECOND sentence after rearrangement?
(1) A
(2) B
(3) F
(4) D
(5) E

Solution:1

22. Which of the following should be the FIRST sentence after rearrangement?
(I) A
(2) C
(3) B
(4) F
(5) E

Solution:5

23. Which of the following should be the SIXTH (last) sentence after rearrangement?
(1) E
(2) D
(3) A
(4) B
(5) F

Solution:4

24. Which of the following should be the FIFTH sentence after rearrangement?
(1) A
(2) D
(3) E
(4) F
(5) C

Solution:2

25. Which of the following should be the FOURTH sentence after rearrangement?
(I) A
(2) B
(3) C
(4) F
(5) D

Solution:4

Directions (26-30) : In the following passage, there are blanks, each of which has been numbered.
Against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.
Primary school enrolment in India has been a success story. **(26)** due to various programmes and drives to increase enrolment even in remote areas. With enrolment reaching at least 96 percent since 2009, and girls **(27)** up 56 percent of new students between 2007 and 2013, it is clear that many **(28)** of access to schooling have been 1291. Improvement in infrastructure has been the **(30)** behind achieving this and now in India 98 percent habitations have a primary school within one kilometre and 92 percent have an upper primary school within a three kilometre walking distance.

26. (1)most
(2) properly

(3)totally
(4) optionally
(5)largely

Solution:5

27. (1)coming
(2) reaching
(3)counting
(4) making
(5)touching

Solution:4

28. (1)issue
(2)opportunities
(3)problems
(4) efforts
(5)exertions

Solution:3

29. (1)accustomed
(2)addressed
(3) met
(4)forwarded
(5) dissolved

Solution:2

30. (1)main
(2)forced
(3)force
(4)compulsion
(5)awareness

Solution:3

QUANTITATIVE APTITUDE

Directions (1-5) : Study the table carefully and answer the given questions.
Data related to number of candidates appeared and qualified in a competitive exam from 2 states during 5 years :

YEARS	State P		State Q	
	Number of appeared candidates	Percentage of appeared candidates who qualified	Number of appeared candidates	Percentage of appeared candidates who qualified
2006	450	60%	—	30%
2007	600	43%	—	45%
2008	—	60%	280	60%
2009	480	70%	550	50%
2010	380	—	400	—

NOTE : Few values are missing in the table (indicated by —). A candidate is expected to calculate the missing value, if it is required to answer the given question on the basis of given data and information.

1. Out of the number of qualified candidates from State P in 2008, the respective ratio of male and female candidates is 11 : 7. If the number of female qualified candidates from State P in 2008 is 126, what is the number of appeared candidates (both male and female) from State Pin 2008 ?
   (1) 630
   (2) 510
   (3) 570
   (4) 690
   (5) 540

   Solution:5

(5) Qualified female candidates from State P in 2008
= 126
Male : Female = 11 : 7
∴ Qualified male candidates

$= \frac{11}{7} \times 126 = 198$

∴ Total qualified candidates
= 198 + 126 = 324
∴ Number of candidates appeared at the exam

$= \frac{324}{60} \times 100 = 540$

2. The number of appeared candidates from State Q increased by 100% from 2006 to 2007. If the total number of qualified candidates from State Q in 2006 and 2007 together is 408, what is the number of appeared candidates from State Q in 2006 ?
(1) 380
(2) 360
(3) 340
(4) 320
(5) 300

Solution:3
(3) Number of candidates who appeared at the exam in 2006 from State Q = x (let)
∴ Number of candidates who appeared in 2007 = $2x$
Total qualified candidates
= 408

$\therefore \quad \frac{x \times 30}{100} + \frac{2x \times 45}{100} = 408$

$\Rightarrow \quad 30x + 90x = 40800$
$\Rightarrow \quad 120x = 40800$

$\Rightarrow \quad x = \frac{40800}{120} = 340$

3. What is the difference between the number of qualified candidates from State P in 2006 and that in 2007 ?
(1) 12
(2) 22

(3) 14
(4) 24
(5) 16

Solution:1

(1) Qualified candidates from state P :

$$\text{Year } 2006 \Rightarrow \frac{450 \times 60}{100} = 270$$

$$\text{Year } 2007 \Rightarrow \frac{600 \times 43}{100} = 258$$

$\therefore$ Required difference
$= 270 - 258 = 12$

4. If the average number of qualified candidates from State Q in 2008, 2009 and 2010 is 210, what is the number of qualified candidates from State in 2010?
(1) 191
(2) 195
(3) 183
(4) 187
(5) 179

Solution:4

(4) Total qualified candidates from State Q in 2008, 2009 and $2010 = 3 \times 210 = 630$
Number of qualified candidates in 2008 and 2009

$$= \frac{280 \times 60}{100} + \frac{550 \times 50}{100}$$

$= 168 + 275 = 443$
$\therefore$ Number of qualified candidates in 2010
$= 630 - 443 = 187$

5. If the respective ratio between the number of qualified candidates from State P in 2009 and 2010 is 14 : 9, what is the number of qualified candidates from State P in 2010
(1) 252
(2) 207

(3) 216
(4) 234
(5) 198

Solution:3

(3) Number of qualified candidates from state P in 2009

$= \frac{480 \times 70}{100} = 336$

$\therefore$ Number of qualified candidates in 2010

$= \frac{336}{14} \times 9 = 216$

Directions (5-10) : What approximate value will come in place of the question mark (?) in the following questions ? (You are not expected to calculate the exact value).

