Answer Key to Indian Bank PO Prelims Live Leak 2017

1	2	2	1	3	4	4	5	5	2	6	3	7	4	8	1	9	3	10	2
11	2	12	1	13	3	14	4	15	1	16	3	17	1	18	5	19	3	20	4
21	2	22	3	23	4	24	1	25	2	26	2	27	2	28	3	29	3	30	4
31	2	32	3	33	1	34	3	35	2	36	1	37	3	38	1	39	2	40	3
41	2	42	3	43	1	44	4	45	5	46	4	47	2	48	4	49	2	50	1
51	4	52	2	53	2	54	1	55	2	56	2	57	3	58	1	59	1	60	3
61	4	62	1	63	5	64	1	65	1	66	3	67	4	68	3	69	4	70	5
71	4	72	1	73	5	74	3	75	3	76	3	77	4	78	2	79	5	80	3
81	4	82	1	83	3	84	2	85	5	86	2	87	3	88	2	89	5	90	3
91	1	92	4	93	4	94	2	95	4	96	2	97	4	98	2	99	4	100	4

Solutions:

English Language

1. In the second last paragraph of the passage, it has been stated that RBI and NPCI would want to observe how the system works before opening it up for institutions other than banks. However, this regulation has been seen by some as a move to *protect banks*. It has been further stated that mobile wallets and other online payment modes are becoming popular along with the entry of new payment banks. This means that the restrictions have promoted methods like *mobile wallets.* Options (4) and (5) are out of context. Option (3) states that banks are losing their customer base which may or may not be true. Option (1) gives only the official reason for restriction of the UPI service. Option (2) correctly states the reason. Therefore, the correct answer is (2).

2. In the fourth paragraph of the passage, the difference between UPI and other payment modes has been stated and it has been told that bank details are not

shared in an UPI transaction, and transactions can be processed 24*7. Thus, option (1) is true.

Option (2) correctly states that UPI is regulated by NPCI but that is not an advantage since all the online transactions are regulated by the NPCI.As far as option (3) is concerned, although the UPI fits in well with the goal of migrating towards a cashless economy, so do other online transactions. Therefore, this cannot be considered as an advantage.

3. As stated in the passage, migrating towards a cashless economy is decreasing the amount of cash in the system. As stated in the last paragraph of the passage, '*by bringing person to person payments for even very small amounts online, it would be possible to reduce the amount of cash in the system, create a trail of all transactions, lower tax evasion and boost revenues.' With* online transactions, a trail of all transactions can be created and this will lead to lower tax evasion and ultimately boost revenues of the government and the country. Therefore, the correct option is (4). The other options do not appropriately answer the question asked.
4. The last paragraph of the passage states that '*with the growing use of smart phones in India and the number of mobile phone subscribers — a billion — a large number of transactions are expected to be carried out through phones or electronically. This is already reflected in the rising number of transactions through the electronic mode rather than by cheques*.'

   Option (1) – The passage nowhere states the ease and difficulty of transferring funds through different means. It only states that with the increase in the number of smart phone users, it is expected that number of people carrying out online transaction will increase. Thus, we cannot explicitly say that the electronic transactions are gaining popularity due to the ease of transferring funds online.

Option (2) and (3) are clearly stated in the passage and are two of the reasons that electronic transactions are gaining popularity.

5. It is clearly mentioned in the first paragraph that the National Payments Corporation of India (NPCI) is the regulatory organisation for all retail payments systems in India. NEFT, RTGS and IMPS are all retail payment systems. Therefore, the correct answer is option (2).

6. The passage is an exhaustive article on the UPI. The implementation of the UPI system, its advantages over older systems and the transaction process has been clearly explained. The passage has also put forward the long term benefits of UPI as well as electronic transactions. Options (1) and (4) are irrelevant. The UPI has been introduced by the NPCI and the government has a negligible role in it. A business magazine will dwell into the business aspects and business opportunities with the introduction of UPI rather than an exhaustive article on it. Therefore, option (3) is the best fit over options (2) and (5).

7. 'Enable' and 'Assist' are synonyms of 'Facilitate'.
'Fetter' means 'to restrain someone physically with chains and manacles.'
'Derail' means 'to obstruct a process by diverting it from its intended course.'
'Impede' means 'to prevent someone or something by obstructing them.'
As per the context of the passage, 'facilitate' means to make the process of transferring funds easier. Therefore, most opposite in meaning to the word 'facilitate' is 'impede'.

8. 'Beneficiary' refers to 'a person who draws advantage from something, esp. a trust, will or life insurance.'
'Enemy' is opposite in meaning to 'Beneficiary'.
'Payee' is 'a person to whom money is to be paid.'

'Inheritor' is 'a person who inherits something.'
'Legatee' is 'a person who receives the legacy.'
'Recipient' is 'a person who receives or is awarded something.'
As per the context of the passage, 'beneficiary' is the 'person who receives the funds.' Therefore, the word most similar in meaning to the 'beneficiary' is 'payee'.

9. 'Curtail' means 'to impose a restriction on something'. *E.G. In a democratic country like India, it would be anarchical to curtail the fundamental rights of the citizens.*
'Reticent' means 'being reserved or restrained while speaking.'
'Constraint' is 'a limitation or restriction during a process.'
'Inhibition' is 'a hindrance in an action or process.'
'Candour' means 'being honest and frank.'
As per the context of the passage, 'limitation' is 'a constraint or restriction in fund transfers.' Therefore, most similar in meaning to the word 'limitation' is 'constraint'.

10. 'Belie' means 'to contradict.'
'Decline' means to 'deny or not authorize.'
'Discredit' means 'loss of reputation.'
'Corroborate' means 'to confirm or support a statement.'
'Disagree' means 'to refuse to accept one's opinion.'
As per the context of the passage, 'validated' is used in reference 'to authorizing the payment at the back end of the bank. Therefore, the antonym of word 'validated' is 'declined'.

11. Note that the word followed by the blank space is *conflict.* Also, the conflict was between an imperial state and its colonies and the latter were fighting for independence. The first sentence also says that it was *war* of independence; therefore, it can be guessed that the conflict was an 'armed' one, i.e. it involved

'weapons'. 'Organised' is quite inappropriate here. Let us look at the meanings of other words to see why do they not fit the blank space:

Fortified: provide a place with defensive works, so as to guard it from attacks
Girded: Encircled
Accoutre: Clothe or equip in something noticeable and impressive.

In the given context options 3, 4 and 5 do not make appropriate sense and can be discarded. And option 2 the correct answer.

12. The fact that taxes were claimed to be unconstitutional suggests that they were opposing it. Thus, the word that best suits the blank space is 'resistance' which means 'opposition'. All the other options are not convey the sense of active resistance. Thus, option 1 is the correct answer.

13. According to the given sentence, protests *escalated* into something of which *destruction of a shipment of tea at the Boston Tea Party* was an instance. From the given options, 'resistance' is a synonym of 'protests' which has already been used in the same line. *Destruction of tea* cannot be said to be examples of 'punishments', 'imprisonment' or 'arrests'. Thus, 'boycott' is the best fit answer as it means to 'avoid the use of goods or institutions in order to show resistance'. So, option 3 is the answer.

14. The sentence under concern means that the British government, in response to the boycott too some measures. This idea is conveyed by the word 'retaliated' which means 'to act in response' 'reciprocate'. The word is used to convey the sense of a 'counterattack' which means that the government acted in a way to teach the colonists a lesson by closing the port of Boston. The reaction of the police as mentioned in the passage cannot be said to be a 'punishment'. Thus option 4 is the correct answer.

15. 'Shadow government' refers to 'a family of conspiracy theories based on the notion that real and actual political power resides not with publicly elected representatives but with private individuals who are exercising power.' This is the best fit answer as the given sentence means that the formation of this government *took control of the province outside of Boston* 'Duplicate' and 'replica' are synonym sand do not fit the context as terms such as 'duplicate government' and 'model' government do not exist. 'Regressive' and 'kind' are irrelevant here as the sentence talks about the formation of a particular type of government. Thus, option 1 is the correct answer.

16. The word in the blank space is associated with the word *committees* with the conjunction 'and'. So a word conveying a similar sense must be used. The word 'convention' means 'an agreement between parties or groups' is the best fit answer here. The other option are quite irrelevant here.

17. The sentence under concern talks about General George Washington, an American revolutionary taking up the military charge against the British troops and forcing them to leave. Undoubtedly, there is antagonism between the two parties, thus options 2 and 3 can be eliminated. 'Representing' is incorrect as an American would not represent British troops. The correct answer is 'besieging' which means 'to surround with armed forces and capture'. Thus, option 1 Is the correct answer.

18. The given sentence suggests that the British forces were 'gathering' or 'assembling' military forces. Thus, the word 'mustering' is the best fit answer as it conveys this meaning. Thus option 5 is the correct answer.

19. The blank needs to be fit by a word that demonstrates the meaning that Sir Williams gained an advantage by using his skill and cleverness. Thus 'outmaneuvered' which conveys this meaning should be placed in the blank space. 'Fooled' is not as appropriate as option 3 and can be eliminated. 'Beat'

is a synonym of 'defeat', so avoid repetition of the idea, this cannot be used. Options 4 and 5 are irrelevant in the given context. So, option 3 is the most appropriate answer.

20. The given sentence means that General Howe's situation was such that the British had to fly away. This means that Howe's situation was challenging. So options 1, 2 and 5 can be eliminated. 'Invincible' refers to a person who is so powerful that she/ he cannot be defeated. So the word cannot be used in the context of a 'situation'. The word 'untenable' means 'indefensible' or 'shaky'. This conveys the idea of an adverse situation, and is the correct answer. So, option 4 is the correct answer.

21. Here in this sentence 'careful' is an adjective which should be replaced by 'carefully' which is an adverb to make the sentence grammatically correct. So option 2 is the correct answer.

22. Here she is comparing people. So when there is comparative degree in action then addition of 'more' before the word 'friendlier' which is already in comparative form is incorrect. So option 3 has the error and the correct answer will be '*She said, "The people in my new office are friendlier than the people at my old office".*

23. Here in this sentence use of 'has wasted' is incorrect.the use of the modal verb 'should' must always use auxiliary verb as 'have' irrespective of the person in the sentence.
Like – The boys should have done their assignment
I should have gone there. so option 4 is the correct answer.

24. The correction is in the article 'an' which even though is been used before a vowel will require the article 'a' . This is because whenever the vowel 'u' or

'eu', as in the given sentence, takes a 'you' pronunciation, we know that the sound is not of vowel 'u'. Instead the sound is of a consonant 'y'.
Hence we write 'a European', 'a university', 'a unit', etc. Hence the correct sentence is: '*A European tourist visited the TajMahal in India*.' Hence the error is in option 1

25. The correction is in the auxiliary verb 'is'. The correct phrase would be 'are'; because here the subject 'public' stands for the plural since each person is moving in different directions as seen by 'scattering'. A collective noun is said to be in singular if all the individuals included in it act as one unit, however if they act individually or separately like in the given sentence, then the collective noun is said to be in plural. *E.g. The audience was clapping continuously.* and*E.g. The audience were divided into groups in the event* . Hence the correct sentence is: '*The public are scattering away from the hazardous building complex.*' Hence, the error is in option 2.

26. The error lies in part 2 of the sentence as an article is missing here. After 'cut down' there needs to be the article 'the' to specify that the production of non liquid products has been reduced. The sentence should read as: 'They have cut down the production of non-liquid products such as ghee and butter by 15 percent'. Thus option 2 is the correct answer.

27. Here the use of 'a little' is incorrect which should be replaced by 'the little'. 'a little' means some though not much. *E.g. We have a little hope of Clinton's victory.* Whereas 'the little' means 'not much but all that is'. *E.g. The little hope we had of her victory is lost after seeing the polls results.*

So option 2 has the error and the correct sentence will be *'He sold the little gold he got from his mother for his marriage'*

28. In order to be grammatically correct the subject and verb are always in agreement. Here, the main subject is 'the Principal' and not 'circumstances'. So the verb should be written as 'was right to' .Thus there is an error in part 3.
29. Here, all the actions (picked up his boots, buckled his belt and wears his jacket) need to be in parallel. Thus, to make them parallel we need to make their verbs (picked, buckled and wears) in the same form i.e. in past form (v2). Thus the correct sentence will be *'Carl picked up his boots, buckled his belt and wore his jacket'* Hence, the error is in part 3.

30. The co-ordinating conjunction 'Scarcely' is always used with 'when'. So the correct sentence will be '*Scarcely had the banks reached out to women to provide financial services for the low income rural masses when the entire banking system changed.'* Thus the correct option is 4. To learn more click here.

Quantitative Aptitude

31. Let the original principal amount be Rs. X

We know $SI = \frac{P \times R \times T}{100}$

Where, SI = Simple interest; P = Principal; R = % rate of interest; T = time period in years
Initially, when rate of interest is 5%,

Annual simple interest will be given by:

$$SI = \frac{X \times 5 \times 1}{100} = 0.05X$$

When rate of interest drops to 4% per annum, the principal amount becomes (X + 2000).
∴ Annual simple interest will be given by:

$$SI = \frac{(X + 2000) \times 4 \times 1}{100}$$

⇒ SI = 0.04 (X+2000)

⇒ SI = 0.04x + 80

As per the given information, the annual income remains the same.

∴ both simple interest amounts are the same.

⇒ 0.05X = 0.04X + 80

⇒ 0.01X = 80

⇒ X = 80/0.01 = 8000

32. Given, distance = 80 km

Speed of motorboat in still water = 45kmph

Time taken by motorboat along the stream = 1hr 20 min

Let the speed of stream = y

∵ Time = distance/(speed in downstream)

∵ Speed of motorboat in downstream = speed of boat + speed of stream

∴ Speed of motorboat in downstream = 45 + y

$$1 + \frac{20}{60} = \frac{80}{45 + y}$$

$$\Rightarrow \frac{4}{3} = \frac{80}{45 + y}$$

⇒ y = 15kmph

So, speed of stream = 15 kmph

∵ Speed of motorboat against the stream = speed of boat – speed of stream

∴ Speed of motorboat against the stream = 45 – 15 = 30kmph

∵ Time = distance/(speed in against stream)

⇒ Time = 80/30

⇒ Time = 2 hour 40 minutes

33.

Let the digit at the unit's place be x and that at tenth's place be y.

∴ the given number = 10y + x

When the digits are reversed, the number will become (10x + y)

As per the given data, on reversing the digits, the number becomes 4/7th of original.

$\therefore 10x + y = \frac{4}{7}(10y + x)$

$\Rightarrow 7 \times (10x + y) = 4 \times (10y + x)$

$\Rightarrow 70x + 7y = 40y + 4x$

$\Rightarrow 66x = 33y$

$\Rightarrow 2x = y$

$\because$ sum of digits = 9

$x + y = 9$

substituting $y = 2x$,

$\therefore x + 2x = 9$

$\Rightarrow 3x = 9$

$\Rightarrow x = 3$

$\therefore y = 9 - 3 = 6$

$\therefore$ Original number = $10y + x = 63$

34.

Total no. of fruits = 7

No. of fruits to be drawn = 3.

$\therefore$ Total no. of ways of doing it = ${}^{7}C_3$

For drawing out the same fruits, either all of them must be apples or bananas.

$\therefore$ No. of possible ways of drawing all 3 apples = ${}^{3}C_3$

Also no. of possible ways of drawing 3 out of 4 bananas = ${}^{4}C_3$

$\therefore$ Total no. of possible ways of drawing out same fruit = ${}^{3}C_3 + {}^{4}C_3$

Probability that all the fruits drawn are same = $({}^{3}C_3 + {}^{4}C_3)/{}^{7}C_3$

$\Rightarrow$ Probability = 1/7.

35.

Ajay invested for 8 months, Vijay invested for 10 months, Sushil invested for 8 months and Rahul invested for 6 months.

Ratio of individual shares = ratio of (their investments × Number of months)

Ratio of investment = 10,000 × 8 : 12,000 × 10 : 7,500 × 8 : 15,000 × 6

= 80,000 : 120,000 : 60,000 : 90,000

= 8 : 12 : 6 : 9

Let investment of Ajay, Vijay, Sushil and Rahul are 8x, 12x, 6x and 9x respectively, where x be any constant

Sum= 8x + 12x + 6x + 9x = 35x

$\text{Sushil's share} = \frac{6}{35} \times 14{,}000 = 2{,}400$

36.

