



Logical Reasoning

Study the given information and answer the following questions

@ – North, # – South, \$ – East, % – West

& – Either 3 Km or 10 Km, © – Either 4 Km or 7 Km

For example: P@Q means P is to the North of Q.

P&Q means P is either at 3 Km or 10 Km from Q.

P@\$Q means P is to the North-East of Q. P@&Q means P is North of Q and in either 3 Km or 10 Km distance.

Directions: Point A is 4 Km South to the point O.

I. A%&B, II. B©C, III. E#&D, IV. C@B, V. E%O, VI. C\$&D, VIII. A#\$D

1. If Point X is placed 7 Km West of Point A. What is the distance between D and X?

1. 2 Km 2. 5 Km 3. 7 Km 4. 10 Km 5. CBD

2. What is the distance between E and O?

1. 3 Km 2. 4 Km 3. 7 Km 4. 10 Km 5. None

3. What is the distance between O and B?

1. 5 Km 2. $\sqrt{29}$ Km 3. 6 Km 4. 9 Km 5. 10 Km

4. Which of the following is true?

1. E#\$A 2. E@\$A 3. E@%A 4. E#%A 5. None

5. Y is a point such that Y@©O then C will be?

1. North West of Y 2. North East of Y 3. South West of Y

4. South East of Y 5. Cannot be determined

Q(6-10). Study the given information and answer the following questions.

If all the Vowels in the alphabets are excluded and rest of Consonants as coded as follows i.e., B as 1, C as 2, D as 3..... upto K as 8. Then from L as 1, M as 2,.... upto T as 8. Again V as 1, upto Z.

Conditions:

(i). If the word begins with Consonant and ends with Vowel then 3rd letter of the word will be coded as '&'

(ii). If the word begins with Vowel and ends with consonant then code of all the consonants are to be changed to next digit of higher value

(iii). If more than two Vowels are there in the word then first two Vowels are coded as 'e'

(iv). If two same vowels (or) consonants follow one another then both are coded as '**'

6. What is the code for the 'tummy big roll'?

1. 8u**4 2i5 6o** 2. 8u**4 1i5 6o**
3. 7u**3 1i5 6o** 4. 8u223 1i5 6o** 5. None

7. What is the code for the word 'adventure'?

1. a31e38u6e 2. e31e38e6e 3. e31e38u6e
4. e21e38u6e 5. None

8. What is the code for the 'force upon'?

1. 4o62e u5o4 2. 4o&2e u5o4 3. 4o&2e u4o3
4. 4o&2e u5o4 5. None

9. What is the code for the word 'surveillance'?

1. 7e&1ei**a33e 2. 7u&1ei**a33e 3. 7e61ei**a33e
4. 7e&1ei11a33e 5. None

10. What is the code for the word 'emulsion'?

1. e3u28io4 2. e3e28i04 3. e3e28io4 4. e2e17io3 5. None

Q (11-15) Study the given information relating to Machine Input and Output, then answer the following questions

Input: 64 57 mxtj 12 osvr 27 jmno 46 vklp 35 rmos prjm

Step I: lzqn 114 64 12 osvr 27 jmno 46 vklp 35 rmos prjm

Step II: otgr 160 lzqn 114 12 osvr 27 jmno 46 vklp 35 rmos

Step III: ioks 105 otgr 160 lzqn 114 12 osvr 27 46 vklp rmos

Step IV: umit 161 ioks 105 otgr 160 lzqn 114 12 osvr 27 rmos

Step V: nusv 108 umit 161 ioks 105 otgr 160 lzqn 114 12 rmos

Step VI: qolw 54 nusv 108 umit 161 ioks 105 otgr 160 lzqn 114

Step VI is the final step for above arrangement
Now answer the following questions based on the Input given below.

Input: 62 59 jnop 16 itrs 29 smkj 44 xkov 33 mnmn gjrt

11. In Step IV, what is the difference between the elements which are 2nd from the left end and 7th element from the right end?