6. $\sqrt{575} \div ? \times 14.98^2 = 450$

(1) 15
(2) 10
(3) 7
(4) 4
(5) 12

Solution:5

(5) $\frac{\sqrt{575}}{?} \times (15)^2 \approx 450$

$\Rightarrow \frac{24 \times 15^2}{?} \approx 450$

$\Rightarrow 450 \times ? \approx 24 \times 15^2$

$\Rightarrow ? \approx \frac{24 \times 15^2}{450} \approx 12$

7. $30.01^2 - 19.98^2 - ? = 21.81^2$

(1) 49
(2) 50
(3) 30
(4) 39
(5) 16

Solution:5

(5) $30^2 - 20^2 - ? \approx 22^2$
$\Rightarrow 900 - 400 - ? \approx 484$
$\Rightarrow 500 - ? \approx 484$
$\Rightarrow ? \approx 500 - 484 \approx 16$

8. 820.15 + 2379.85 + 140.01 ×4.99 =?
   (1) 4400
   (2) 3900
   (3) 3000
   (4) 4000
   (5) 4300

Solution:2
(2) $? \approx 820.15 + 2379.85 + 140 \times 5 \approx 3200 + 700 \approx 3900$

9. 39.97% of 649.8 ÷ 13.05 = 45.12 – ?
   (1) 40
   (2) 15
   (3) 25
   (4) 10
   (5) 30

Solution:3
(3) $40\% \times 650 \div 13 \approx 45 - ?$
$\Rightarrow \frac{40 \times 650}{100} \times \frac{1}{13} \approx 45 - ?$
$\Rightarrow 20 \approx 45 - ?$
$\Rightarrow ? \approx 45 - 20 = 25$

10. (6748.7 + 59.98) ÷ 35.02 ='?
    (1) 29
    (2) 27
    (3) 19
    (4) 21
    (5) 11

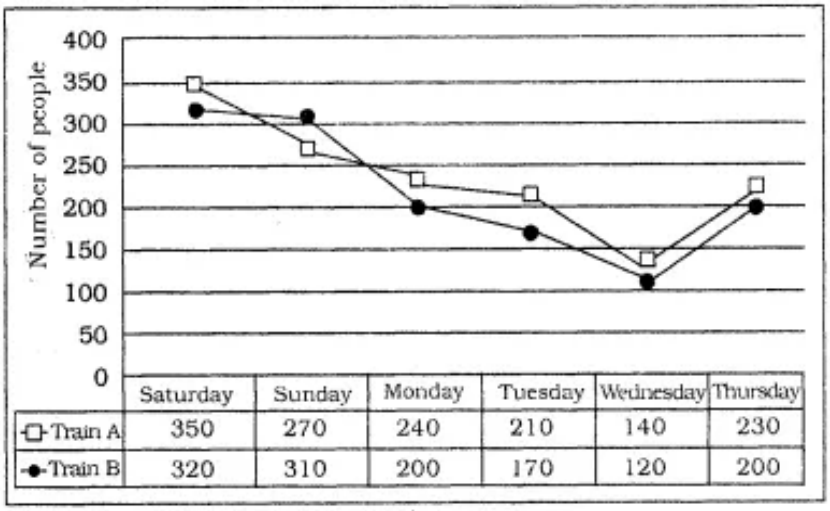
Solution:4

(4) $? = (675 + 60) \div 35$

$\approx \frac{735}{35} \approx 21$

Directions (41-45) : Refer to the graph carefully and answer the given questions.

Number of people who travelled from Dehradun to Almora by Trains A and B on 6 different days :



	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
Train A	350	270	240	210	140	230
Train B	320	310	200	170	120	200

11. The number of people who travelled by Train B on Friday is 20% more than the people who travelled by the same train on Thursday. What is the respective ratio between the number of people who travelled on Friday and those who travelled on Saturday by the same train ?

(1) 4 : 5

(2) 3 : 4

(3) 5 : 6

(4) 3 : 5

(5) 1 :4

Solution:2

(2) People who travel by train

B on Friday $= \frac{200 \times 120}{100} = 240$

$\therefore$ Required ratio = 240 : 320

= 3 : 4

12. What is the difference between the total number of people who travelled by Train B on Monday and Tuesday together and the total number of people who travelled

by Train A on Saturday and Sunday together ?

(1) 200

(2) 230

(3) 210

(4) 250

(5) 240

Solution:4

(4) Required difference

= (350 + 270) – (200 + 170)

= 620 – 370 = 250

13. What is the average number of people travelling by Train A on Monday, Tuesday, Wednesday and Thursday ?

(1) 220

(2) 190

(3) 205

(4) 195

(5) 210

Solution:3

(3) Required average

$$= \frac{240 + 210 + 140 + 230}{4}$$

$$= \frac{820}{4} = 205$$

14. The number of people who travelled by Train A decreased by what percent from Saturday to Tuesday ?

(1) 35

(2) 40

(3) 30

(4) 42

(5) 33

Solution:2

(2) Required percentage decrease

$$= \frac{350 - 210}{350} \times 100$$

$$= \frac{14000}{350} = 40\%$$

15. The total number of people who travelled by both the given trains together on Sunday is approximately what percent more then the total number of people who travelled by both the given trains together on Wednesday?
(1) 128
(2) 123
(3) 142
(4) 118
(5) 135

Solution:2

(2) People who travel by both trains :

Sunday $\Rightarrow 270 + 310 = 580$

Wednesday $\Rightarrow 140 + 120 = 260$

$\therefore$ Required percent

$$= \left(\frac{580 - 260}{260}\right) \times 100$$

$$= \frac{32000}{260} \approx 123$$

16. Rs. 6100 was partly invested in Scheme A at 10% p.a. compound interest (compounded annually) for 2 years and partly in Scheme B at 10% p.a. simple interest for 4 years. Both the schemes give equal interests. How much was invested in Scheme A ?
(1) Rs. 3,750
(2) Rs.4,500
(3) Rs. 4,000
(4) Rs. 3,250
(5) Rs. 5,000