Follow BODMAS rule to solve this question, as per the order given below,

Step-1-Parts of an equation enclosed in 'Brackets' must be solved first,

Step-2-Any mathematical 'Of' or 'Exponent' must be solved next,

Step-3-Next, the parts of the equation that contain 'Division' and 'Multiplication' are calculated,

Step-4-Last but not least, the parts of the equation that contain 'Addition' and 'Subtraction' should be calculated.

Now, the given expression,

$11^2 - 6^2 \div 6 \times \frac{5}{2} - 2of5 = ?$

$\Rightarrow ? = 121 - \frac{36}{6} \times \frac{5}{2} - 10$

⇒ ? = 121 – 15 – 10

⇒ ? = 96

37.

Follow BODMAS rule to solve this question, as per the order given below,

Step-1-Parts of an equation enclosed in 'Brackets' must be solved first,

Step-2-Any mathematical 'Of' or 'Exponent' must be solved next,

Step-3-Next, the parts of the equation that contain 'Division' and 'Multiplication' are calculated,

Step-4-Last but not least, the parts of the equation that contain 'Addition' and 'Subtraction' should be calculated.

Now, the given expression,

$\frac{5}{35} of \frac{14}{3} of \frac{5}{8} of 72 = ?$

$\Rightarrow \frac{5}{35} \times \frac{14}{3} \times \frac{5}{8} \times 72 = ?$

$\Rightarrow ? = 30$

38.

$\Rightarrow ? = (0.256 \times 10^{-1} \times 5^4 \times 4^2)^{0.125}$

$\Rightarrow ? = (0.256 \times 10^{-1} \times 10^4)^{0.125}$

$\Rightarrow ? = 256^{0.125} = 2$

39.

Given expression is

$45.02 \times 38.93 + 12.96 \times \sqrt{73890}$

In this question, we are not taking the exact value of some given numbers in the equation; instead we are taking the approximate value. They are as follows:

$45.02 \approx 45$

$38.93 \approx 39$

$12.96 \approx 13$

$\sqrt{73890} = 271.82 \approx 270$

Therefore, applying the approximate values in the equation above, we get:

Given expression $\approx 45 \times 39 + 13 \times 270$

By using BODMAS rule,

(In BODMAS rule, B stands for Brackets, O stands for Of, D stands for Division, M stands for Multiplication, A stands for Addition and S stands for Subtraction. For simplification, when we use BODMAS rule, firstly open the bracket, then resolve order, after then division, multiplication, addition and then subtraction.)

$= 45 \times 39 + 13 \times 270$

$= 1755 + 3510$

$= 5265 \approx 5291$ in options

40.

5199.99 ≈ 5200,

13.01 ≈ 13

299.99 ≈ 300

301.2 ≈ 301

Given expression is 5199.99 ÷ 13.01 + 299.99 – 301.2

= 5200 ÷ 13 + 300 – 301

= 400 + 300 – 301

= 700 – 301 = 399

41.

Number of girls in philosophy department = 140

Number of girls in biology department = 300

Ratio of number of girls from Philosophy department to the number of girls from biology department

= 140 : 300

= 7 : 15

42.

Number of boys in biology department = 200

Total number of boys in all departments = 80 + 200 + 100 + 150 + 120 = 650

Required % $= \frac{200}{650} \times 100\% = 30.76\% \approx 31\%$

43.

Total number of departments = 5

Total number of girls in all departments = 140 + 300 + 180 + 250 + 240 = 1110

Average number of girls from all department = 1110/5 = 222

44.

Total number of girls in all departments = 140 + 300 + 180 + 250 + 240 = 1110

Total number of boys in all departments = 80 + 200 + 100 + 150 + 120 = 650

Difference between the total number of boys and the total number of girls in all the departments

= 1110 – 650 = 460

45.

Total number of girls in philosophy = 140

Total number of girls in all departments = 140 + 300 + 180 + 250 + 240 = 1110

Required % $= \frac{140}{1110} \times 100\% = 12.61\% \approx 13\%$

46.

The pattern of given series is:

→ 2.2,

→ 2.8 = 2.2 + 0.6, (0.6 × 2 = 1.2)

→ 4 = 2.8 + 1.2, (1.2 × 2 = 2.4)

→ 6.4 = 4 + 2.4, (2.4 × 2 = 4.8)

→ 11.2 = 6.4 + 4.8, (4.8 × 2= 9.6)

→ 20.8 = 11.2 + 9.6, (9.6 × 2 = 19.2)

→ 40 = 20.2 + 19.2,

Thus, the wrong number is 6.2 and the correct number is 6.4

47.

The pattern of given series is:

→ 80,

→ 120 = 80 + (80 ÷ 2),

→ 180 = 120 + (120 ÷ 2),

→ 270 = 180 + (180 ÷ 2),

→ 405 = 270 + (270 ÷ 2),

→ 607.5 = 405 + (405 ÷ 2),

Thus, the wrong number is 400 and the correct number is 405

48.

The pattern of given series is:

→ 925,

→ 555 = 925 × 3/5,

→ 185 = 555 ÷ 3,

→ 111= 185 × 3/5,

→ ? = 111 ÷ 3,

→ ? = 37,

→ 22.2 = 37 × 3/5,

→ 7.4 = 22.2 ÷ 3,

Thus, the missing number is 37

49.

The pattern of given series is:

→ 700,

→ 674 = 700 – 3^3 + 1,

→ 611 = 674 – 4^3 + 1,

→ 487 = 611 – 5^3 + 1,

→ 272 = 487 – 6^3 + 1,

→ ? = 272 – 7^3 + 1,

→ ? = -70

Thus, the missing number is – 70

50.

The pattern of given series is:

→ 25,

→ 48 = (25 × 2) – 2,

→ 94 = (48 × 2) – 2,

→ 186 = (94 × 2) – 2,

→ 370 = (186 × 2) – 2,

Based on this pattern, the next term will be:

→ ? = (370 × 2) – 2,

→ ? = 738

51.

Let's assume that the length of the room is a metres.

∴ Width of the room = 1/3 of a = a/3 metres

∴ Height of the room = 3 × width = 3 × (a/3) = a metres

Volume of air in a room is essentially equal to the volume of the room itself.

∴ volume of the room = 243 m^3

∴ Length × Width × Height = 243

⇒ a × (a/3) × a = 243

⇒ $a^3/3 = 243$

⇒ $a^3 = 243 \times 3 = 729$

⇒ a = 9

∴ Height of the room = 9 metres

52.

According to the given information,

A can fill the cistern in 20 minutes

⇒ in one min the part of cistern filled by A = 1/20

Similarly, B can empty the cistern in 24 minutes

⇒ in one min the part of cistern emptied by B = 1/24

Now, the Part of the cistern filled in a span of 2 minutes $= \frac{1}{20} - \frac{1}{24} = \frac{6-5}{120} = \frac{1}{120}$

∴ Part of the cistern filled in (114 × 2) = 228 minutes $= \frac{114}{120} = \frac{19}{20}$

Part of cistern remaining to be filled = 1 – (19/20) = 1/20

After 228 minutes, it's pipe A's turn to fill the cistern and it has to fill 1/20th part of the cistern.

As stated earlier, pipe A will take 1 minute to fill the remaining part.

∴ total time = 228 + 1 = 229 minutes = 3 hours 49 minutes

53.

Let the amount of sugar to be mixed be x kg.

C.P. of x kg of sugar at Rs. 5.75 per kg = Rs. 5.75x

C.P. of 75 kg of cheaper sugar at Rs. 4.50 per kg = 4.50 × 75 = Rs. 337.50

Total weight of sugar = (75 + x) kg

Total C.P. of (75 + x) kg of sugar = 337.50 + 5.75x

Now, according to the given condition, the mixture is worth Rs. 5.50 per kg.

∴ Total worth of the mixture = 5.50 × (75 +x)

∴ 5.75x + 337.50 = 5.50 × (75 +x)

⇒ 5.75x + 337.50 = 5.50x + 412.50

⇒ 5.75x – 5.50x = 412.50 – 337.50

⇒ 0.25x = 75

⇒ x = 300

∴ the quantity of sugar to be added is 300 kg.

54.

Say the seller bought the pencils for Rs.P.

He loses 1/16 of P when selling at Rs.15 ⇒ (1/16) × P = P – 15

Loss Amount = Cost price – Selling price

15 = (15/16) × P

⇒ P = Rs.16

Cost price = Rs.16

To get a profit of 50%, $\text{Profitpercentage} = \frac{\text{ProfitAmount}}{\text{Costamount}} \times 100$

Profit Amount = (50/100) × 16 = Rs.8

Profit amount = Selling price – Cost price

Selling price = 16 + 8 = Rs.24

So each pencil should be sold at Rs.(24/12) = Rs.2 to get a profit of 50%

55.

Let's assume that the present ages of husband, wife and their daughter are x, y and z years respectively.

We know that, Average = Sum of all quantities/Number of quantities

Average age of people = Sum of ages of all people/Number of people

∴ Three years ago the ages of family members would be (x – 3), (y – 3) and (z – 3) years respectively.

$\Rightarrow 24 = \frac{(x-3)+(y-3)+(z-3)}{3}$

⇒ 24 × 3 = (x + y + z – 9)

⇒ x + y + z = 81 ----(i)

5 years ago, the ages of wife and daughter would be (y – 5) and (z – 5) years respectively

$\Rightarrow 18 = \frac{(y-5)+(z-5)}{2}$

⇒ 18 × 2 = y + z – 10

⇒ y + z = 46 ----(ii)

Substituting equation (ii) in equation (i),

∴ x + 46 = 81

⇒ x = 81 – 46 = 35 years

∴ Present age of the husband = 35 years

56.

From the given table,

Total number of people staying in locality H = 5200

% of men in locality H = 48

Number of men staying in locality H = 48% of 5200

⇒ Number of men staying in locality H = 0.48 × 5200 = 2496

Total number of people staying in locality I = 6020

% of men in locality I = 65

Number of men staying in locality I = 65% of 6020

⇒ Number of men staying in locality I = 0.65 × 6020 = 3913

Total number of men staying in localities H and I together = 2496 + 3913 = 6409

57.

Total number of people staying in locality F = 5640

% of women staying in locality F = 35%

Number of women in locality F = 35% of 5640 = 1974

∴ Total number of men and children staying in locality F together = 5640 – 1974 = 3666

58.

Total number of people staying in locality F = 5640

% of women staying in locality F = 35

Number of women in locality F = 35% of 5640 = 1974

Total number of people staying in locality G = 4850

% of women staying in locality G = 44

Number of women in locality G = 44% of 4850 = 2134

Total number of people staying in locality H = 5200

% of women staying in locality H = 39

Number of women in locality H = 39% of 5200 = 2028

Total number of people staying in locality I = 6020

% of women staying in locality I = 25

Number of women in locality I = 25% of 6020 = 1505

Total number of people staying in locality J = 4900

% of women staying in locality J = 41%

Number of women in locality J = 41% of 4900 = 2009

∴ Clearly, the number of women staying in locality H is the second highest.

59.

Total number of people staying in locality F = 5640

% of men staying in locality F = 55%

Total number of men staying in locality F = 55% of 5640 = 3102

Total number of people staying in locality J = 4900

% of men staying in locality J = 42%

Total number of men staying in locality J= 42% of 4900 = 2058

Ratio of number of men staying in locality F to the number of men staying in locality J = 3102/2058

⇒ Ratio of number of men staying in locality F to the number of men staying in locality J = 517 : 343

60.

From the table,

Number of children staying in locality J = 17% of 4900 = 0.17 × 4900 = 833

Number of men staying in locality I = 65% of 6020 = 0.65 × 6020 = 3913

Required percentage $= \frac{833}{3913} \times 100 = 21.28 \approx 21$

61.

We will solve both the equations separately.

Equation I:

$a^2 - (6859)^{1/3} a + 84 = 0$

$\Rightarrow a^2 - 19a + 84 = 0$

$\Rightarrow a^2 - 12a - 7a + 84 = 0$

$\Rightarrow a(a - 12) - 7(a - 12) = 0$

⇒ (a – 12) (a – 7) = 0

⇒ a = 12, 7

Equation II.

$b^2 – 25b + 156 = 0$

⇒ $b^2 – 13b – 12b + 156 = 0$

⇒ b(b – 13) – 12(b – 13) = 0

⇒ (b – 12) (b – 13) = 0

⇒ b = 12, 13

On comparing values of a and b in both of these equations, we obtain

$a \leq b$

62.

We will solve both the equations separately.

Equation I:

$5x^2 – 18x + 9 = 0$

⇒ $5x^2 – 15x – 3x + 9 = 0$

⇒ 5x(x – 3) – 3(x – 3) = 0

⇒ (5x – 3) (x – 3) = 0

⇒ x = (3/5) = 0.6, 3

Equation II:

$20y^2 – 13y + 2 = 0$

⇒ $20y^2 – 8y - 5y + 2 = 0$

⇒ 4y(5y – 2) – 1(5y – 2) = 0

⇒ (4y – 1)(5y – 2) = 0

⇒ y = 1/4 = 0.25 or y = (2/5) = 0.4

Comparing the values of x and y, we get,

x > y

63. Solution

We will solve both the equations separately.

Equation I:

$a^4 - 227 = 398$

$\Rightarrow a^4 = 398 + 227$

$\Rightarrow a^4 = 625$

$\Rightarrow a = \sqrt[4]{625}$

$\Rightarrow a = \pm 5$

Equation II:

$b^2 + 321 = 346$

$\Rightarrow b^2 = 346 - 321$

$\Rightarrow b^2 = 25$

$\Rightarrow b = \pm 5$

Comparing the values of a and b, we get,

a = b

64. Solution

We will solve both the equations separately.

Equation I:

$(16)^2 + 196 \div 4 = a$

$\Rightarrow a = 256 + 49$

$\Rightarrow a = 305$

Equation II:

$(6)^2 + 18 \div 3$ of $2 = b$

$\Rightarrow b = 36 + 18 \div 6$

$\Rightarrow b = 36 + 3$

$\Rightarrow b = 39$

Comparing the values of a and b, we get,

a > b

65.

We will solve both the equations separately.

Equation I:

$6l^2 – 17l + 12 = 0$

$\Rightarrow 6l^2 – 8l - 9l + 12 = 0$

$\Rightarrow 2l(3l – 4) – 3(3l – 4) = 0$

$\Rightarrow (2l – 3) (3l – 4) = 0$

$\Rightarrow l = 3/2 = 1.5$

Or $l = 4/3 = 1.33$

Equation II:

$7m^2 – 13m + 6 = 0$

$\Rightarrow 7m^2 – 7m - 6m + 6 = 0$

$\Rightarrow 7m(m – 1) – 6(m – 1) = 0$

$\Rightarrow (7m – 6) (m – 1) = 0$

$\Rightarrow m = 6/7 = 0.85$ or $m = 1$

Comparing the values of l and m, we get,

$l > m$

Reasoning Ability

66.

Given statements: $E > J; D = H; D \leq C; D > F; J \geq H$

On combining: $E > J \geq H = D > F \leq C$

Conclusions:

I. $E > C \rightarrow$ False (as $E > J \geq H \rightarrow E > H$ and $H = D \rightarrow E > D$ and $D \leq C \rightarrow$thus clear relation between E and C cannot be determined)

II. $F < E \rightarrow$ True (as $E > J \geq H \rightarrow E > H$ and $H = D \rightarrow E > D$ and $D > F \rightarrow E > F$)

III. $J > F \rightarrow$ True (as $J \geq H$ and $H = D \rightarrow J \geq D$ and $D > F \rightarrow J > F$)

Therefore, only conclusions II and III are true.

67.

Given statements: S ≤ U = V, W ≥ X > U, Y > W = Z

Combining statements: S ≤ U = V < X ≤ W = Z < Y

Conclusions:

I. Y ≥ V → False (as V < X ≤ W = Z < Y → Y > V)

II. U ≤ Z → False (as U = V < X ≤ W = Z → U < Z)

III. Z > S → True (as S ≤ U = V < X ≤ W = Z → Z > S)

Therefore, only conclusion III is true.

68.