1. 0 2. 1 3. 36 4. 55 5. Cannot be determined

12. Which element will be 4th to the right of the 4th element from the left end of the row in step V?

1. 154 2. lpjr 3. 155 4. rohn 5. None

13. Which element present exactly between 155 and 118 in Step III?

1. rohn 2. rmhn 3. rmnn 4. romn 5. None

14. In which of the following steps the elements '99 and 155' appear as consecutive elements in same order??

1. Step I 2. Step II 3. Step III 4. Step IV 5. There is no such step

15. How many elements are there between the elements '72' and 'lpjr' in step VI?

1. One 2. Two 3. Three 4. Five 5. Six

Q (16-20) Answer the questions based on the information given below

A#B' is 'A is the father of B' 'A@B' is 'A is the wife of B'

'A%B' is 'A is the brother of B' 'A\$B' is 'A is the sister of B'

'A&B' is 'A is the daughter of B' 'A*B' is 'A is the son of B'

- I. E*C II. H@F III. J*G IV. F%E V. L\$K
VI. J%IVII. I&E VIII. K*F IX. F*D

16. What is the relation between G and C?

1. G is daughter of C 2. C is daughter of G
3. C is daughter in law of G 4. G is daughter in law of C 5. None

17. How many females are there in the family?

1. Two 2. Three 3. Four 4. Five 5. CBD

18. Who among the following is the grandson of D??

1. J 2. I 3. K 4. L 5. Both J and K

19. Who among the following is not a Male??

1. E 2. F 3. J 4. K 5. L

20. What is the relation between I and L?

1. I is sister of L 2. I is brother of L 3. I is cousin of L
4. I is sister in law of L 5. Cannot be determined

Data Sufficiency

In each of the following problems, there is one question and three statements I, II and III given below the question. You have to decide whether the data given in the statements is sufficient to answer the question. Read all the statements carefully and find which of the statements is/are sufficient to answer the given question. Choose the correct alternative in each question.

21. Question: In a certain code, 'XYZ' means 'We are friends'. Which letter stands for 'We' ?

Statements:

I.'PYN' means 'They are classmates'.

II.'ZMS' means 'We love them'.

III.'PX' means 'Hello friends',

- A.Only II B.Only I and III C.All I, II and III D.Either I only or II only E.None of these

22. Question: Among P, Q, R, S and T, Q is the second tallest and S is immediate taller than the

shortest. Who among them is in the middle when they stand in the order of their heights ?

Statements:

I. T is not the shortest.

II. R is taller than S but shorter than Q.

III. P ranks third in height above S when all are arranged in the order of height.

- A.Only I and II B.Either II only or I and III only C.Only II D.Only II and III E.None of these

23. Question: Four subjects - Physics, Chemistry, Mathematics and Biology - were taught in four consecutive periods of one hour each starting from 8.00 a.m. At what time was the Chemistry period scheduled ?

Statements:

I. Mathematics period ended at 10.00 a.m., which was preceded by Biology.

II. Physics was scheduled in the last period.

III. Mathematics period was immediately followed by Chemistry.

- A.Only I B.Either I only or II only C.Only II D.Only II and III E.Only I and either II or III

24. Question: What is the total monthly salary of Vasu ?

Statements:

I. Vasu's basic salary is Rs 100 more than Rajan's salary who also serves in Vasu's company.

II. Other allowances drawn by Rajan besides his basic salary are Rs 2000 per month which is Rs 50 less than Vasu's allowances.

III. Rajan's basic salary is Rs 1550 per month,

- A.Only II B.Only II and III C.Only I and II D.Only I and III E.All I, II and III

25. Question: Who is the tallest among six boys P, T, N, D, Q and R?

Statements:

I. P is taller than D and N but not-as tall as T.

II. R is taller than Q but not as tall as T.

III. Q is not taller than T and R.

- A.Only I and II B.Only II and III C.Only I and III D.All I, II and III E.Only I and either II or III

Symbols

26. In which of these expressions 'S > V' be definitely false?

A. S>P≥Q=G≥R>V

B. P<A≤S≤T;V≥O>T

C. V≤A≤L=R<S

D. S>C>=F≤H; V<F

E. S>T=O≥P; V<J=P

27. Which of the following symbols should be placed in the blank spaces respectively(in the same order from left to right) in order to complete the given



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expression in such a manner that both 'D>S' as well as 'E≤B' definitely holds true? B _ A _ S _ E _ D
 A. >, ≥, <, = B. >, >, ≥, < C. ≥, ≥, ≥, ≤
 D. ≥, =, ≥, < E. Other than those given as options

28. In which of the following expressions does the expression 'L=T' to definitely hold true as one of the conclusions?

- A. $K \geq L \leq R = P < S \leq T$ B. $U \geq T \geq M = F \leq A \geq L$
 C. $L \geq C > Q \geq B = N \leq T$ D. $G \geq L = A < B \leq S \leq T$
 E. $T \geq E = G \geq W = Y \geq L$

29. Which of the following expressions is true if the expression $P < T \leq Q > S > M > W$ is definitely true?

- A. $W \leq P$ B. $S < P$ C. $M > P$ D. $W < Q$ E. $T \leq M$

30. Statements: $Y \leq K < D = S$; $D < V < O$; $G \geq D < Q$

Conclusions: i. $G > V$, ii. $Y < Q$

- A. Only I is true B. Only II is true C. Either I or II true
 D. Neither I nor II is true E. Both I and II are true

31. Statements:

Some holy is festival. Some festival is enjoyment.
 Some enjoyment is colourful. Some colourful is happiness.