Solution:3

(3) Amount invested in scheme A = Rs. x (let)
$\therefore$ Amount invested in scheme B = Rs. $(6100 - x)$
According to the question,

$$P_1\left[\left(1+\frac{R_1}{100}\right)^{T_1}-1\right]=\frac{P_2R_2T_2}{100}$$

$$\Rightarrow x\left[\left(1+\frac{10}{100}\right)^{2}-1\right]$$

$$=\frac{(6100-x)\times 10\times 4}{100}$$

$$\Rightarrow x\left[\left(\frac{11}{10}\right)^{2}-1\right]=\frac{4(6100-x)}{10}$$

$$\Rightarrow x\left(\frac{121-100}{100}\right)=\frac{4(6100-x)}{10}$$

$$\Rightarrow \frac{21x}{100}=\frac{24400-4x}{10}$$

$$\Rightarrow 21x=244000-40x$$
$$\Rightarrow 21x+40x=244000$$
$$\Rightarrow 61x=244000$$

$$\Rightarrow x=\frac{244000}{61}=\text{Rs. } 4000$$

17. 'A' bought a certain quantity of oranges at total cost of Rs. 1200. He sold 1/3rd of those oranges at 20% loss. If A earns an overall profit of 10%, at what percent profit did A sell the rest of the oranges ?
(1) 16%
(2) 15%
(3) 22%
(4) 25%
(5) 20%

Solution:4

(4) Let C.P. of each orange be Rs. 100.

$\therefore$ Number of oranges

$= \frac{1200}{100} = 12$

According to the question,

S.P. of 12 oranges

$= \frac{1200 \times 110}{100} = \text{Rs. } 1320$

4 oranges are sold on 20% loss.

$\therefore$ Their S.P. $= \frac{400 \times 80}{100}$

$= \text{Rs. } 320$

$\therefore$ Required S.P. of remaining 8 oranges $= 1320 - 320$

$= \text{Rs. } 1000$

$\therefore$ Required profit percent

$= \left(\frac{1000 - 800}{800}\right) \times 100 = 25\%$

18. The present age of Bob is equal to Abby's age 8 years ago. Four years hence, the respective ratio between Bob's age and Abby's age will be 4 : 5 at that time. What is Bob's present age?

(1) 24 years

(2) 32 years

(3) 40 years

(4) 20 years

(5) 28 years

Solution:5

(5) Bob's present age = x years (let)

$\therefore$ Abby's present age

$= (x + 8)$ years

According to the question,

After 4 years,

$\frac{x+4}{x+12} = \frac{4}{5}$

$\Rightarrow 5x + 20 = 4x + 48$

$\Rightarrow 5x - 4x = 48 - 20$

$\Rightarrow x = 28$ years

Directions (19-23) : In these questions, two equations numbered I and II are given. You have to solve both the equations and select the appropriate option.

19. I. $2x^2 + 19x + 45 = 0$
II. $2y^2 + Ily + 12 = 0$
(1) x > y
(2) x> y
(3) x < y
(4) relationship between xand y cannot be determined
(5) x < y

Solution:3
(3)
I. $2x^2 + 19x + 45 = 0$
$\Rightarrow 2x^2 + 10x + 9x + 45 = 0$
$\Rightarrow 2x(x + 5) + 9(x + 5) = 0$
$\Rightarrow (2x + 9)(x + 5) = 0$
$\Rightarrow x = -\frac{9}{2}$ or, -5
II. $2y^2 + 11y + 12 = 0$
$\Rightarrow 2y^2 + 3y + 8y + 12 = 0$
$\Rightarrow y(2y + 3) + 4(2y + 3) = 0$
$\Rightarrow (y + 4)(2y + 3) = 0$
$\Rightarrow y = -4$ or, $\frac{-3}{2}$
Clearly, $x < y$

20. I. $3x^2 - 13X + 12 = 0$
II. $2y^2 - 15y + 28 = 0$
(1) x> y
(2) x> y
(3) x < y
(4) relationship between x and y cannot be determined
(5) x≤ y

Solution:3
(3)
I. $3x^2 - 13x + 12 = 0$
$\Rightarrow 3x^2 - 4x - 9x + 12 = 0$
$\Rightarrow x(3x - 4) - 3(3x - 4) = 0$
$\Rightarrow (x - 3)(3x - 4) = 0$
$\Rightarrow x = 3$ or, $\frac{4}{3}$

II. $2y^2 - 15y + 28 = 0$
$\Rightarrow 2y^2 - 7y - 8y + 28 = 0$
$\Rightarrow y(2y - 7) - 4(2y - 7) = 0$
$\Rightarrow (y - 4)(2y - 7) = 0$
$\Rightarrow y = 4 \text{ or, } \frac{7}{2}$
Clearly, $x < y$

21. I. x2= 16
II. 2y2- 17y + 36 = 0
(1) x > y
(2) x> y
(3) x < y
(4) relationship between x and y cannot be determined
(5) x ≤ y

Solution:5
(5)
I. $x^2 = 16$
$\Rightarrow x = \sqrt{16} = \pm 4$
II. $2y^2 - 17y + 36 = 0$
$\Rightarrow 2y^2 - 8y - 9y + 36 = 0$
$\Rightarrow 2y(y - 4) - 9(y - 4) = 0$
$\Rightarrow (2y - 9)(y - 4) = 0$
$\Rightarrow y = \frac{9}{2} \text{ or, } 4$
Clearly, $x \leq y$

22. 1. 6×2+ 19x+ 15 = 0
II. 3y2+ 11y+ 10 = 0
(1) x> y
(2) x> y
(3) x < y
(4) relationship between x and y cannot be determined
(5) x ≤ y