Given statements: R ≥ M; X = M; T< X; S ≥ T

On combining: R ≥ M = X > T ≤ S

Conclusions:

I. M> S → False (as M = X > T ≤ S→M> T ≤ S→ thus clear relation between M and S cannot be determined)

II. R ≥ X → True (as R ≥ M = X→R ≥ X)

III. T = R → False (as R ≥ M = X > T→ R> T)

Therefore, only conclusion II is true.

69.

1) O < S: Since, O < P ≤ Q < R = S ⇒ O < S (True)

2) R > U: Since, R = S > T > U ⇒ R > U (True)

3) S > Q: Since, Q < R = S ⇒ S > Q (True)

4) S ≥ P: Since, P ≤ Q < R = S ⇒ S > P (Not True)

Thus S ≥ P is not true.

70.

Given statements: W = P; C ≥ V; V ≥ W; W ≥ R; J ≥ C

On combining: J ≥ C ≥ V ≥ W= P ≥ R

Conclusions:

I. V ≥ P → True (as V ≥ W= P → V ≥ P)

II. C ≥ R → True (as C ≥ V ≥ W= P ≥ R → C ≥ R)

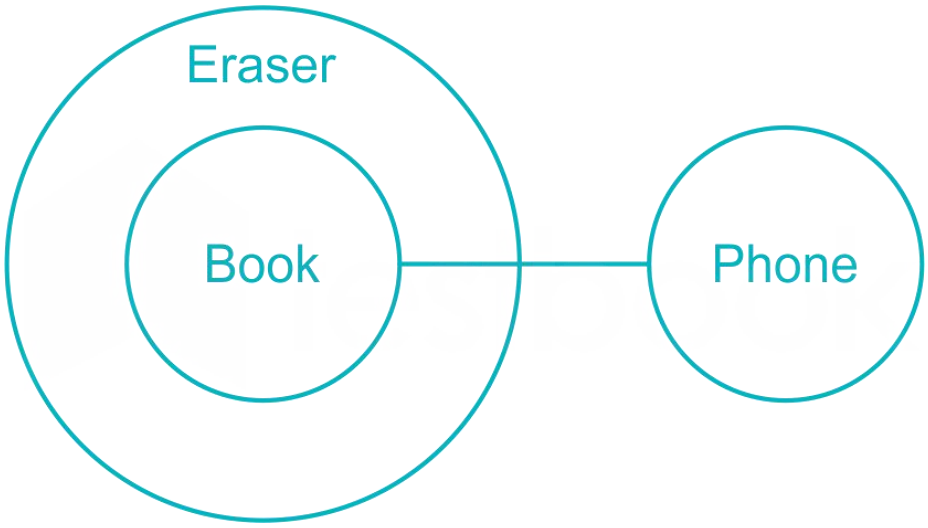
III. P ≤ J → True (as J ≥ C ≥ V ≥ W= P → P ≤ J)

Therefore, all the given conclusions are true.

71.

Note: *Here, a conclusion is definite if it can be shown in a diagram drawn with least-possibilities. If a conclusion can't be shown in least-possibilities diagram then the conclusion is possible but not definite.*

On drawing least-possibilities Venn-diagram:



Conclusions:

1) No Phone is an eraser ⇒ It's possible but not definite, hence false.

2) No eraser is phone ⇒ It's possible but not definite, hence false.

3) Some erasers are books ⇒ It's, definitely, true.

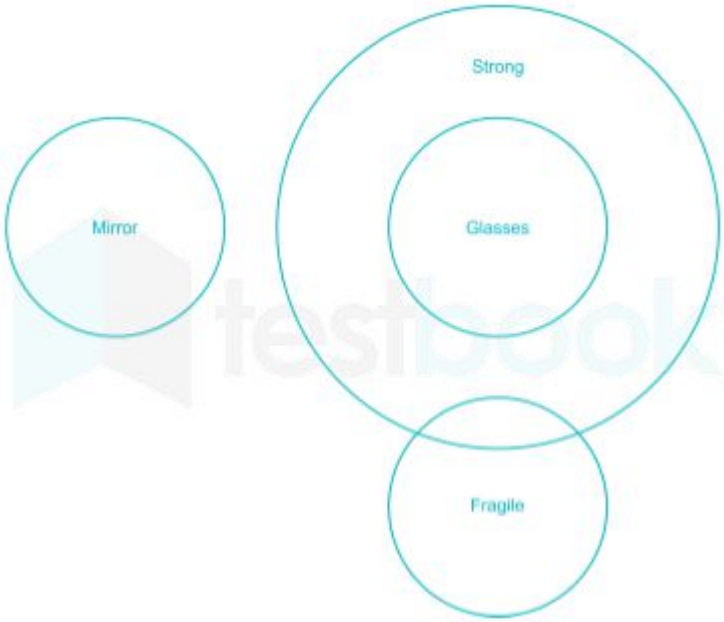
4) All the erasers are books ⇒ It's possible but not definite, hence false.

Hence only (3) follow.

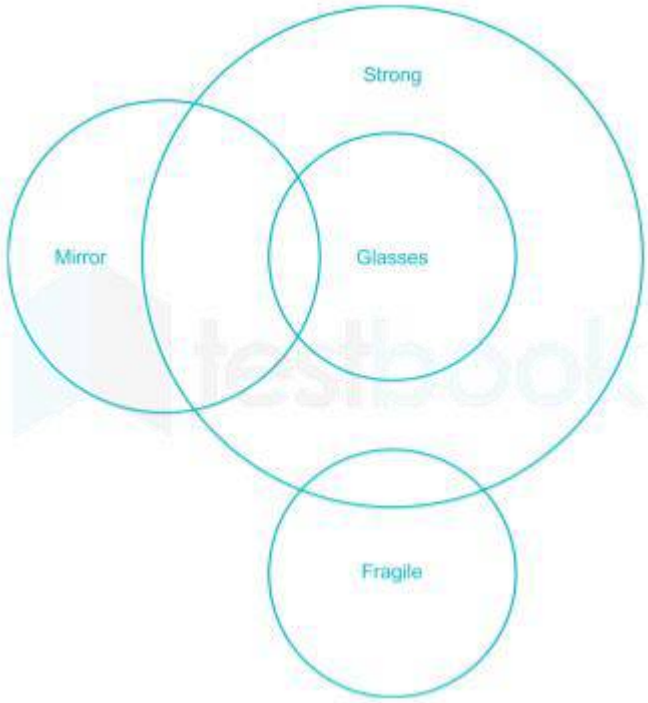
72.

We will draw the possible Venn diagram from the given statements.

Case – 1



Case – 2



Conclusion:

(a) Some Mirrors may be strong → true as some mirrors being strong is a possibility.

(b) Some Glasses are Fragile→ its possible but not definite, hence false.

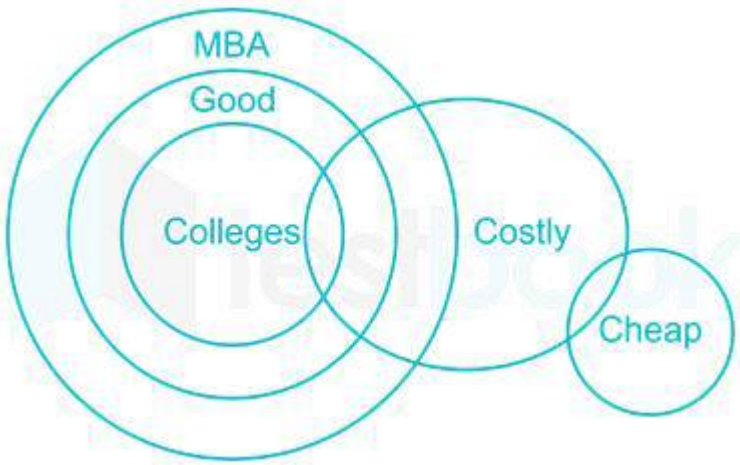
(c) Some Mirrors are strong →its possible but not definite, hence false.

(d) Some Mirrors are Fragile→its possible but not definite, hence false.

Hence only conclusion (a) follows.

73.

We will draw the possible Venn diagram from the given statements.



Conclusion:

(a) Some MBA are costly→ clearly true.

(b) Some good are cheap→its possible but not definite hence false.

(c) Some good are costly→clearly true.

(d) No MBA are not costly→its possible but not definite hence false.

Hence conclusion (a) and (c) follows.

74.

Remember: 6 rules for solving problems relating to syllogism

All = A, Some = I, Not = E, Some not = O

A + A = A

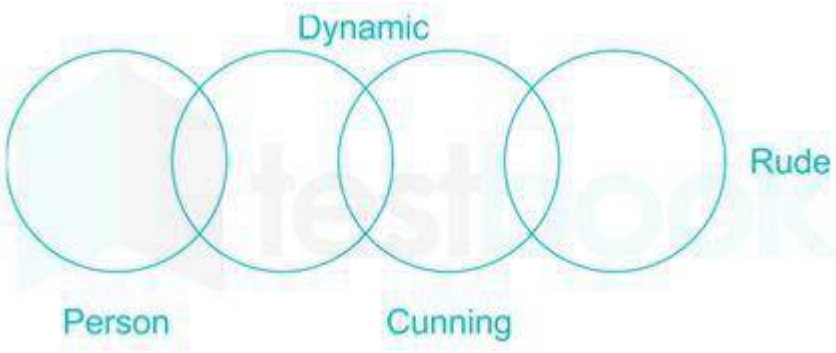
I + A = I

based upon syllogism problems. As we know some + some gives no direct conclusion so, only reverse and complementary conclusions are possible.

I does not follow, II follows because it is a conversion of statement III, III does not follow, IV also not follow. So only II follows.

Alternatively,

We can summarize the information given in the questions as below:



Conclusion I: does not satisfy

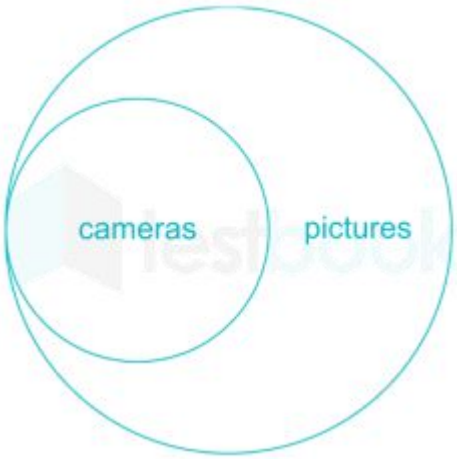
Conclusion II some cunning are rude as per the statement so some rude are cunning (satisfies)

Conclusion III: does not satisfy

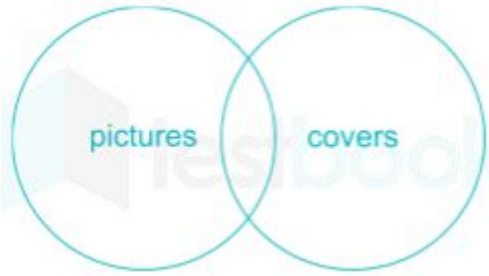
Conclusion IV: does not satisfy

75.

All cameras are pictures

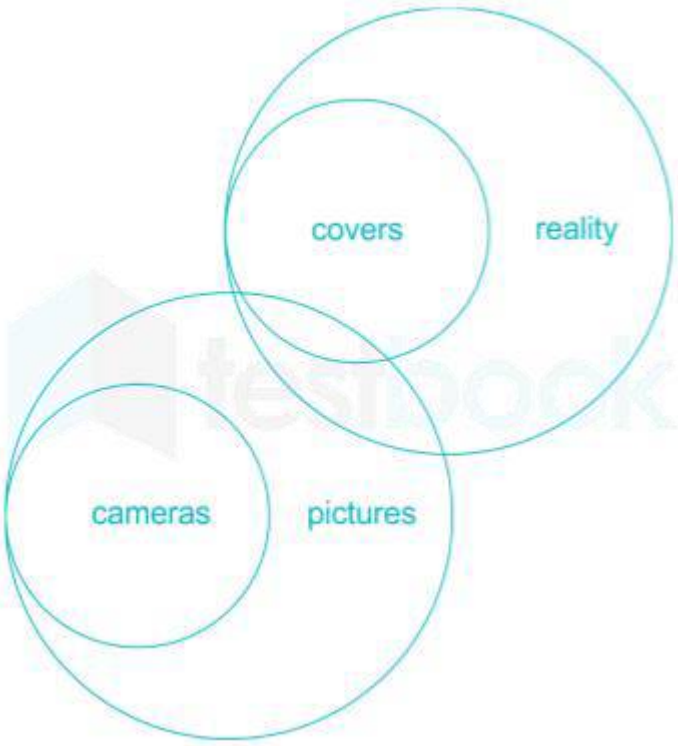


Some pictures are covers



All covers are reality

On combining all these,



Given conclusion are:

I. Some pictures are cameras (True)

II. All cameras are cover (False because there can't be a relation between all + some)

III. Some reality are covers (True)

IV. Some covers are not pictures (False because all statements are positive so conclusion can't be negative)

Clearly, only conclusion I and III follows.

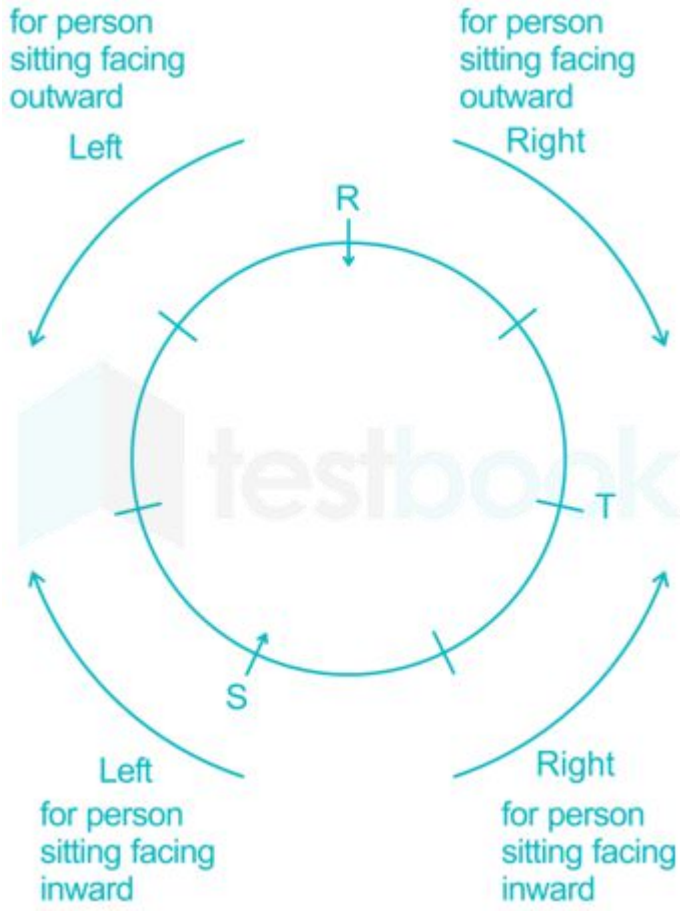
76.

People: P, Q, R, S, T, U and V

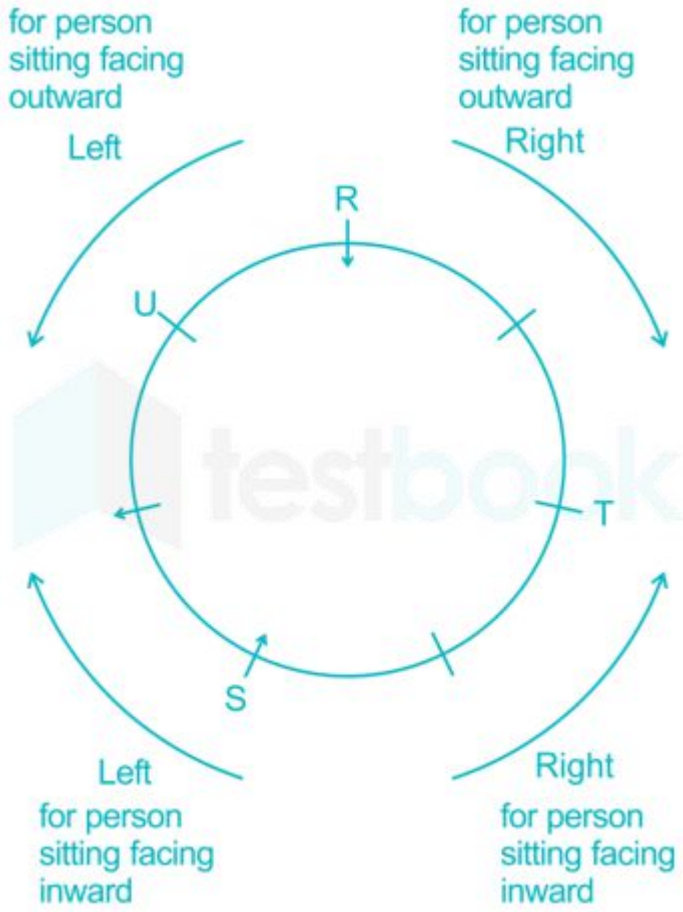
Facing center: 5; Facing Out: 2

Note: Left & Right rules for outside facing people will be opposite than those for centre facing people.