Conclusions:

- I. Some holy is happiness is a possibility
 II. Some festival is colourful is a possibility
 III. Some enjoyment is happiness is a possibility.
 IV. Some Holy are not Festival is a possibility
 V. Some Employment are not Happiness is a possibility

- (a) None follows (b) Only I and II follows
 (c) Only II III and IV follows (d) Only I II and V follows
 (e) All follows

32. Statements:

No Pre are Mains, All Tier are Mains,
 All Tier are Exam.

Conclusions:

- A. Some Tier are not Pre.
 B. Some Mains are Exam.
 C. Some Exam are not Pre.
 D. No Pre are Tier.
 (a) All follow (b) A, B and C (c) B, C and D (d) A, C and D
 (e) None of these

33. Conclusions: Some job are result. All waiting being sorrow is a possibility. All good being

waiting is a possibility. Some good is hesitating. Some result is hesitating.

Statements:

(e) No result is waiting. All waiting is hesitating.
 Some hesitating is sorrow. Some result is good. No good is job.

(e) Some result is waiting. All waiting is hesitating.
 Some hesitating is sorrow. No result is good. All good is job.

(e) Some result is waiting. Some waiting is hesitating.
 Some hesitating is sorrow. Some result is good. Some good is job.

(e) No result is waiting. All waiting is hesitating.
 Some hesitating is sorrow. No result is good. All good is job.

(e) Some result is waiting. All waiting is hesitating.
 Some hesitating is sorrow. Some result is good. All good is job.

34. Conclusions: All dog is cat. No horse is boy.

Statements:

(a) All horse is rat. No rat is boy. Some boy is cat.
 All cat is dog. Some dog is elephant.

(b) All rat is elephant. Some elephant is cat. Some cat is boy. All boy is dog. No dog is horse.

(c) All dog is boy. All boy is cat. Some horse is elephant. All elephant is rat. No horse is cat.

(d) Some rat is elephant. All elephant is boy. Some boy is horse. No horse is cat. All cat is dog.

(e) None of these.

35. Conclusions: Some train is bus. No station is platform.

Statements:

(a) Some queen is train. No train is station. All bus is station. Some station is platform. All platform is road.

(b) All queen is station. All platform is train. Some train is bus. All bus is road. No station is train.

(c) Some queen is train. All train is road. No road is platform. Some platform is bus. No bus is station.

(d) Some queen is train. No train is bus. No bus is road. Some road is station. All station is platform.

(e) None of these.

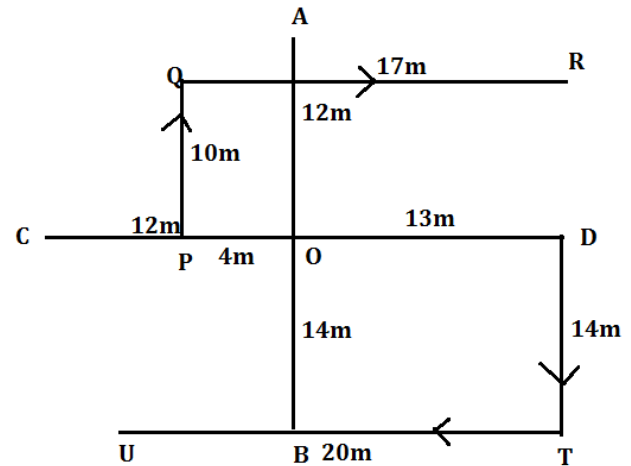


Logical Reasoning

Logic

There are AB axis in such a way that A is in north and B is in south direction. There is CD axis in such a way that C is in west direction and D is in east direction. AB axis and CD axis intersect at a point O in such a way that AO is 12m, OB is 14m, OC is 12m, OD is 13m.

A person starts walking from point P which is 4m to the west of point O and walks 10m in North direction to reach point Q and then he takes a turn to his right and walks 17m and stops at point R. Another person starts walking from point D and walks 14m in south direction to reach point T, then turns to his right and walks 20m and stops at point U.



Q11. Point B is in which direction with respect to Point U?