Solution:2

(2)

I. $6x^2 + 19x + 15 = 0$

$\Rightarrow 6x^2 + 9x + 10x + 15 = 0$

$\Rightarrow 3x(2x + 3) + 5(2x + 3) = 0$

$\Rightarrow (2x + 3)(3x + 5) = 0$

$\Rightarrow x = \frac{-3}{2}$ or, $\frac{-5}{3}$

II. $3y^2 + 11y + 10 = 0$

$\Rightarrow 3y^2 + 6y + 5y + 10 = 0$

$\Rightarrow 3y(y + 2) + 5(y + 2) = 0$

$\Rightarrow (3y + 5)(y + 2) = 0$

$\Rightarrow y = \frac{-5}{3}$ or, -2

Clearly, $x \geq y$

23. I. $2x^2 - 11x + 15 = 0$

II. $2y^2 - 11y + 14 = 0$

(1) $x > y$

(2) $x \geq y$

(3) $x < y$

(4) relationship between x and y cannot be determined

(5) $x \leq y$

Solution:4

(4)

I. $2x^2 - 11x + 15 = 0$

$\Rightarrow 2x^2 - 6x - 5x + 15 = 0$

$\Rightarrow 2x(x - 3) - 5(x - 3) = 0$

$\Rightarrow (2x - 5)(x - 3) = 0$

$\Rightarrow x = \frac{5}{2}$ or, 3

II. $2y^2 - 11y + 14 = 0$

$\Rightarrow 2y^2 - 4y - 7y + 14 = 0$

$\Rightarrow 2y(y - 2) - 7(y - 2) = 0$

$\Rightarrow (2y - 7)(y - 2) = 0$

$\Rightarrow y = \frac{7}{2}$ or, 2

24. A started y business. After 4 months from the start of the business, B and C joined. The respective ratio between the investments of A, B and C was 4 : 6 : 5. If A's share in annual profit was Rs. 250 more than C's share, what was the total annual profit earned ?

(1) Rs. 3740
(2) Rs. 3910
(3) Rs. 4250
(4) Rs. 4350
(5) None of these

Solution:3

(3) Ratio of the equivalent capitals of A, B and C for 1 month
$= (12 \times 4) : (6 \times 8) : (5 \times 8)$
$= 48 : 48 : 40 = 6 : 6 : 5$
Sum of ratios $= 6 + 6 + 5 = 17$
If total annual profit be Rs. x, then
A's share – C's share = 250

$$\Rightarrow \frac{6x}{17} - \frac{5x}{17} = 250$$

$$\Rightarrow \frac{x}{17} = 250$$

$\Rightarrow x = 17 \times 250 =$ Rs. 4250

25. A person has to travel from point B in certain time. Travelling at a speed of 5 kmph he reaches 48 minutes late and while travelling at a speed of 8 kmph he reaches 15 minutes early. What is the distance from point A to point B ?
(1) 15 kms
(2) 91 kms
(3) 12 kms
(4) 18 kms
(5) 14 kms

Solution:5

(5) Let distance between A and B be x km. (let)
Difference of time = 48 + 15

$= 63 \text{ minutes} = \frac{63}{60} \text{ hours}$

According to the question,

$$\frac{x}{5} - \frac{x}{8} = \frac{63}{60}$$

$$\Rightarrow \frac{8x - 5x}{40} = \frac{63}{60}$$

$$\Rightarrow \frac{3x}{2} = 21$$

$$\Rightarrow 3x = 2 \times 21$$

$$\Rightarrow x = \frac{2 \times 21}{3}$$

$= 14$ km.

26. 28 men can complete a piece of work in 15 days and 15 women can complete the same piece of work in 24 days. What is the respective ratio between the amount of work done by 30 men in 1 day and the amount of work done by 18 women in 1 day ?

(1) 10 : 7
(2) 3 : 5
(3) 5 : 4
(4) 9 : 5
(5) None of these

Solution:1

(1) ∵ 28 men do 1 work in 15 days.
∴ Time taken by 30 men

$= \frac{15 \times 28}{30} = 14$ days

∵ 15 women do the work in 24 days.
∴ Time taken by 18 women

$= \frac{15 \times 24}{18} = 20$ days

∴ Required ratio $= \frac{1}{14} : \frac{1}{20}$

$= 20 : 14 = 10 : 7$

27. 18 litres of pure water was added to a vessel containing 80 litres of pure milk. 49 litres of the resultant mixture was then sold and some more quantity of pure milk and pure water was added to the vessel in the respective ratio of 2:1. If the resultant respective ratio of milk and water in the vessel was 4:1, what was the quantity of pure milk added in the vessel ? (in litres)

(1) 4

(2) 8

(3) 10

(4) 12

(5) 2

Solution:1

(1) In initial mixture of the vessel,

Milk : Water = 80 : 18 = 40 : 9

In 49 litres of mixture,

Milk = 40 litres

Water = 9 litres

Let $2x$ litres of milk and x litres of water be added.

According to the question,

$$\frac{40+2x}{9+x} = \frac{4}{1}$$

$\Rightarrow 36 + 4x = 40 + 2x$

$\Rightarrow 4x - 2x = 40 - 36$

$\Rightarrow 2x = 4 \Rightarrow x = 2$ litres

$\therefore$ Milk added. = 4 litres

28. A certain sum is divided among A, B and C in such a way that A gets Rs. 40 more than the

1/2 of the sum. B gets Rs. 120 less than 3/8th of the sum and C gets Rs. 200. What is the total sum ?

(1) Rs. 1100

(2) Rs. 850

(3) Rs. 960

(4) Rs. 1200

(5) Rs. 1000

Solution:3

(3) Let initial amount be Rs. x.