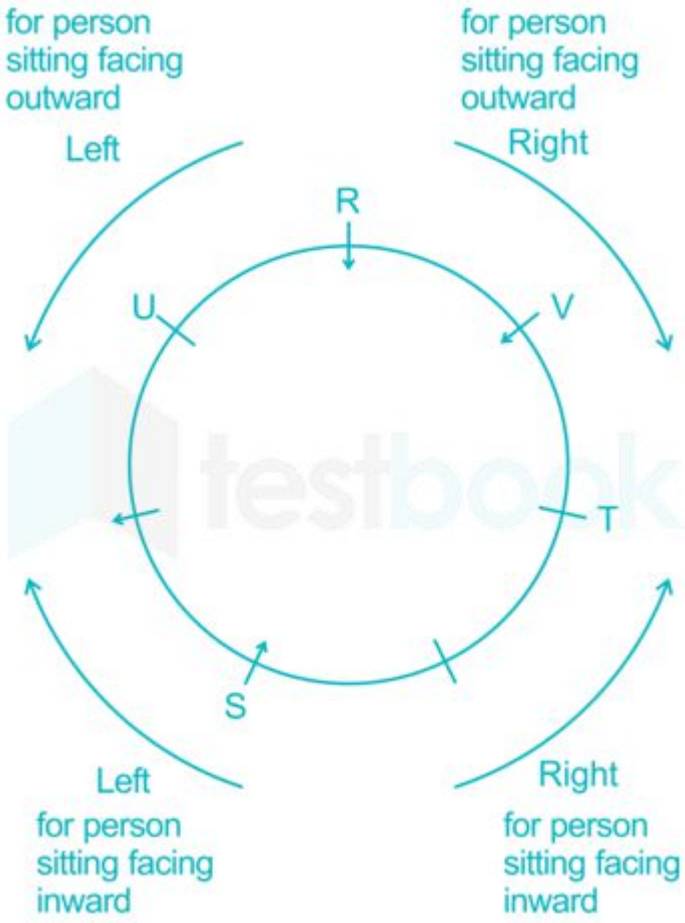
1. R sits third to the left of S and both are facing the centre. T is neither an immediate neighbor of S nor R.



2. The one sitting exactly between S and U is facing opposite to centre.

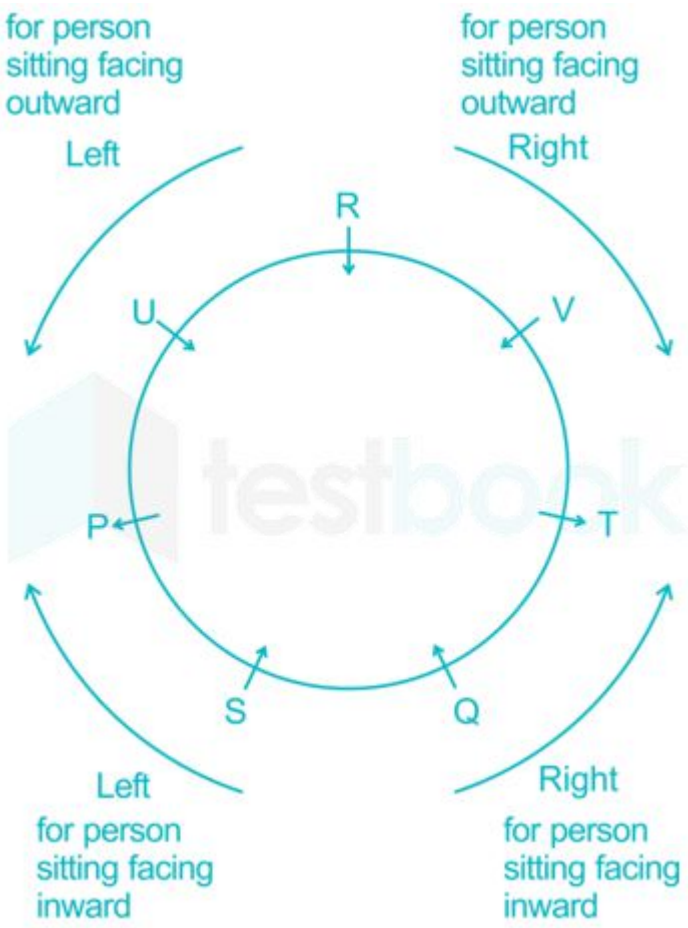


3. V sits third to the right of P and V is facing the centre.



4. One of Q's neighbors is facing opposite to the centre.

∵ T and P are facing outside ⇒ All others are facing inside, towards the center.



Clearly, P and T are facing opposite the centre.

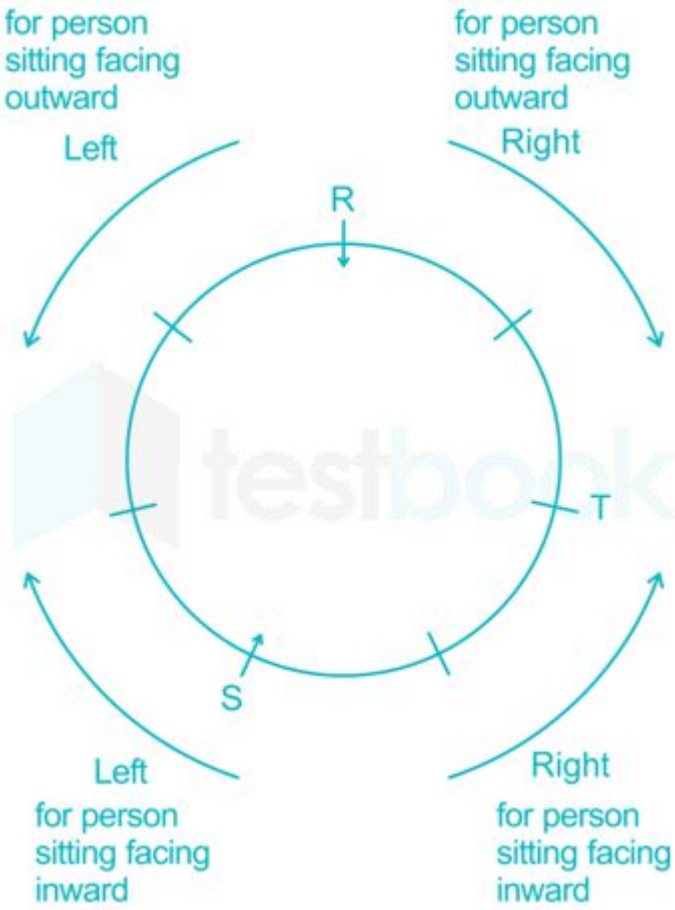
77.

People: P, Q, R, S, T, U and V

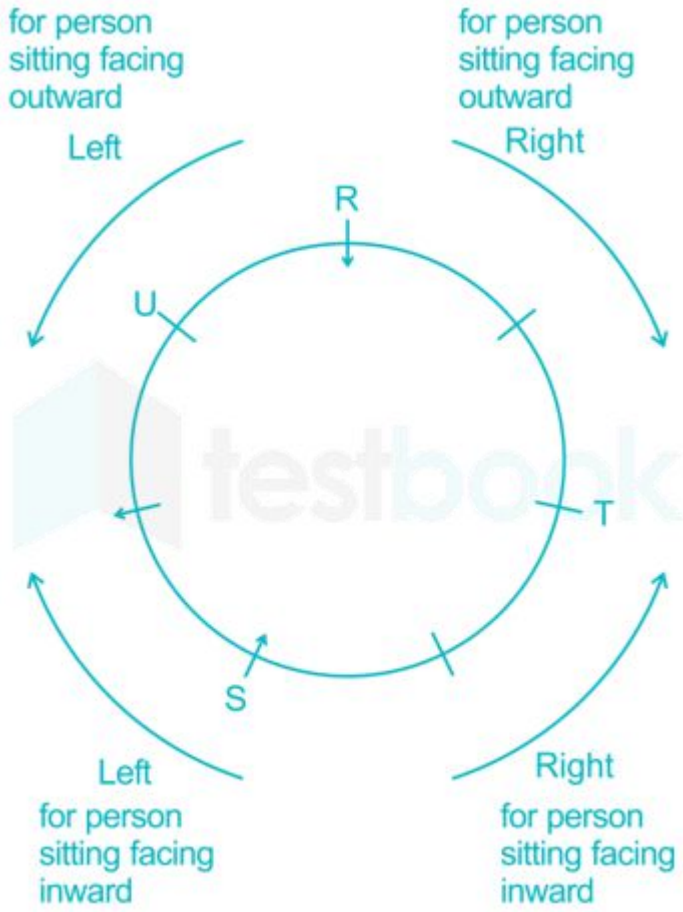
Facing center: 5; Facing Out: 2

Note: Left & Right rules for outside facing people will be opposite than those for centre facing people.

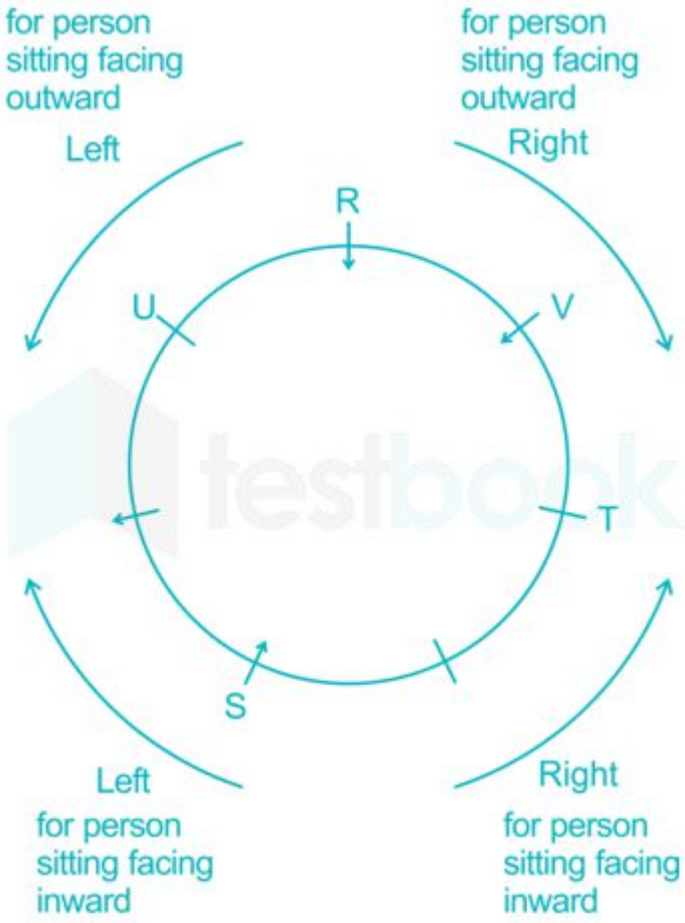
1. R sits third to the left of S and both are facing the centre. T is neither an immediate neighbor of S nor R.



2. The one sitting exactly between S and U is facing opposite to centre.

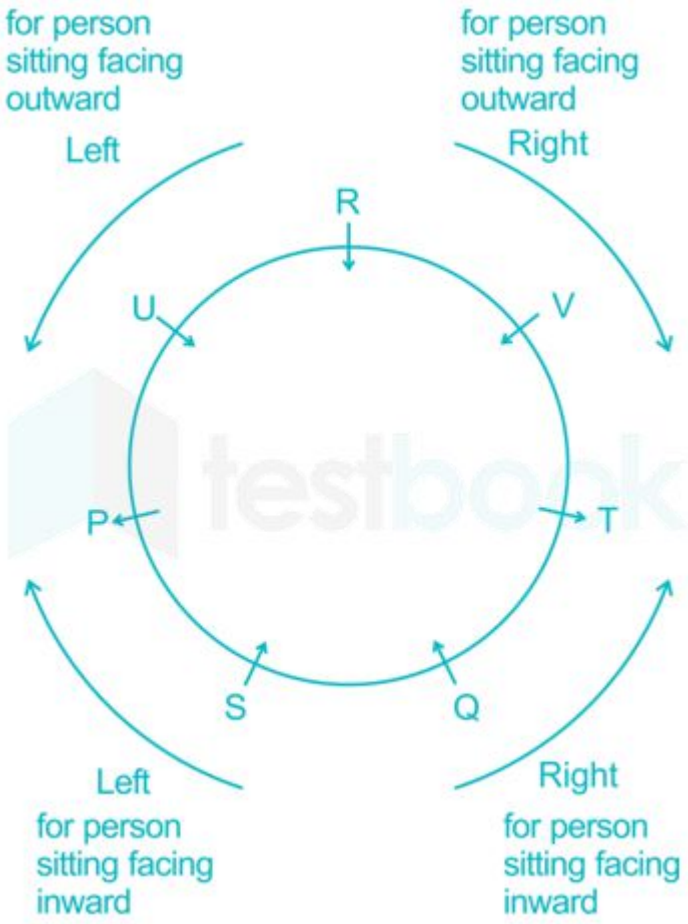


3. V sits third to the right of P and V is facing the centre.



4. One of Q's neighbors is facing opposite to the centre.

∵ T and P are facing outside ⇒ All others are facing inside, towards the center.



Clearly, Q is sitting second to the left of P.

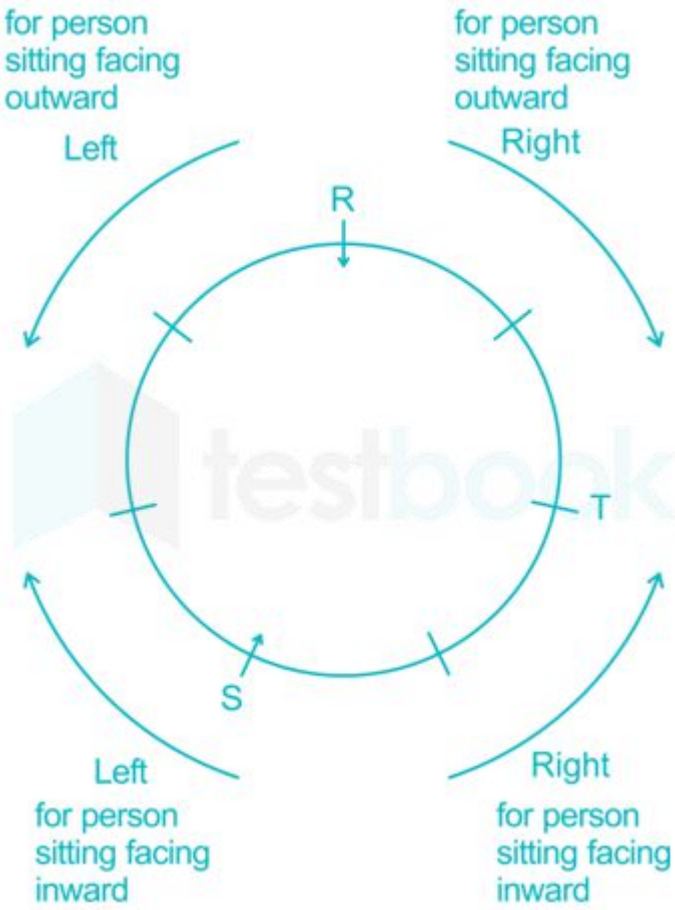
78.