- (a) south
- (b) east
- (c) south-west
- (d) west
- (e) north-west

Q12. Point T is in which direction with respect to point Q?

- (a) north
- (b) east
- (c) north-east
- (d) north-west
- (e) None of these

Q13. What is shortest distance between point O and point U?

- (a) 31m
- (b) 33m
- (c) 11m
- (d) 20m
- (e) None of these

Q14. Point R is in which direction with respect to Point T?

- (a) south
- (b) north
- (c) south-west
- (d) west
- (e) None of these

Q15. What is distance between point R and point T?

- (a) 31m
- (b) 33m
- (c) 11m
- (d) 20m
- (e) 24m

S11. Ans.(b)

S12. Ans.(e)

S13. Ans.(e)

S14. Ans (b)

S15. Ans (e)

Q(6-10). Study the given information and answer the following questions.

If all the Vowels in the alphabets are excluded and rest of Consonants as coded as follows i.e., B as 1, C as 2, D as 3..... upto K as 8. Then from L as 1, M as 2,.... upto T as 8. Again V as 1, upto Z.

Conditions:

- (i). If the word begins with Consonant and ends with Vowel then 3rd letter of the word will be coded as '8'
- (ii). If the word begins with Vowel and ends with consonant then code of all the consonants are to be changed to next digit of higher value
- (iii). If more than two Vowels are there in the word then first two Vowels are coded as 'e'
- (iv). If two same vowels (or) consonants follow one another then both are coded as '**'

36. What is the code for the 'tummy big roll'?

- 1. 8u**4 2i5 6o** 2. 8u**4 1i5 6o**
- 3. 7u**3 1i5 6o** 4. 8u223 1i5 6o** 5. None

37. What is the code for the word 'adventure'?

- 1. a31e38u6e 2. e31e38e6e 3. e31e38u6e
- 4. e21e38u6e 5. None

38. What is the code for the 'force upon'?

- 1. 4o62e u5o4 2. 4o&2e u5o4
- 3. 4o&2e u4o3 4. 4o&2e u5o4 5. None

39. What is the code for the word 'surveillance'?

- 1. 7e&1ei**a33e 2. 7u&1ei**a33e
- 3. 7e61ei**a33e 4. 7e&1ei11a33e
- 5. None

40. What is the code for the word 'emulsion'?

- 1. e3u28io4 2. e3e28io4
- 3. e3e28io4 4. e2e17io3
- 5. None

Q (11-15) Study the given information relating to Machine Input and Output, then answer the following questions

Input: 64 57 mxtj 12 osvr 27 jmno 46 vkpl 35 rmos prjm



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Step I: lzqn 114 64 12 osvr 27 jmno 46 vklp 35 rmos prjm
 Step II: otgr 160 lzqn 114 12 osvr 27 jmno 46 vklp 35 rmos
 Step III: ioks 105 otgr 160 lzqn 114 12 osvr 27 46 vklp rmos
 Step IV: umit 161 ioks 105 otgr 160 lzqn 114 12 osvr 27 rmos
 Step V: nusv 108 umit 161 ioks 105 otgr 160 lzqn 114 12 rmos
 Step VI: qolw 54 nusv 108 umit 161 ioks 105 otgr 160 lzqn 114
 Step VI is the final step for above arrangement
 Now answer the following questions based on the Input given below.

Input: 62 59 jnop 16 itrs 29 smkj 44 xkov 33 mnmn gjrt

41. In Step IV, what is the difference between the elements which are 2nd from the left end and 7th element from the right end?

1. 0 2. 1 3. 36 4. 55 5. Cannot be determined

42. Which element will be 4th to the right of the 4th element from the left end of the row in step V?

1. 154 2. lpjr 3. 155 4. rohn 5. None

43. Which element present exactly between 155 and 118 in Step III?

1. rohn 2. rmhn 3. rmnn 4. romn 5. None

44. In which of the following steps the elements '99 and 155' appear as consecutive elements in same order??

1. Step I 2. Step II 3. Step III 4. Step IV 5. There is no such step

45. How many elements are there between the elements '72' and 'lpjr' in step VI?

1. One 2. Two 3. Three 4. Five 5. Six

Answer the questions based on the information given below

A#B' is 'A is the father of B' 'A@B' is 'A is the wife of B'
 'A%B' is 'A is the brother of B' 'A\$B' is 'A is the sister of B'
 'A&B' is 'A is the daughter of B' 'A*B' is 'A is the son of B'
 I. E*C II. H@F III. J*G IV. F%E V. L\$K
 VI. J%I VII. I&E VIII. K*F IX. F*D