$\therefore$ A $\Rightarrow \frac{x}{2} + 40$

B $\Rightarrow \frac{3x}{8} - 120$

$\therefore$ C's share

$= x - \frac{x}{2} - 40 - \frac{3x}{8} + 120$

$= x - \frac{x}{2} - \frac{3x}{8} + 80$

$= \frac{8x - 4x - 3x}{8} + 80$

$= \frac{x}{8} + 80$

According to the question,

$\frac{x}{8} + 80 = 200$

$\Rightarrow \frac{x}{8} = 200 - 80 = 120$

$\Rightarrow x = 120 \times 8 = \text{Rs. } 960$

Directions (29-33) : What will come in place of the question mark (?) in the given number series ?

29. 123 140 106 157 89 ?

(1) 214
(2) 139
(3) 198
(4) 169
(5) 174

Solution:5

(5) The pattern is :

$123 + 1 \times 17 = 123 + 17 = 140$

$140 - 2 \times 17 = 140 - 34 = 106$

$106 + 3 \times 17 = 106 + 51 = 157$

$157 - 4 \times 17 = 157 - 68 = 89$

$89 + 5 \times 17 = 89 + 85 = \boxed{174}$

30. 190 94 46 22 ? 4

(1) 19

(2) 15

(3) 10

(4) 8

(5) 16

Solution:3

(3) The pattern is :

$\frac{190}{2} - 1 = 95 - 1 = 94$

$\frac{94}{2} - 1 = 47 - 1 = 46$

$\frac{46}{2} - 1 = 23 - 1 = 22$

$\frac{22}{2} - 1 = 11 - 1 = \boxed{10}$

$\frac{10}{2} - 1 = 5 - 1 = 4$

31. 320 308 284 236 140 ?

(1) 114

(2) 110

(3) – 50

(4) 98

(5) -52

Solution:5

(5) The pattern is :

$320 - 12 \times 1 = 308$

$308 - 12 \times 2 = 308 - 24 = 284$

$284 - 24 \times 2 = 284 - 48 = 236$

$236 - 48 \times 2 = 236 - 96 = 140$

$140 - 96 \times 2 = 140 - 192 = \boxed{-52}$

32. 3 4 9 28 113 ?

(1) 782

(2) 424

(3) 646
(4) 384
(4) 566

Solution:5
(5) The pattern is :
$3 \times 1 + 1 = 3 + 1 = 4$
$4 \times 2 + 1 = 8 + 1 = 9$
$9 \times 3 + 1 = 27 + 1 = 28$
$28 \times 4 + 1 = 112 + 1 = 113$
$113 \times 5 + 1 = 565 + 1 = \boxed{566}$

33. 8 4 6 15 ? 236.25
(1) 64.5
(2) 84
(3) 52.5
(4) 36
(5) 46

Solution:3
(3) The pattern is :
$8 \times \frac{1}{2} = 4$
$4 \times \frac{3}{2} = 6$
$6 \times \frac{5}{2} = 15$
$15 \times \frac{7}{2} = \boxed{52.5}$
$52.5 \times \frac{9}{2} = 236.25$

34. The respective ratio of curved surface area and total surface area of a cylinder is 4 : 5. If the curved surface area of the cylinder is 1232 cm2, what is the height ? (in cm)
(1) 28 cm
(2) 24 cm
(3) 26 cm

(4) 30 cm

(5) None of these

Solution:1

(1) Let the radius of the base of cylinder = r cm. and height = h cm.

According to the question,

$$\frac{2\pi rh + 2\pi r^2}{2\pi rh} = \frac{5}{4}$$

$$\Rightarrow \frac{2\pi r(h + r)}{2\pi rh} = \frac{5}{4}$$

$$\Rightarrow \frac{h + r}{h} = \frac{5}{4}$$

$$\Rightarrow 5h = 4h + 4r$$

$$\Rightarrow h = 4r$$

$$\Rightarrow r = \frac{h}{4} \quad \text{, ...(i)}$$

$$\therefore 2\pi rh = 1232$$

$$\Rightarrow 2 \times \frac{22}{7} \times \frac{h}{4} \times h = 1232$$

$$\Rightarrow h^2 = \frac{1232 \times 7 \times 4}{2 \times 22} = 784$$

$$\Rightarrow h = \sqrt{784} = 28 \text{ cm.}$$

35. A bag contains 3 red balls, 5 yellow balls and 7 pink balls. If one ball is drawn at random from the bag, what is the probability that it is either pink or red ?

(1) $\frac{1}{3}$

(2) $\frac{2}{3}$

(3) $\frac{1}{4}$

(4) $\frac{2}{5}$

(5) None of these

Solution:2

(2) Total number of balls in the bag = 3 + 5 + 7 = 15

One ball is taken out.

∴ Total possible outcomes = 15

Total favourable outcomes = selection of 1 ball out of 10 balls = 10

∴ Required probability

$= \frac{10}{15} = \frac{2}{3}$

REASONING

Directions (1-2) : Study the following information carefully and answer the questions given below :
R is married to U. U is the mother of L. L is the sister of D. U has only one daughter. D is married to J. K is the son of J. F is the mother of J.

1. How is D related to F ?
   (1) Cannot be determined
   (2) Daughter
   (3) Daughter-in-law
   (4) Son-in-law
   (5) Son

   Solution:4
   (1-2) :
   U is the mother of L and D.
   R is the father of L and D.
   D is the husband of J.
   K is the son of D and J.
   F is the mother-in-law of D.(4) F is the mother of J.
   J is the wife of D.
   Therefore, D is the son-in-law of F.

2. How is R related to K ?
   (1) Cannot be determined
   (2) Grandfather
   (3) Grandmother
   (4) Father
   (5) Uncle

   Solution:2
   (2) D is the father of K.
   R is the father of D.
   Therefore, R is the grandfather of K.