People: P, Q, R, S, T, U and V

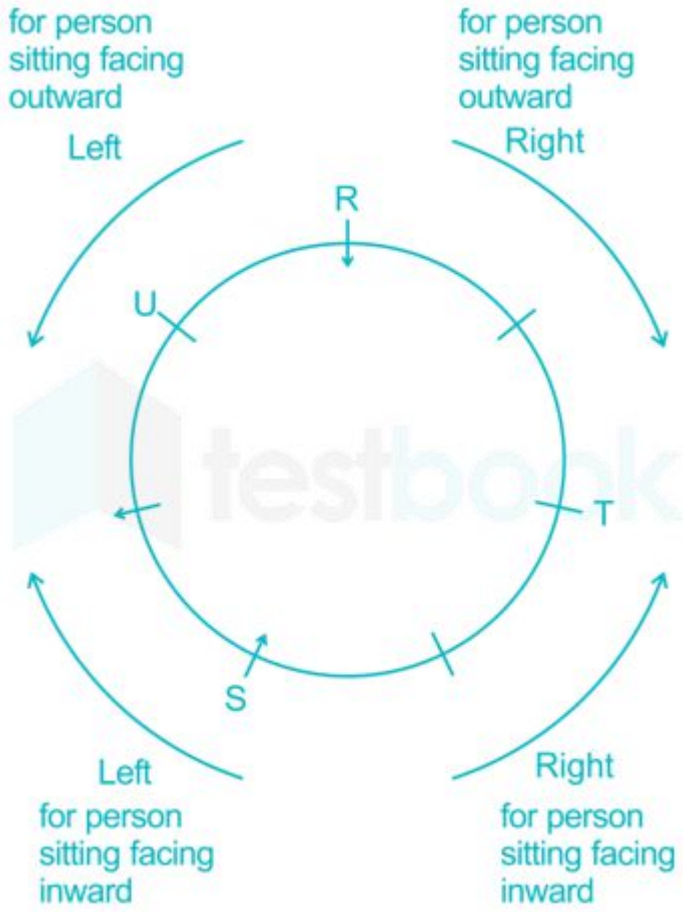
Facing center: 5; Facing Out: 2

Note: Left & Right rules for outside facing people will be opposite than those for centre facing people.

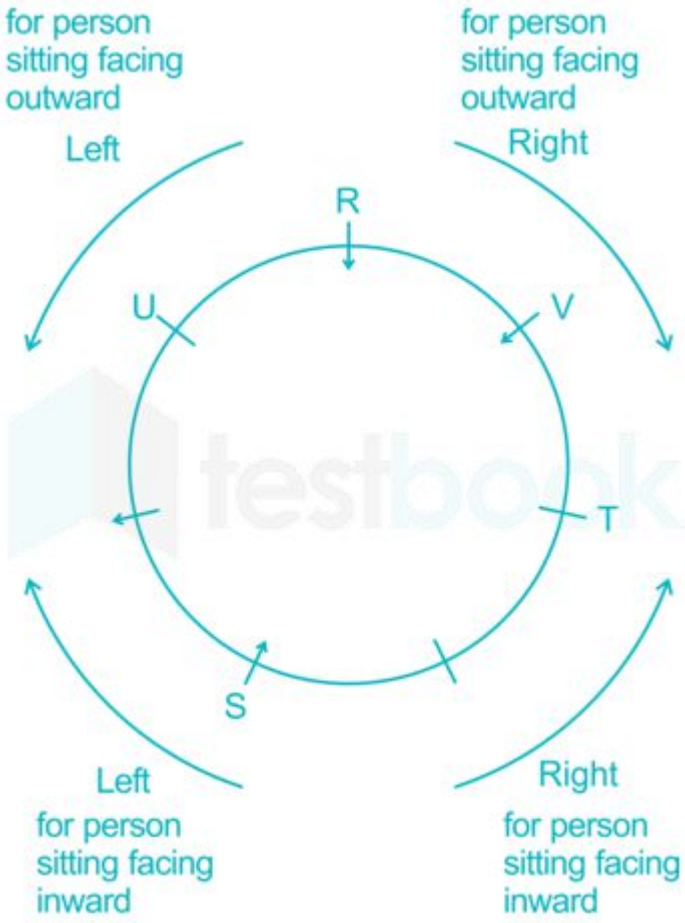
1. R sits third to the left of S and both are facing the centre. T is neither an immediate neighbor of S nor R.



2. The one sitting exactly between S and U is facing opposite to centre.

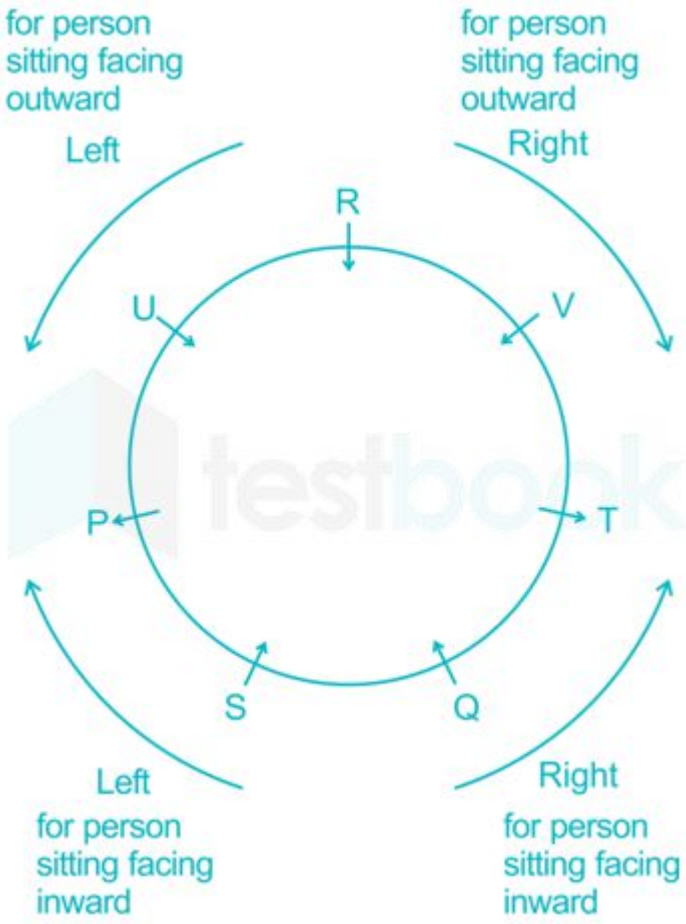


3. V sits third to the right of P and V is facing the centre.



4. One of Q's neighbors is facing opposite to the centre.

∵ T and P are facing outside ⇒ All others are facing inside, towards the center.



Clearly, V is sitting to the immediate left of T.

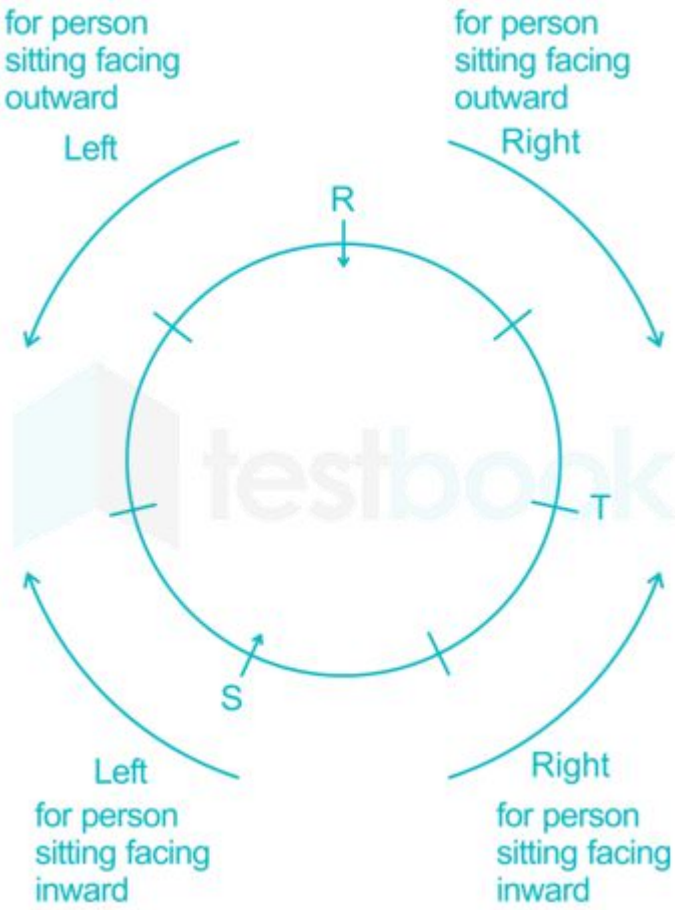
79.

People: P, Q, R, S, T, U and V

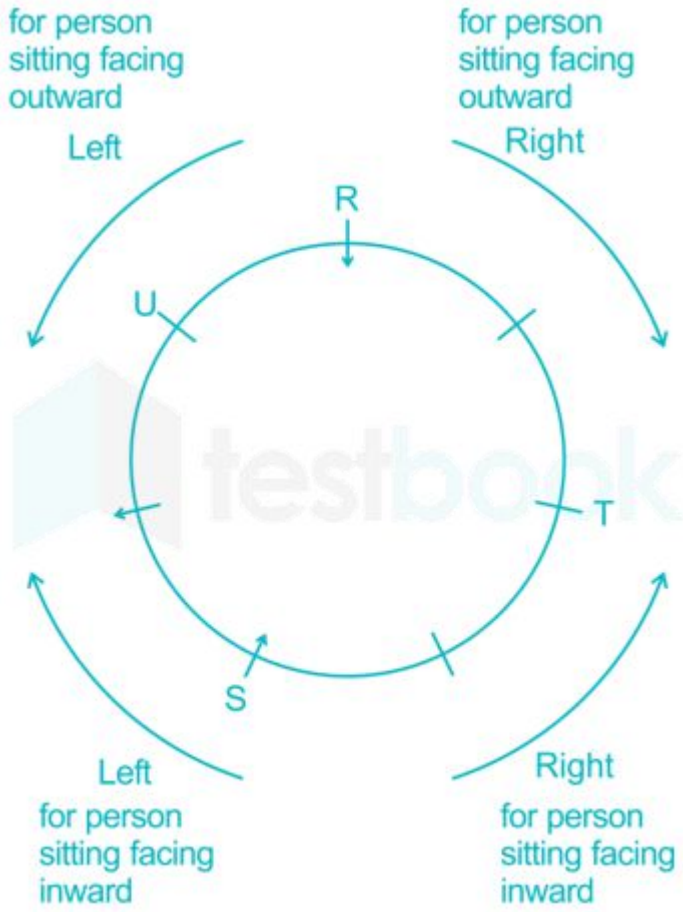
Facing center: 5; Facing Out: 2

Note: Left & Right rules for outside facing people will be opposite than those for centre facing people.

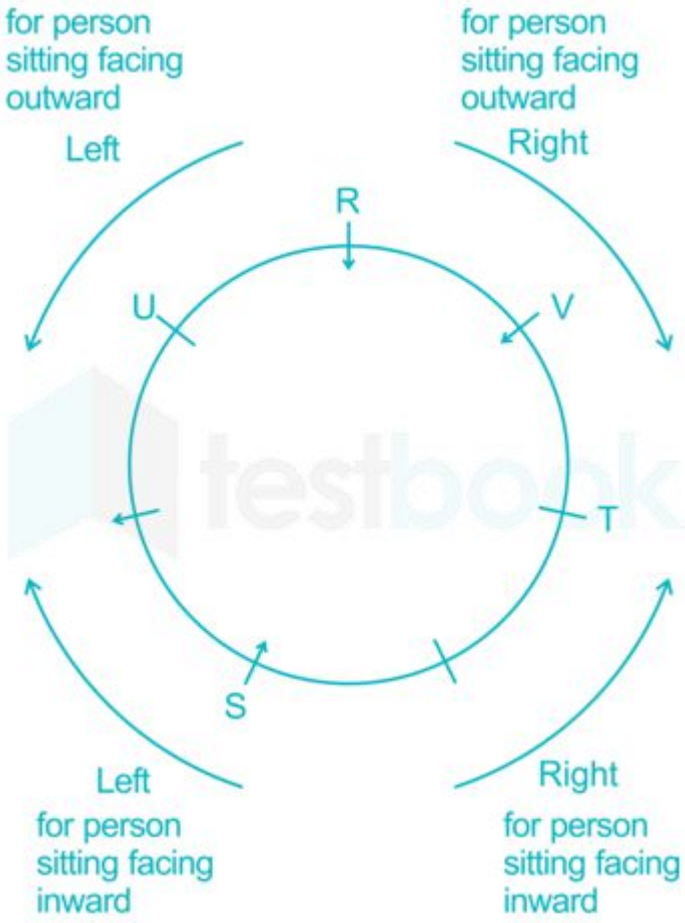
1. R sits third to the left of S and both are facing the centre. T is neither an immediate neighbor of S nor R.



2. The one sitting exactly between S and U is facing opposite to centre.

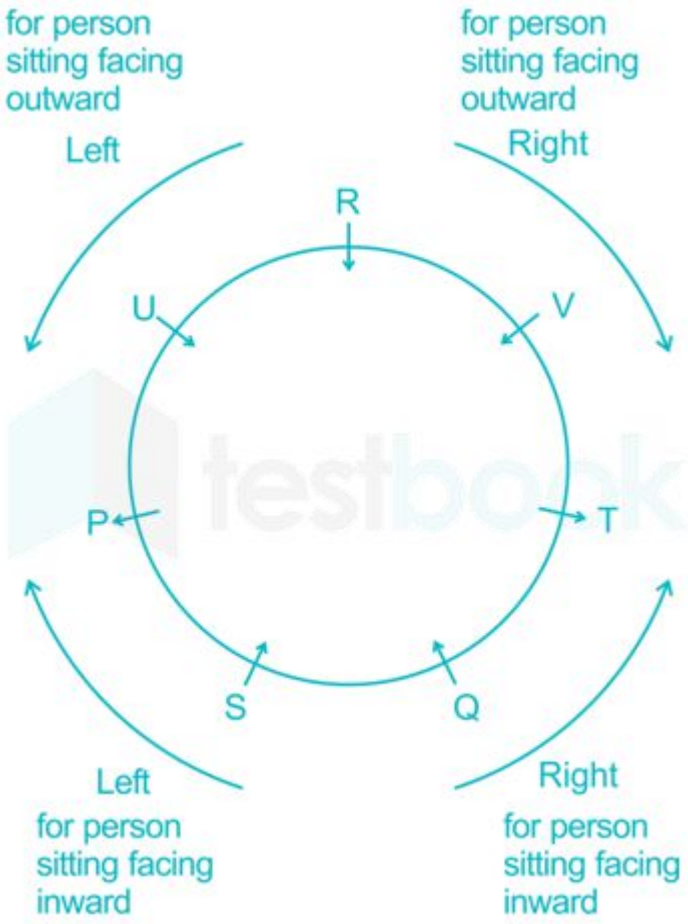


3. V sits third to the right of P and V is facing the centre.



4. One of Q's neighbors is facing opposite to the centre.

∵ T and P are facing outside ⇒ All others are facing inside, towards the center.



Clearly, U is 3rd to left or 4th to right of Q.

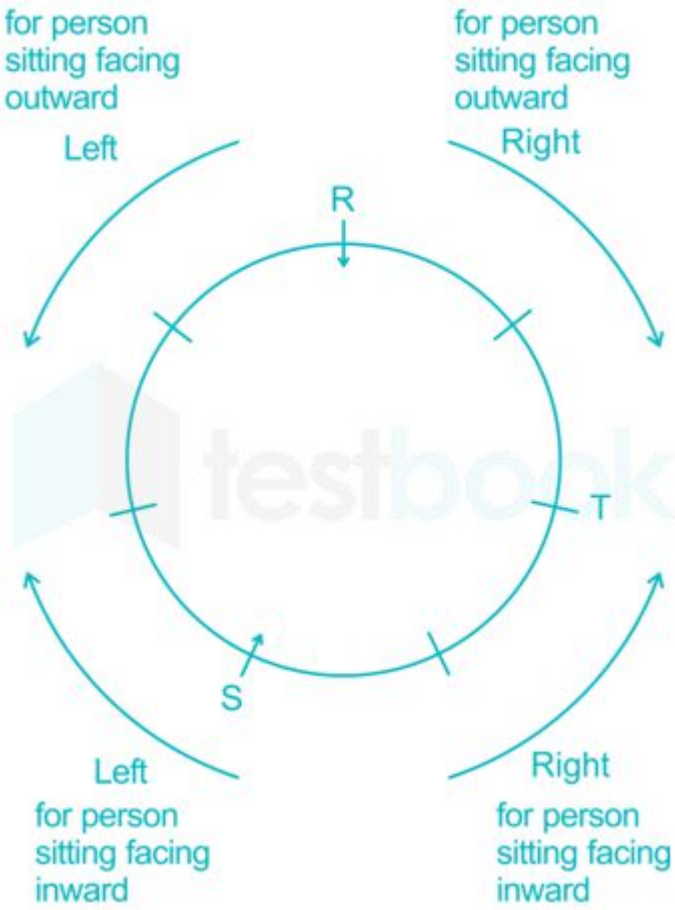
80.

People: P, Q, R, S, T, U and V

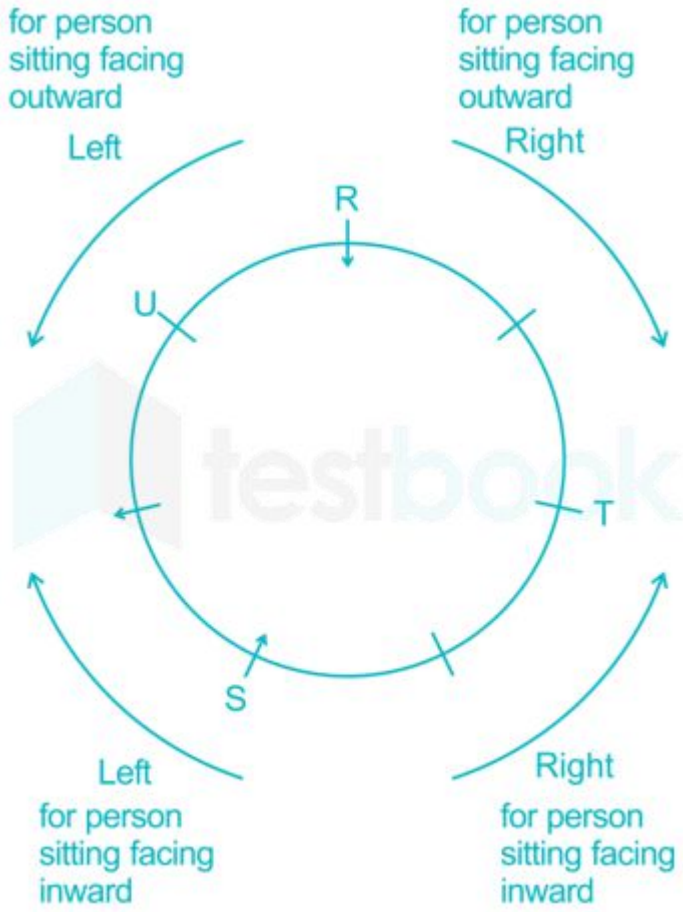
Facing center: 5; Facing Out: 2

Note: Left & Right rules for outside facing people will be opposite than those for centre facing people.

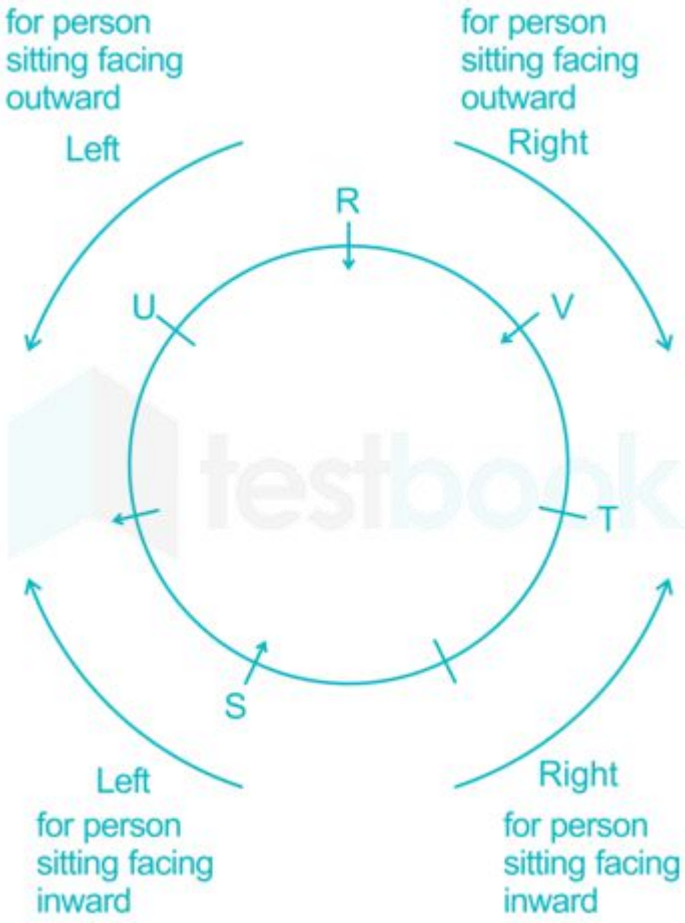
1. R sits third to the left of S and both are facing the centre. T is neither an immediate neighbor of S nor R.



2. The one sitting exactly between S and U is facing opposite to centre.

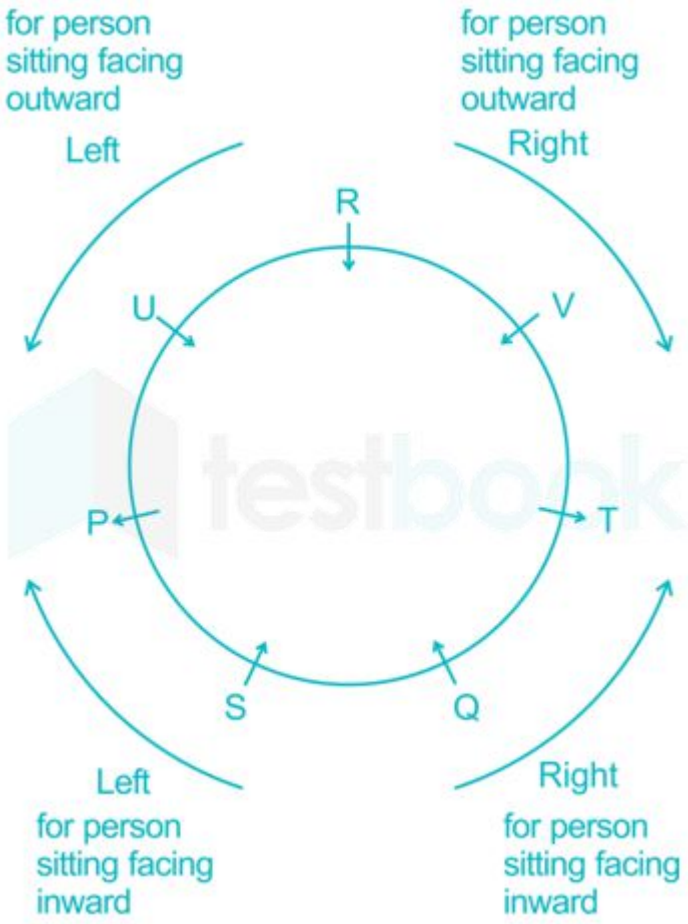


3. V sits third to the right of P and V is facing the centre.



4. One of Q's neighbors is facing opposite to the centre.

∵ T and P are facing outside ⇒ All others are facing inside, towards the center.



Clearly, no one is sitting between P and S.

81.

Start with those statements that give us fixed positions of certain variables.

1) G lives on even numbered floor.

2) G is from Tamil Nadu.

3) Three persons live between L and G.

4) The person from Assam lives immediately below G's floor.

5) The person from West Bengal lives on the floor immediately below the floor on which the person from Assam lives.

6) N lives immediately above G's floor and immediately below K's floor.

From all this information we get two possibilities,

Case I		
Floors	States	Persons
8		L
7		
6		K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L

1		

7) Three people live between J and the person from Assam.

Case I		
Floors	States	Persons
8		L
7		J
6		K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		

2		L
1		J

8) Three persons live between the persons from Bihar and West Bengal.

9) Four persons live between the persons from Bihar and Maharashtra.

Case I		
Floors	States	Persons
8		L
7		J
6	Bihar	K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1	Maharashtra	

Case II		
Floors	States	Persons
8	Bihar	K
7		N
6	Tamil Nadu	G
5	Assam	

4	West Bengal	
3	Maharashtra	
2		L
1		J

10) There are five floors between the floors on which J and the person from Karnataka live.

So case I get discarded.

Case II		
Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3	Maharashtra	
2		L
1		J

11) H lives on the even numbered floor.

12) I does not belong to Assam.

13) L does not belong to Rajasthan.

Case II

Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G
5	Assam	M
4	West Bengal	H
3	Maharashtra	I
2	Punjab	L
1	Rajasthan	J

Hence, the person from Bihar lives in the 8th floor.

82.

Start with those statements that give us fixed positions of certain variables.

1) G lives on even numbered floor.

2) G is from Tamil Nadu.

3) Three persons live between L and G.

4) The person from Assam lives immediately below G's floor.

5) The person from West Bengal lives on the floor immediately below the floor on which the person from Assam lives.

6) N lives immediately above G's floor and immediately below K's floor.

From all this information we get two possibilities,

Case I

Floors	States	Persons
8		L
7		
6		K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L
1		

7) Three people live between J and the person from Assam.

Case I		
Floors	States	Persons
8		L
7		J
6		K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L
1		J

8) Three persons live between the persons from Bihar and West Bengal.

9) Four persons live between the persons from Bihar and Maharashtra.

Case I		
Floors	States	Persons
8		L
7		J
6	Bihar	K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1	Maharashtra	

Case II		
Floors	States	Persons
8	Bihar	K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3	Maharashtra	
2		L
1		J

10) There are five floors between the floors on which J and the person from Karnataka live.

So case I get discarded.

Case II		
Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3	Maharashtra	
2		L
1		J

11) H lives on the even numbered floor.

12) I does not belong to Assam.

13) L does not belong to Rajasthan.

Case II		
Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G

5	Assam	M
4	West Bengal	H
3	Maharashtra	I
2	Punjab	L
1	Rajasthan	J

We see that 'K' lives at the topmost floor.

83.

Start with those statements that give us fixed positions of certain variables.

1) G lives on even numbered floor.

2) G is from Tamil Nadu.

3) Three persons live between L and G.

4) The person from Assam lives immediately below G's floor.

5) The person from West Bengal lives on the floor immediately below the floor on which the person from Assam lives.

6) N lives immediately above G's floor and immediately below K's floor.

From all this information we get two possibilities,

Case I		
Floors	States	Persons
8		L
7		
6		K
5		N

4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L
1		

7) Three people live between J and the person from Assam.

Case I		
Floors	States	Persons
8		L
7		J
6		K

5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L
1		J

8) Three persons live between the persons from Bihar and West Bengal.

9) Four persons live between the persons from Bihar and Maharashtra.

Case I		
Floors	States	Persons
8		L

7		J
6	Bihar	K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1	Maharashtra	

Case II		
Floors	States	Persons
8	Bihar	K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3	Maharashtra	
2		L
1		J

10) There are five floors between the floors on which J and the person from Karnataka live.

So case I get discarded.

Case II		
Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3	Maharashtra	
2		L
1		J

11) H lives on the even numbered floor.

12) I does not belong to Assam.

13) L does not belong to Rajasthan.

Case II		
Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G
5	Assam	M
4	West Bengal	H
3	Maharashtra	I

2	Punjab	L
1	Rajasthan	J

We see that 'J' belongs to Rajasthan.

84.

Start with those statements that give us fixed positions of certain variables.

1) G lives on even numbered floor.

2) G is from Tamil Nadu.

3) Three persons live between L and G.

4) The person from Assam lives immediately below G's floor.

5) The person from West Bengal lives on the floor immediately below the floor on which the person from Assam lives.

6) N lives immediately above G's floor and immediately below K's floor.

From all this information we get two possibilities,

Case I		
Floors	States	Persons
8		L
7		
6		K
5		N
4	Tamil Nadu	G
3	Assam	

2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L
1		

7) Three people live between J and the person from Assam.

Case I		
Floors	States	Persons
8		L
7		J
6		K
5		N
4	Tamil Nadu	G

3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L
1		J

8) Three persons live between the persons from Bihar and West Bengal.

9) Four persons live between the persons from Bihar and Maharashtra.

Case I		
Floors	States	Persons
8		L
7		J
6	Bihar	K

5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1	Maharashtra	

Case II		
Floors	States	Persons
8	Bihar	K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3	Maharashtra	
2		L
1		J

10) There are five floors between the floors on which J and the person from Karnataka live.

So case I get discarded.

Case II		
Floors	States	Persons
8	Bihar	K

7	Karnataka	N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3	Maharashtra	
2		L
1		J

11) H lives on the even numbered floor.

12) I does not belong to Assam.

13) L does not belong to Rajasthan.

Case II		
Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G
5	Assam	M
4	West Bengal	H
3	Maharashtra	I
2	Punjab	L
1	Rajasthan	J

Hence, between 'H' and 'L', it is 'I' who lives.

85.

Start with those statements that give us fixed positions of certain variables.

1) G lives on even numbered floor.

2) G is from Tamil Nadu.

3) Three persons live between L and G.

4) The person from Assam lives immediately below G's floor.

5) The person from West Bengal lives on the floor immediately below the floor on which the person from Assam lives.

6) N lives immediately above G's floor and immediately below K's floor.

From all this information we get two possibilities,

Case I		
Floors	States	Persons
8		L
7		
6		K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L
1		

7) Three people live between J and the person from Assam.

Case I		
Floors	States	Persons
8		L
7		J
6		K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	
1		

Case II		
Floors	States	Persons
8		K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3		
2		L
1		J

8) Three persons live between the persons from Bihar and West Bengal.

9) Four persons live between the persons from Bihar and Maharashtra.

Case I		
Floors	States	Persons
8		L
7		J
6	Bihar	K
5		N
4	Tamil Nadu	G
3	Assam	
2	West Bengal	

1	Maharashtra	

Case II		
Floors	States	Persons
8	Bihar	K
7		N
6	Tamil Nadu	G
5	Assam	
4	West Bengal	
3	Maharashtra	
2		L
1		J

10) There are five floors between the floors on which J and the person from Karnataka live.

So case I get discarded.

Case II		
Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G
5	Assam	

4	West Bengal	
3	Maharashtra	
2		L
1		J

11) H lives on the even numbered floor.

12) I does not belong to Assam.

13) L does not belong to Rajasthan.

Case II		
Floors	States	Persons
8	Bihar	K
7	Karnataka	N
6	Tamil Nadu	G
5	Assam	M
4	West Bengal	H
3	Maharashtra	I
2	Punjab	L
1	Rajasthan	J

We see that 'M' is the person from Assam and he lives on the 5th floor.

86.

Males: Abhi, Balbir, Chandan, Dinesh and Kashish.

Females: Priya, Quindal, Riya, Shailja and Tulsi.

Guest Room number: 101 to 105.

Note: a) Each couple's wedding anniversary is on the coming Friday.

b) No two married couples were married in the same year.

1)Quindal is staying in room number 102 and Kashish is staying in room number 103.

Room Number	Husband Name	Wife Name
101		
102		Quindal
103	Kashish	
104		
105		

2) Abhi was married five years after Chandan got married and Priya was married five years before Abhi, which states that Chandan and Priya are couple.

3) Only Shailja's room is in between Abhi's and Kashish's room and Babir's wife is not Shailja. Both the statements proof that Shailja is not wife of Abhi, Kashish and Balbir. So, Shailja and Dinesh make a couple.

4) Only Shailja's room is in between Abhi's and Kashish's room. Shailja can either stay in room no. 102 or in 104. But in 102 Quindal is staying, so Shailja's room no. is 104 and Abhi's room no. is 105.

Room Number	Husband Name	Wife Name
101		
102		Quindal

103	Kashish	
104	Dinesh	Shailja
105	Abhi	

5) Only one room is left vacant and there is no room allotted for Chandan and Priya yet. So, 101 room is allotted to Chandan and Priya. Then Balbir's room number is 102.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

6) Priya was married five years before Abhi and three years before Kashish which means Kashish was married before Abhi. Tulsi was married before Riya. Both statements proof that Abhi is husband of Riya.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	Tulsi
104	Dinesh	Shailja
105	Abhi	Riya

Now let's find marriage sequence and years of marriage of the given couple.