Directions (3-5) : Study the following information carefully and answer the questions given below :
Each of the six buildings P. Q, R, S, T and U houses different number of offices. S has more offices than only T and R. Q has more number of offices than P but less than U. R does not house the least number of offices. The building which houses the least number of offices has 5 offices. The building which has second highest number of offices has 23 offices. S has 11 less number 'of offices than Q.

3. Which of the following buildings has' the second least number of offices ?
(1) Q
(2) U
(3) R
(4) P
(5) T

Solution:3
(3-5)
P, Q, U > S > T, R
U > Q > P
U > Q > P > S > R > T
↓ ↓ ↓
23 12 5
(3) R has the second least number of offices.

4. The number of offices in P is an even number which is divisible by 2 as well as 3. How many offices does P have ?
(1) 20
(2) 24
(3) 16
(4) 18
(5) 12

Solution:4
(4) P has more than 12 but less than 23 offices. 18 is divisible by both 2 and 3.

5. Which of the following is the number of offices in the building R ?
(1) 25
(2) 12
(3) 13
(4) 14

(5) 11

Solution:5
(5) R has more than 5 but less than 12 offices

Directions (6-10) : Study the following information carefully and answer the questions given below:
Seven persons, P, Q, R, S, T, U and V have a seminar but not necessarily in the same order, on seven different months ,(of the same year) namely Januay, February, March, June, August, October and December. Each of them also likes a different fruit namely Banana, Grapes, Papaya, Orange, Mango, Litchi and Apple but not necessarily in the same order.
R has a seminar in a month which has less than 31 days. Only two persons have a seminar between R and S. The one who likes Banana has a seminar immediately before T. Only one person has a seminar before the one who likes Papaya. Q has a seminar immediately after the one who likes Papaya. Only three persons have a seminar between Q and the one who likes Mango. T likes neither Mango nor Papaya. P has a seminar immediately before
T. V likes Apple. The one who likes Grapes has a seminar in the month, which has less than 31 days. The one who has a seminar in March does not like Orange.

6. Which of the following represents the month in which S has a seminar ?
(1) January
(2) Cannot be determined
(3) October
(4) December
(5) June

Solution:4
(6-10)

Month	Person	Fruit
January	V	Apple
February	U	Papaya
March	Q	Litchi
June	R	Grapes
August	P	Banana
October	T	Orange
December	S	Mango

(4) S has a seminar in the month of December

.

7. Which of the following represents the people who have a seminar in January and

June respectively ?
(1) V, S
(2) U, S
(3) Q, T
(4) U, R
(5) V, R

Solution:5
(5) V has a seminar in the month of January. R has a seminar in the month of June.

8. flow many persons have a seminar between the months in which V and R have a seminar ?
(1) None
(2) Three
(3) Two
(4) One
(5) More than three

Solution:3
(3) Two persons – U and Q have seminars between V and. R

9. As per the given arrangement, R is related to Banana and P is related to Orange following a certain pattern, with which of the following is U related to following the same pattern ?
(I) Mango
(2) Litchi
(3) Apple
(4) Papaya
(5) Grapes

Solution:2
(2) R has a seminar immediately before the one who likes Banana. P has a seminar immediately before the one who likes Orange. Similarly,U has a seminar immediately before the one who likes Litchi

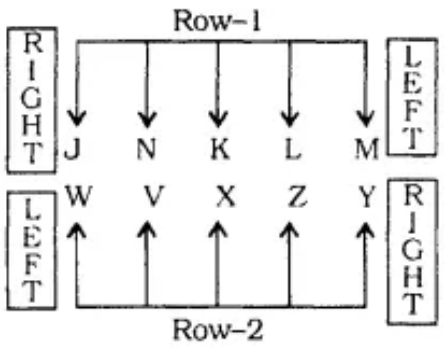
10. Which of the following fruits, does U like ?
    (1) Papaya
    (2) Mango
    (3) Banana
    (4) Grapes
    (5) Orange

Solution:1
(1) U likes Papaya.

Directions (11-15) : Study the following information carefully and answer the questions given below:
Ten persons are sitting in two parallel rows containing five persons each, in such a way that there is equal distance between adjacent persons. In row-1, J, K, L, M and N are seated (not necessarily in the same order) and all of them are facing south. In row-2, V, W, X, Y and Z are seated (not necessarily in the same order) and all of them are facing north. Therefore in the given seating arrangement each member seated in row faces another member of the other row. Z sits third to the right of W. V sits second to the left of Z. The person facing V sits to the immediate right of K. Only one person sits between K and M. J is not an immediate neighbour of K. Only two persons sit between J and L. Neither K nor J faces Y.

11. Who amongst the following is facing N ?
    (1) Y
    (2) V
    (3) X
    (4) W
    (5) Z

Solution:2
(11-15)



(2) V is facing N.

12. Which of the following statements is true regarding M ?
(1) M faces one of the immediate neighbours of X.
(2) K is one of the immediate neighbours of M.
(3) None of the given statements is true
(4) L sits to the immediate right of M.
(5) Only one person sits between M and N.

Solution:4
(4) M faces one of the immediate neighbours of Z.
L is an immediate neighbour of M.
Two persons – L and K – sit between M and N.

13. Who amongst the following is facing X ?
(1) K
(2) L
(3) M
(4) J
(5) N

Solution:1
(1) K is facing X.

14. What is the position of Z with respect to Y ?
(1) Third to the right
(2) Second to the right
(3) Immediate left
(4) Immediate right
(5) Second to the left

Solution:3
(3) Z is to the immediate left of Y.

15. Four of the following five are alike in a certain way based on the given

arrangement and hence form a group. Which of them does not belong to that group ?