7) Priya (or Chandan) was married five years before Abhi and three years before Kashish.

8) The couple staying in room number 101(Chandan and Priya) got, married 10 years before the couple staying in room 104(Dinesh and Shailja).

9)Tulsi(or Kashish) was married 12 years before Quindal(or Balbir) got married.

10) Balbir was married 13 years ago.

So, according to above flow diagram, the final table is as follows:

Room Number	Husband Name	Wife Name	Number of years of marriage
101	Chandan	Priya	28
102	Balbir	Quindal	13
103	Kashish	Tulsi	25
104	Dinesh	Shailja	18
105	Abhi	Riya	23

Hence Abhi is husband of Riya.

87.

Males: Abhi, Balbir, Chandan, Dinesh and Kashish.

Females: Priya, Quindal, Riya, Shailja and Tulsi.

Guest Room number: 101 to 105.

Note: a) Each couple's wedding anniversary is on the coming Friday.

b) No two married couples were married in the same year.

1)Quindal is staying in room number 102 and Kashish is staying in room number 103.

Room Number	Husband Name	Wife Name
101		
102		Quindal
103	Kashish	
104		
105		

2) Abhi was married five years after Chandan got married and Priya was married five years before Abhi, which states that Chandan and Priya are couple.

3) Only Shailja's room is in between Abhi's and Kashish's room and Babir's wife is not Shailja. Both the statements proof that Shailja is not wife of Abhi, Kashish and Balbir. So, Shailja and Dinesh make a couple.

4) Only Shailja's room is in between Abhi's and Kashish's room. Shailja can either stay in room no. 102 or in 104. But in 102 Quindal is staying, so Shailja's room no. is 104 and Abhi's room no. is 105.

Room Number	Husband Name	Wife Name
101		

102		Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

5) Only one room is left vacant and there is no room allotted for Chandan and Priya yet. So, 101 room is allotted to Chandan and Priya. Then Balbir's room number is 102.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

6) Priya was married five years before Abhi and three years before Kashish which means Kashish was married before Abhi. Tulsi was married before Riya. Both statements proof that Abhi is husband of Riya.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	Tulsi
104	Dinesh	Shailja

105	Abhi	Riya

Now let's find marriage sequence and years of marriage of the given couple.

7) Priya (or Chandan) was married five years before Abhi and three years before Kashish.

8) The couple staying in room number 101(Chandan and Priya) got, married 10 years before the couple staying in room 104(Dinesh and Shailja).

9)Tulsi(or Kashish) was married 12 years before Quindal(or Balbir) got married.

10) Balbir was married 13 years ago.

So, according to above flow diagram, the final table is as follows:

Room Number	Husband Name	Wife Name	Number of years of marriage
101	Chandan	Priya	28
102	Balbir	Quindal	13
103	Kashish	Tulsi	25
104	Dinesh	Shailja	18
105	Abhi	Riya	23

Thus Kashish is celebrating the silver jubilee of his marriage anniversary.

88.

Males: Abhi, Balbir, Chandan, Dinesh and Kashish.

Females: Priya, Quindal, Riya, Shailja and Tulsi.

Guest Room number: 101 to 105.

Note: a) Each couple's wedding anniversary is on the coming Friday.

b) No two married couples were married in the same year.

1)Quindal is staying in room number 102 and Kashish is staying in room number 103.

Room Number	Husband Name	Wife Name
101		
102		Quindal
103	Kashish	
104		
105		

2) Abhi was married five years after Chandan got married and Priya was married five years before Abhi, which states that Chandan and Priya are couple.

3) Only Shailja's room is in between Abhi's and Kashish's room and Babir's wife is not Shailja. Both the statements proof that Shailja is not wife of Abhi, Kashish and Balbir. So, Shailja and Dinesh make a couple.

4) Only Shailja's room is in between Abhi's and Kashish's room. Shailja can either stay in room no. 102 or in 104. But in 102 Quindal is staying, so Shailja's room no. is 104 and Abhi's room no. is 105.

Room Number	Husband Name	Wife Name
101		
102		Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

5) Only one room is left vacant and there is no room allotted for Chandan and Priya yet. So, 101 room is allotted to Chandan and Priya. Then Balbir's room number is 102.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

6) Priya was married five years before Abhi and three years before Kashish which means Kashish was married before Abhi. Tulsi was married before Riya. Both statements proof that Abhi is husband of Riya.

Room Number	Husband Name	Wife Name

101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	Tulsi
104	Dinesh	Shailja
105	Abhi	Riya

Now let's find marriage sequence and years of marriage of the given couple.

7) Priya (or Chandan) was married five years before Abhi and three years before Kashish.

8) The couple staying in room number 101(Chandan and Priya) got, married 10 years before the couple staying in room 104(Dinesh and Shailja).

9)Tulsi(or Kashish) was married 12 years before Quindal(or Balbir) got married.

10) Balbir was married 13 years ago.

So, according to above flow diagram, the final table is as follows:

Room Number	Husband Name	Wife Name	Number of years of marriage
101	Chandan	Priya	28

102	Balbir	Quindal	13
103	Kashish	Tulsi	25
104	Dinesh	Shailja	18
105	Abhi	Riya	23

Thus Quindal is the wife of Balbir.

89.

Males: Abhi, Balbir, Chandan, Dinesh and Kashish.

Females: Priya, Quindal, Riya, Shailja and Tulsi.

Guest Room number: 101 to 105.

Note: a) Each couple's wedding anniversary is on the coming Friday.

b) No two married couples were married in the same year.

1)Quindal is staying in room number 102 and Kashish is staying in room number 103.

Room Number	Husband Name	Wife Name
101		
102		Quindal
103	Kashish	
104		
105		

2) Abhi was married five years after Chandan got married and Priya was married five years before Abhi, which states that Chandan and Priya are couple.

3) Only Shailja's room is in between Abhi's and Kashish's room and Babir's wife is not Shailja. Both the statements proof that Shailja is not wife of Abhi, Kashish and Balbir. So, Shailja and Dinesh make a couple.

4) Only Shailja's room is in between Abhi's and Kashish's room. Shailja can either stay in room no. 102 or in 104. But in 102 Quindal is staying, so Shailja's room no. is 104 and Abhi's room no. is 105.

Room Number	Husband Name	Wife Name
101		
102		Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

5) Only one room is left vacant and there is no room allotted for Chandan and Priya yet. So, 101 room is allotted to Chandan and Priya. Then Balbir's room number is 102.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

6) Priya was married five years before Abhi and three years before Kashish which means Kashish was married before Abhi. Tulsi was married before Riya. Both statements proof that Abhi is husband of Riya.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	Tulsi
104	Dinesh	Shailja
105	Abhi	Riya

Now let's find marriage sequence and years of marriage of the given couple.

7) Priya (or Chandan) was married five years before Abhi and three years before Kashish.

8) The couple staying in room number 101(Chandan and Priya) got, married 10 years before the couple staying in room 104(Dinesh and Shailja).

9)Tulsi(or Kashish) was married 12 years before Quindal(or Balbir) got married.

10) Balbir was married 13 years ago.

So, according to above flow diagram, the final table is as follows:

Room Number	Husband Name	Wife Name	Number of years of marriage
101	Chandan	Priya	28
102	Balbir	Quindal	13
103	Kashish	Tulsi	25
104	Dinesh	Shailja	18
105	Abhi	Riya	23

If rooms are allotted on the basis of their married years (minimum to Maximum)

Husband	Wife	New room allotted	Old room number
Chandan	Priya	105	101
Kashish	Tulsi	104	103
Abhi	Riya	103	105
Dinesh	Shailja	102	104
Balbir	Quindal	101	102

Hence, all rooms needs shifting.

90.

Males: Abhi, Balbir, Chandan, Dinesh and Kashish.

Females: Priya, Quindal, Riya, Shailja and Tulsi.

Guest Room number: 101 to 105.

Note: a) Each couple's wedding anniversary is on the coming Friday.

b) No two married couples were married in the same year.

1)Quindal is staying in room number 102 and Kashish is staying in room number 103.

Room Number	Husband Name	Wife Name
101		
102		Quindal
103	Kashish	
104		
105		

2) Abhi was married five years after Chandan got married and Priya was married five years before Abhi, which states that Chandan and Priya are couple.

3) Only Shailja's room is in between Abhi's and Kashish's room and Babir's wife is not Shailja. Both the statements proof that Shailja is not wife of Abhi, Kashish and Balbir. So, Shailja and Dinesh make a couple.

4) Only Shailja's room is in between Abhi's and Kashish's room. Shailja can either stay in room no. 102 or in 104. But in 102 Quindal is staying, so Shailja's room no. is 104 and Abhi's room no. is 105.

Room Number	Husband Name	Wife Name
101		
102		Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

5) Only one room is left vacant and there is no room allotted for Chandan and Priya yet. So, 101 room is allotted to Chandan and Priya. Then Balbir's room number is 102.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	
104	Dinesh	Shailja
105	Abhi	

6) Priya was married five years before Abhi and three years before Kashish which means Kashish was married before Abhi. Tulsi was married before Riya. Both statements proof that Abhi is husband of Riya.

Room Number	Husband Name	Wife Name
101	Chandan	Priya
102	Balbir	Quindal
103	Kashish	Tulsi
104	Dinesh	Shailja
105	Abhi	Riya

Now let's find marriage sequence and years of marriage of the given couple.

7) Priya (or Chandan) was married five years before Abhi and three years before Kashish.

8) The couple staying in room number 101(Chandan and Priya) got, married 10 years before the couple staying in room 104(Dinesh and Shailja).

9)Tulsi(or Kashish) was married 12 years before Quindal(or Balbir) got married.

10) Balbir was married 13 years ago.

So, according to above flow diagram, the final table is as follows:

Room Number	Husband Name	Wife Name	Number of years of marriage
101	Chandan	Priya	28
102	Balbir	Quindal	13
103	Kashish	Tulsi	25
104	Dinesh	Shailja	18
105	Abhi	Riya	23

Thus Kashish has enjoyed his married life for 25 years.

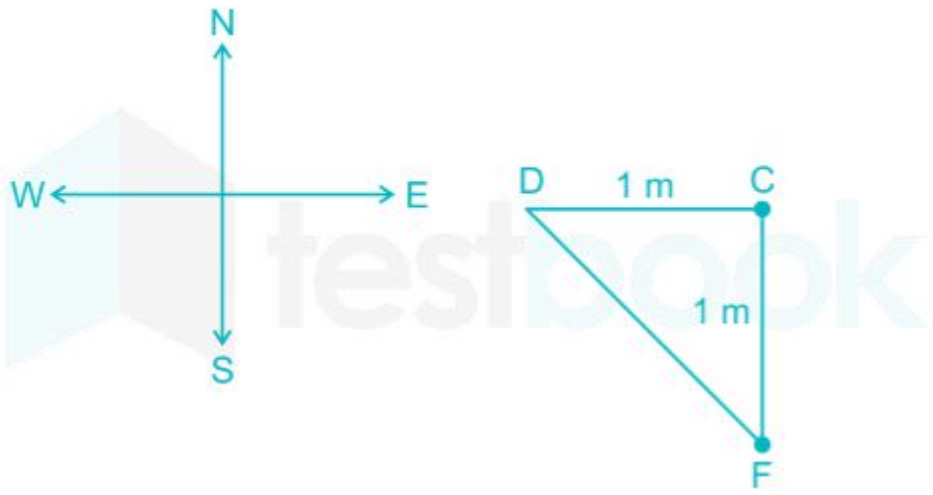
91.

P is 1 meter to			
*	#	@	$

Left	South	Right	North
Of Q			

Given: F#C@D

On Decoding: F is 1 meter to South of C and C is 1 meter to the Right of D



FD = $\sqrt{[(DC)^2 + (CF)^2]}$

FD = $\sqrt{[(1)^2 + (1)^2]} = \sqrt{2}$ m.

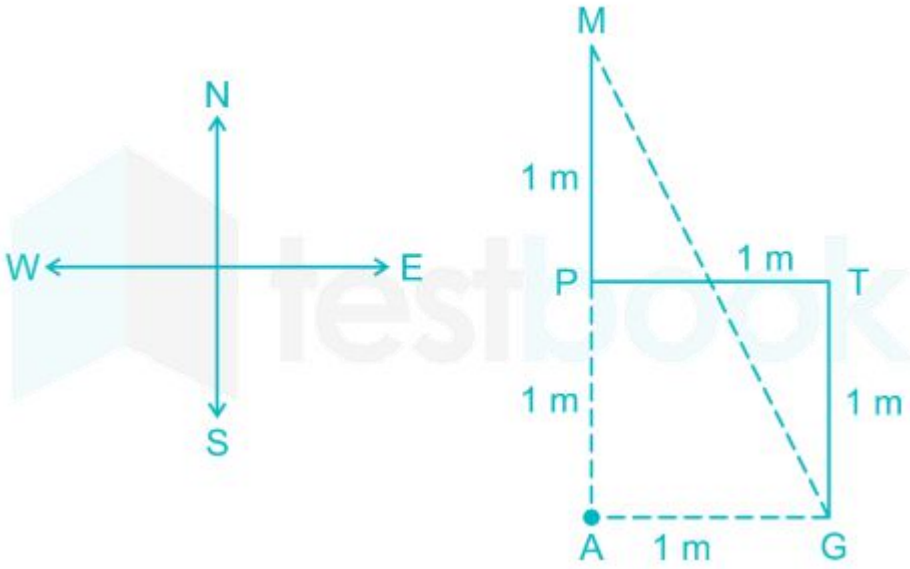
Hence, option $\sqrt{2}$ is correct.

92.

P is 1 meter to			
*	#	@	$
Left	South	Right	North
Of Q			

Given: M$P*T$G

On Decoding: M is 1 meter to North of P and P is 1 meter to Left of T but T is 1 meter to the North of G



AM= AP + MP = 1 + 1 = 2 m.

AG=PT=1 m.

GM = $\sqrt{[(GA)^2 + (AM)^2]}$

GM = $\sqrt{[(1)^2 + (2)^2]}$

GM = $\sqrt{5}$ m.

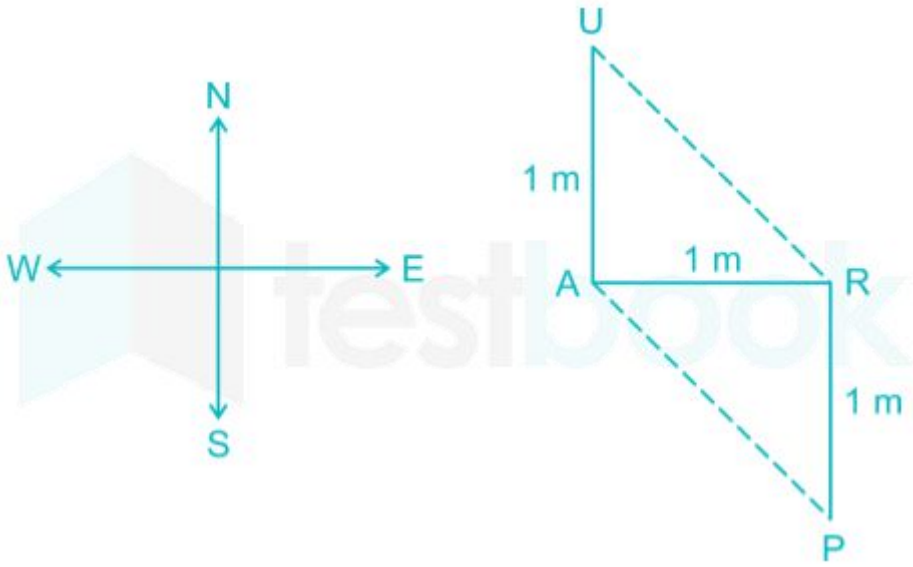
Thus, option $\sqrt{5}$ m. is correct.

93.

P is 1 meter to			
*	#	@	$
Left	South	Right	North
Of Q			

Given: P#R@A#U

On Decoding: P is 1 meter to South of R and R is 1 meter to Right of A but A is 1 meter to south of U



$PA = \sqrt{[(PR)^2 + (RA)^2]} = \sqrt{2}$ m.

$RU = \sqrt{[(RA)^2 + (AU)^2]} = \sqrt{2}$ m.

So, $PA + RU = 2\sqrt{2}$ m.

Thus, option $2\sqrt{2}$ m. meter to is correct.

94.

Alphabets: P, Q, R, S, T, U and V

Numbers: 1 to 10

Condition:

1. They stand for 7 consecutive integers.
2. S is 3 less than P ⇒ P – S = 3 ⇒ P > S
3. Q is the middle term.
4. U is as much less than Q as R is greater than S ⇒ Q – U = R – S ⇒ Q > U and R > S
5. V is greater than U ⇒ V > U

Since we don't know the first number for given consecutive number. So, we'll arrange alphabets using given order but wouldn't assign numbers.

1) Q is the middle term.

2) P – S = 3

Possibility 1

Alphabet		S		Q	P		
Position	1st	2nd	3rd	Middle	5th	6th	7th

Possibility 2

Alphabet			S	Q		P	
Position	1st	2nd	3rd	Middle	5th	6th	7th

3) Q – U = R – S

Possibility 1

Alphabet		S	U	Q	P		
Position	1st	2nd	3rd	Middle	5th	6th	7th

But no place for R. Hence this possibility is eliminated.

Possibility 2

Alphabet		U	S	Q	R	P	
Position	1st	2nd	3rd	Middle	5th	6th	7th

4) V > U

Alphabet	T	U	S	Q	R	P	V

Position	1st	2nd	3rd	Middle	5th	6th	7th

Clearly, 5th integer is R.

95.

Alphabets: P, Q, R, S, T, U and V

Numbers: 1 to 10

Condition:

1. They stand for 7 consecutive integers.
2. S is 3 less than P ⇒ P – S = 3 ⇒ P > S
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3) Q – U = R – S

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Alphabet		S	U	Q	P		
Position	1st	2nd	3rd	Middle	5th	6th	7th

But no place for R. Hence this possibility is eliminated.

Possibility 2

Alphabet		U	S	Q	R	P	
Position	1st	2nd	3rd	Middle	5th	6th	7th

4) V > U

Alphabet	T	U	S	Q	R	P	V
Position	1st	2nd	3rd	Middle	5th	6th	7th

P – U = V – x

⇒ 6 – 2 = 7 – x

⇒ x = 3rd = S.

96.

Alphabets: P, Q, R, S, T, U and V

Numbers: 1 to 10

Condition:

1. They stand for 7 consecutive integers.

2. S is 3 less than P ⇒ P – S = 3 ⇒ P > S

3. Q is the middle term.

4. U is as much less than Q as R is greater than S ⇒ Q – U = R – S ⇒ Q > U and R > S

5. V is greater than U ⇒ V > U

Since we don't know the first number for given consecutive number. So, we'll arrange alphabets using given order but wouldn't assign numbers.

1) Q is the middle term.

2) P – S = 3

Possibility 1

Alphabet		S		Q	P		
Position	1st	2nd	3rd	Middle	5th	6th	7th

Possibility 2

Alphabet			S	Q		P	
Position	1st	2nd	3rd	Middle	5th	6th	7th

3) Q – U = R – S

Possibility 1

Alphabet		S	U	Q	P		
Position	1st	2nd	3rd	Middle	5th	6th	7th

But no place for R. Hence this possibility is eliminated.

Possibility 2

Alphabet		U	S	Q	R	P	
Position	1st	2nd	3rd	Middle	5th	6th	7th

4) V > U

Alphabet	T	U	S	Q	R	P	V

Position	1st	2nd	3rd	Middle	5th	6th	7th

If P = 7 (6 + 1) then T = 1 + 1 = 2

V = 7 + 1 = 8

⇒ T + V = 8 + 2 = 10

97.

Alphabets: P, Q, R, S, T, U and V

Numbers: 1 to 10

Condition:

1. They stand for 7 consecutive integers.

2. S is 3 less than P ⇒ P – S = 3 ⇒ P > S

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Alphabet			S	Q		P	

Position	1st	2nd	3rd	Middle	5th	6th	7th

3) Q – U = R – S

Possibility 1

Alphabet		S	U	Q	P		
Position	1st	2nd	3rd	Middle	5th	6th	7th

But no place for R. Hence this possibility is eliminated.

Possibility 2

Alphabet		U	S	Q	R	P	
Position	1st	2nd	3rd	Middle	5th	6th	7th

4) V > U

Alphabet	T	U	S	Q	R	P	V
Position	1st	2nd	3rd	Middle	5th	6th	7th

Greatest possible value of R is – smallest possible value of S

Greatest value of R can be 8 and smallest value of S can be 3

⇒ 8 – 3 = 5.

98. Seven family members: P, U, Q, T, C, G and R

Symbol in Diagram	Meaning
○	Female
□	Male
=	Married Couple
—	Siblings
|	Difference of A Generation

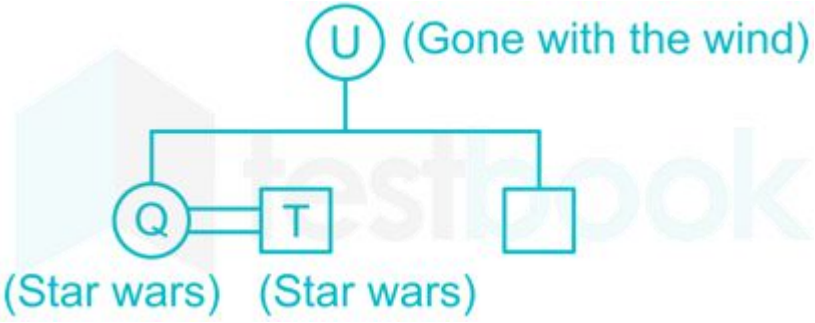
1) U is mother of Q and likes classics “Gone with the wind”.

2) U has 2 children, a girl and a boy.

3) Q likes to watch “Star Wars” like her husband.

That means Q is a female.

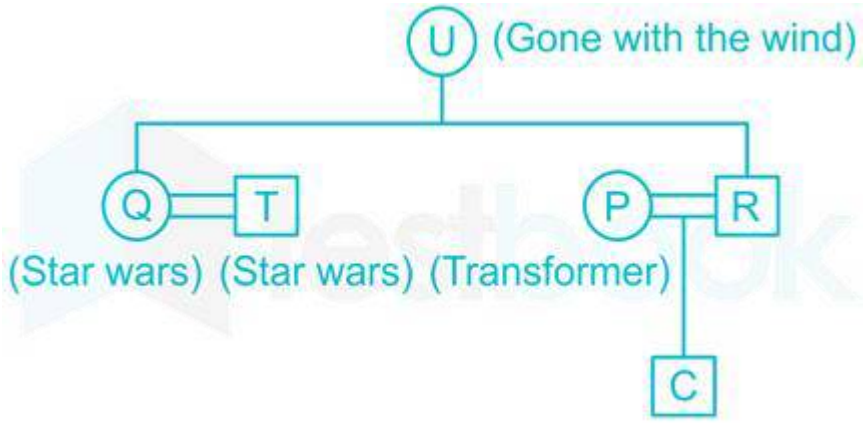
4) T is son in law of U.



5) P is married to R and likes the movie “Transformer”.

6) C likes same movie as his father R.

That means C is a boy.



7) There are two couples, each having a child.

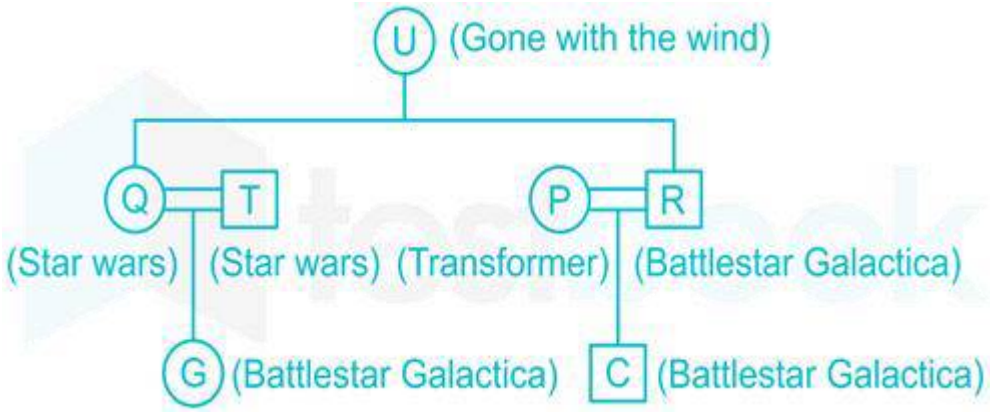
8) U is a grandmother to G.

9) C and G are first cousins.

10) G is R's niece and both like to watch "Battlestar Galactica".

That means G is a girl and all G, R and C likes to watch "Battlestar Galactica".

So we get the final family tree as follows,



Thus C likes to watch "Battlestar Galactica".

99.

Seven family members: P, U, Q, T, C, G and R

Symbol in Diagram	Meaning
○	Female
□	Male
=	Married Couple
—	Siblings
|	Difference of A Generation

1) U is mother of Q and likes classics “Gone with the wind”.

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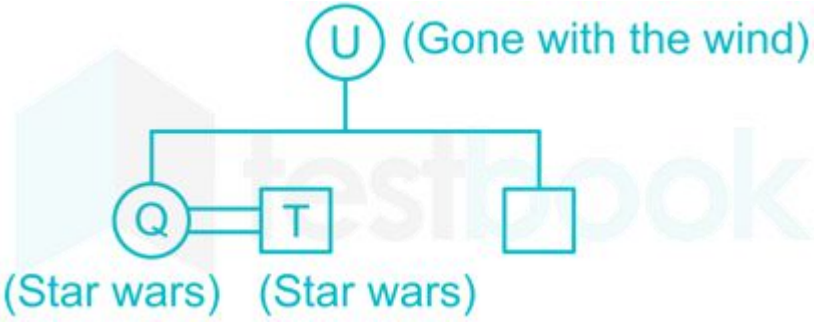
That means Q is a female.

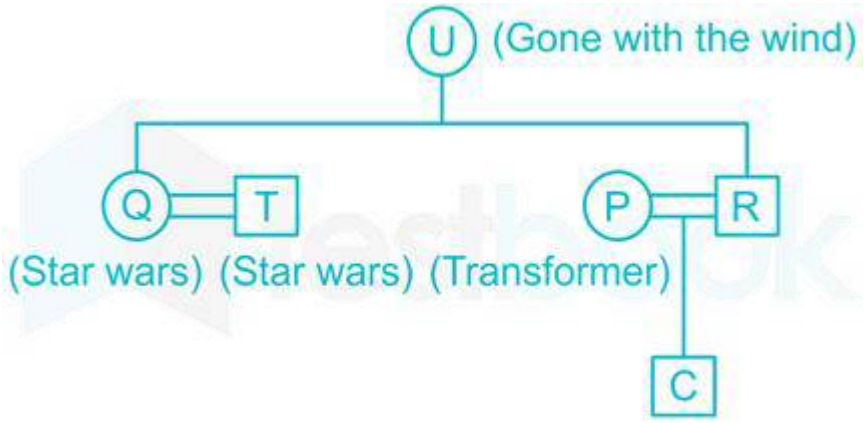
4) T is son in law of U.



5) P is married to R and likes the movie “Transformer”.

6) C likes same movie as his father R.

That means C is a boy.



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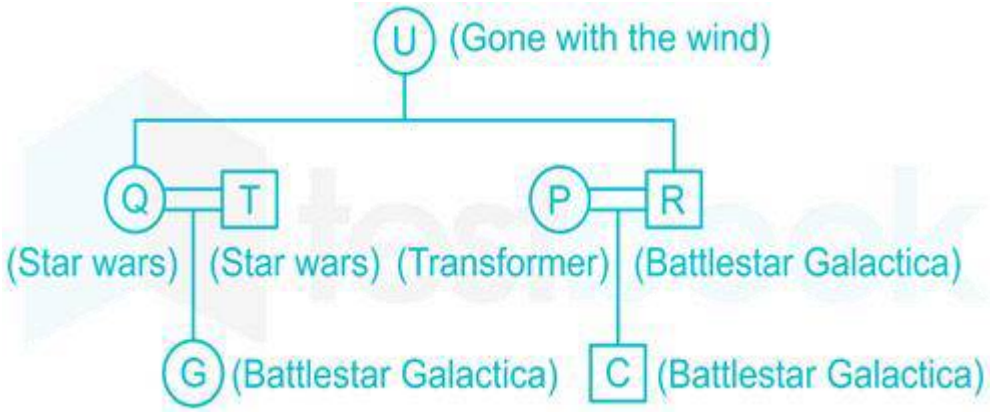

Thus Q and R are children of U.

100.

Seven family members: P, U, Q, T, C, G and R

Symbol in Diagram	Meaning
○	Female
□	Male
=	Married Couple
—	Siblings
|	Difference of A Generation

1) U is mother of Q and likes classics “Gone with the wind”.

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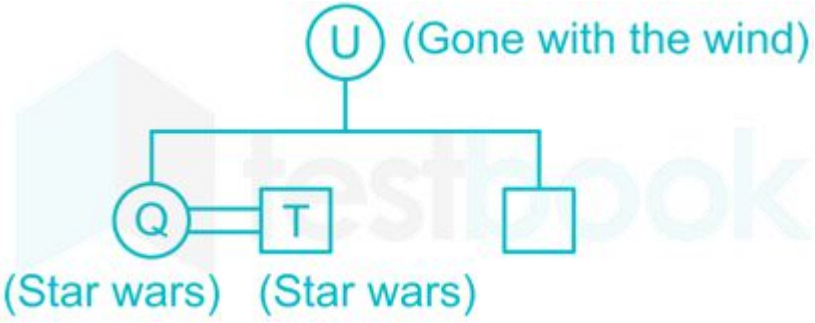

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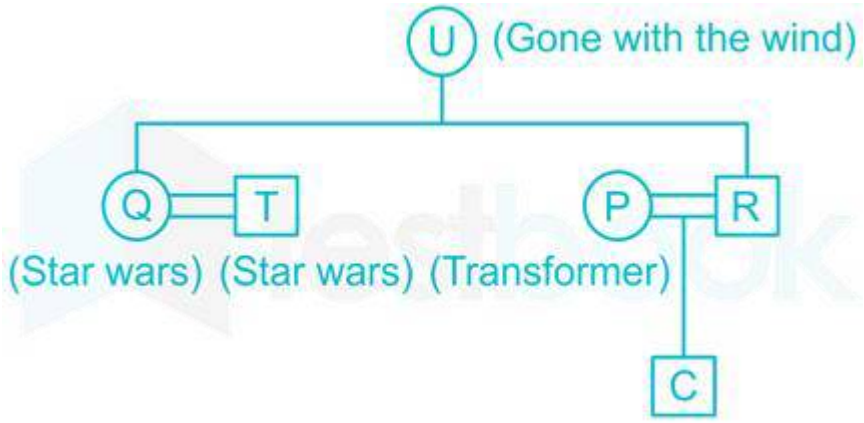

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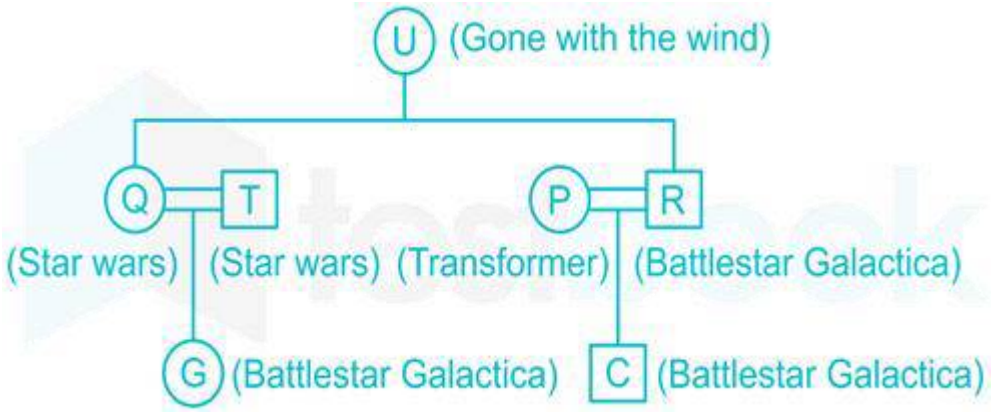

Thus P is U's daughter in law.

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