(1) M

(2) J

(3) Y

(4) W

(5) N

Solution:5

(5) Except N, all others sit at the extreme ends of the rows.

Directions (16-20) : In each of the questions given below two/three statements followed by two Conclusions numbered I and II have been given. You have to take the two/ three given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given Conelusions logically follows from the given statements disregarding commonly known facts.

Give answer (1) if only Conclusion II follows

Give answer (2) if only Conclusion I follows

Give answer (3) if both the Conclusion I and Conclusion II follow

Give answer (4) if either Conclusion I or Conclusion II follows

Give answer (5) if neither Conclusion I nor Conclusion II follows

16. **Statements :**

All races are sprints.

Some races are contests.

Conclusions :

I. Some contests are sprints.

II. All contests are sprints.

Solution:2

(16-20) :

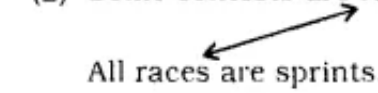
(i) All races are sprints Universal Affirmative (A-type).

(ii) Some races are contests Particular Affirmative (1-type).

(iii) No bank is a locker Universal Negative (E-type).

(iv) Some banks are not lockers Particular Negative (0-type).

(2) Some contests are races.



All races are sprints.

I + A ⇒ I – type of Conclusion

"Some contests are sprints".

This is Conclusion I.

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17. **Statements :**

No bank is a locker.

All banks are stores.

No store is panel.

Conclusions :

I. No store is a locker.

II. No panel is a bank.

Solution:1

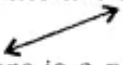
(1) No locker is a bank.

All banks are stores.

$E + A \Rightarrow O_1$ – type of Conclusion

"Some stores are not lockers".

All banks are stores.



No store is a panel.

$A + E \Rightarrow E$ – type of Conclusion

"No bank is a panel".

Conclusion II is the Converse of it.

(18-19) : Statements :

Some strikes are hits.

No strike is a raid.

All attacks are raids.

18. **Conclusions :**

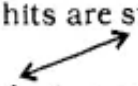
I. Some hits are definitely not raids.

II. All hits being strikes is a possibility.

Solution:3

(18-20)

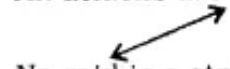
: Some hits are strikes.



No strike is a raid.

I + E ⇒ O – type of Conclusion
"Some hits are not raids". (P)

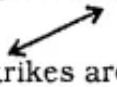
All attacks are raids.



No raid is a strike.

A + E ⇒ E – type of Conclusion
"No attack is a strike". (Q)

No attack is a strike.



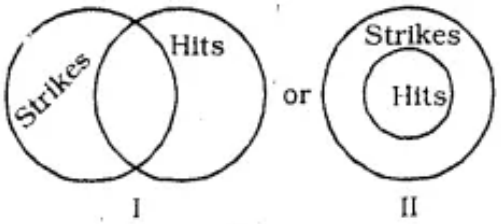
Some strikes are hits.

E + I ⇒ O_1 – type of Conclusion
"Some hits are not attacks". (R)

(3) Conclusion I is the Conclusion (P).

Venn diagrams of

"Some strikes are hits":



or

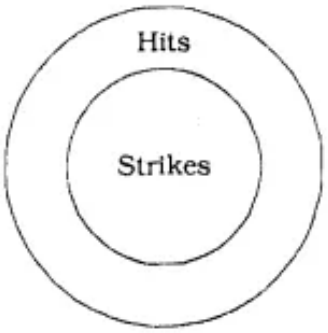


Diagram II supports the Conclusion II.

19. **Conclusions :**

1. No attack is a strike.

II. All attacks being hits is a possibility.

Solution:3

(3) Conclusion I is the Conclusion (Q).

Venn diagrams of "Some hits are not attacks" :

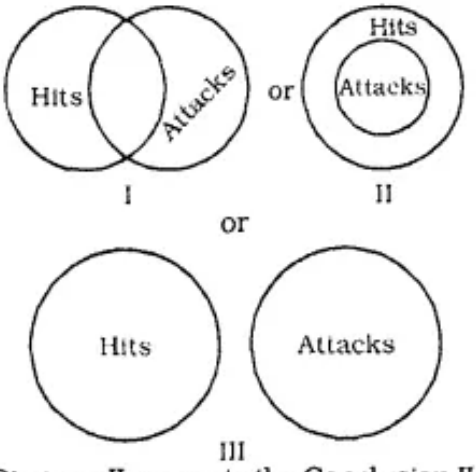


Diagram II supports the Conclusion II.

20. **Statements :**

Some equations are formulae.

All equationg are terms.

All terms are symbols.

Conclusions :

All equations are symbols.

II. No symbol is a formula.

Solution:2

(2)

Some formulae are equations.

All equations are terms.

I + A ⇒ I – type of Conclusion

"Some formulae are terms".

All equations are terms.

All terms are symbols.

A + A ⇒ A – type of Conclusion

"All equations are symbols".

This is Conclusion I.

Some formulae are terms.

All terms are symbols.

I + A ⇒ I – type of Conclusion

"Some formulae are symbols".

Directions (21-25) : Study the following information carefully and answer the questions given below:
In a certain code language,
'festival for woman only' is written as 'pa ge bo xu'
'provide peace to women' is written as `wr dl nj ge'
'women like to celebrate' is written as 'ge ct fx wr'
'celebrate peace in festival' is written as 'dl bo sv ct'
(All codes are two letter codes only)

21. What may be the possible code for 'provide idea' in the given code language ?
(I) fx by
(2) xu bo
(3) by nj
(4) nj xu
(5) wr fx

Solution:3
(21-25)

festival for woman only ⟶ pa ge bo xu
provide peace to women ⟶ wr dl nj ge
women like to celebrate ⟶ ge ct fx wr
celebrate peace in festival ⟶ dl bo sv ct

(3) provide ⇒ nj
The code for 'idea' may be 'hy'

22. What is the code for 'celebrate' in the given code language ?
(1) et
(2) wr
(3) sv
(4) dl
(5) fx

Solution:1
(1) celebrate ⇒ ct

23. In the given code language what does the code ‘pa’ stand for ?
(1) peace
(2) either ‘for’ or ‘only’
(3) either ‘women’ or `to’
(4) celebrate
(5) festival

Solution:2
(2) pa ⇒ for/only

24. What is the code for ‘women’ in the given code language ?
(1) bo
(2) xu
(3) ct
(4) Other than those given as options
(5) ge

Solution:5
(5) women ⇒ ge

25. If ‘peace to mind’ is coded as ‘zg wr dl’ in the given code language, then what is the code for ‘mind in festival’ ? (1) zg bo dl
(2) dl zg sv
(3) zg nj wr
(4) bo sv zg
(5) sv wr bo

Solution:4
(4) peace ⇒ dl
to ⇒ wr
mind ⇒ zg
Similarly,
mind ⇒ zg
in ⇒ sv
festival ⇒ bo

Directions (26-30) : In each of the following questions relationship between different elements is shown in the statements. The statements are followed by two Conclusions numbered I and II. Study the Conclusions based on the given statements and select the appropriate answer.
Give answer (1) if only Conclusion II is true
Give answer (2) if only Conclusion I is true
Give answer (3) if both the Conclusion I and Conclusion II are true
Give answer (4) if either Conclusion I or Conclusion II is true
Give answer (5) if neither Conclusion I nor Conclusion II is true
(26-27) : Statements :
S<L<1=P>E>R:L>Q

26. **Conclusions :**
I. P > S
II. I > R

Solution:3
(26-27)
$S \leq L \leq I = P \geq E > R$
$L > Q$
$Q < L \leq I = P \geq E > R$
(3) **Conclusions :**
I. $P \geq S$: True
II. I > R : True

27. ***Conclusions :***
I. L < R
II. E > Q

Solution:5
(3) **Conclusions :**
I. $P \geq S$: True
II. I > R : True

(28-29) : Statements :
G>R>E=A<T<S: ID < A < J

28. **Conclusions :**
I. T > D
II. R > S

Solution:2
(28-29)

$G > R \geq E = A \leq T \leq S$
$D \leq A \leq J$
$D \leq A \leq T$
$G > R \geq E = A \leq J$
(2) **Conclusions :**
I. $T \geq D$: True
II. $R > S$: Not True

29. **Conclusions :**
I. $J > E$
II. $J = E$

Solution:4
(4) **Conclusions :**
I. $J > E$: Not True
II. $J = E$: Not True
J is either greater than or equal to E. Therefore, either Conclusion I or Conclusion II is true.

30. **Statements :**
A>B>C<D<E<F
Conclusions :
I. A> E
H. C < F

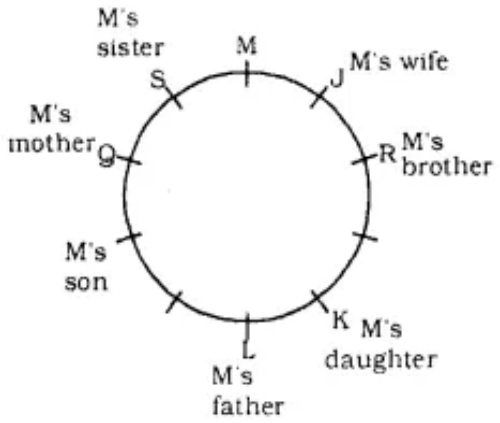
Solution:1
(1) $A \geq B > C \leq D \leq E < F$
Conclusions :
I. $A \geq E$: Not True
II. $C < F$: True

Directions (31-35) : Study the following information carefully and answer the questions given below :
Ten persons — J, K, L, M. N, O, P, Q, R and S — are sitting around a circular table facing the centre with equal distances between each other (but not necessarily in the same order). Each one of them is also related to M in some way or the other. Only two persons sit between Q and L. M sits second to the left of Q. Only three persons sit between L and M's sister. M's son sits second to the right of M's sister.

Only one person sits between M's son and S. J sits to the immediate right of R. R is neither the son nor the mother of M.
S is an immediate neighbour of M's mother. Only three persons sit between M's mother and M's brother. M's daughter sits second to the left of M's brother.
M's father is not an immediate neighbour of M. M's wife sits third to the right of K.
L is to the right of Q. Only four persons sits between M and M's father.

31. Who sits second to the right R?
(1) M's brother
(2) M
(3) R
(4) N
(5) M's daughter

Solution:2
(31-35)



(2) M sits second to the right of R.

32. How many persons sit between K and L, when counted from the left of K ?
(1) Six
(2) One
(3) None
(2) Two
(5) Four

Solution:3
(3) L is an immediate neighbour of K

33. Which of the following statements is true with respect to the given information
(1) R sits second to the right of M's wife.

(2) K is an immediate neighbour of R.
(3) M sits second to the left of L
(4) All the given options are true.
(5) S is the daughter of L.

Solution:5
(5) R sits to the immediate left of M's wile.
K is an immediate neighbour of L.
M sits second to the left of Q. S is daughter of L.

34. How is K related to R ?
(1) Son-in-law
(2) Uncle
(3) Brother
(4) Niece
(5) Daughter

Solution:4
(4) K is niece of R

35. Who amongst the following is the wife of M ?
(1) J
(2) L
(3) 0
(4) Q
(5) N

Solution:1
(1) J is the wife of M.