46. What is the relation between G and C?

1. G is daughter of C 2. C is daughter of G
 3. C is daughter in law of G 4. G is daughter in law of C 5. None

47. How many females are there in the family?

1. Two 2. Three 3. Four 4. Five 5. CBD

48. Who among the following is the grandson of D??

1. J 2. I 3. K 4. L 5. Both J and K

49. Who among the following is not a Male??

1. E 2. F 3. J 4. K 5. L

50. What is the relation between I and L?

1. I is sister of L 2. I is brother of L 3. I is cousin of L
 4. I is sister in law of L 5. Cannot be determined

Data Sufficiency

In each of the following problems, there is one question and three statements I, II and III given below the question. You have to decide whether the data given in the statements is sufficient to answer the question. Read all the statements carefully and find which of the statements is/are sufficient to answer the given question. Choose the correct alternative in each question.

51. Question: In a certain code, 'XYZ' means 'We are friends'. Which letter stands for 'We' ?

Statements:

'PYN' means 'They are classmates'.

'ZMS' means 'We love them'.

'PX' means 'Hello friends',

- A. Only II B. Only I and III C. All I, II and III D. Either I only or II only
 E. None of these

Answer: Option E:

To find the code for 'we', we need to have any of the following:

- (i) 'We are friends' should have only 'We' common with another statement, as in II;
 (ii) 'We are friends' should have only 'are' and 'friends' common with another single or two statements, as in I and III. Thus, we need Either II only or I and III only.

52. Question: Among P, Q, R, S and T, Q is the second tallest and S is immediate taller than the shortest. Who among them is in the middle when they stand in the order of their heights ?

Statements:

I. T is not the shortest.

II. R is taller than S but shorter than Q.

III. P ranks third in height above S when all are arranged in the order of height.

- A. Only I and II B. Either II only or I and III only C. Only II D. Only II and III
 E. None of these

Answer: Option B:

From the given statement, the descending order of heights is :_, Q_, S_.

From II, we have the order: , Q, R, S,_. Thus, R is in the middle.

From III, we have the order : P, Q,_, S,_. But, according to I, T is not the shortest.

So, R is the shortest. Thus, we have the order : P, Q, T, S, R.

So, T is in the middle.

53. Question: Four subjects - Physics, Chemistry, Mathematics and Biology - were taught in four consecutive periods of one hour each starting from 8.00 a.m. At what time was the Chemistry period scheduled ?

Statements:

I. Mathematics period ended at 10.00 a.m., which was preceded by Biology.

II. Physics was scheduled in the last period.

III. Mathematics period was immediately followed by Chemistry.

- A. Only I B. Either I only or II only C. Only II D. Only II and III
 E. Only I and either II or III

Answer: Option E.

From I and II, we conclude that Mathematics period began at 9.00 a.m., Biology period began at 8.00 a.m. and Physics period began at 11 a.m. So, the Chemistry period began at 10.00 a.m.

From I and III, we conclude that Mathematics period ended and Chemistry period began at 10.00 a.m.

54. Question: What is the total monthly salary of Vasu ?

Statements:

I. Vasu's basic salary is Rs 100 more than Rajan's salary who also serves in Vasu's company.

II. Other allowances drawn by Rajan besides his basic salary are Rs 2000 per month which is Rs 50 less than Vasu's salary.
III. Rajan's basic salary is Rs 1550 per month,

A. Only II B. Only II and III C. Only I and II D. Only I and III E. All I, II and III

Answer: Option E.

From III, we have: Rajan's basic salary = Rs. 1550.

From I, we have: Vasu's basic salary = Rs. (1550 + 100) = Rs. 1650.

From II, we have: Rajan's other allowances = Rs. 2000 and Vasu's other allowances = Rs. 2050.

Therefore Vasu's monthly salary = Rs. (1650 + 2050) = Rs. 3700.

55. Question: Who is the tallest among six boys P, T, N, D, Q and R ?

Statements:

I. P is taller than D and N but not-as tall as T.

II. R is taller than Q but not as tall as T.

III. Q is not taller than T and R.

A. Only I and II B. Only II and III C. Only I and III D. All I, II and III E. Only I and either II or III

Answer: Option A:

From I, we have: $P > D$, $P > N$, $T > P$ i.e. $T > P > D > N$ or $T > P > N > D$... (i)

From II, we have: $R > Q$, $T > R$ i.e. $T > R > Q$... (ii)

From III, we have: $T > Q$, $R > Q$... (iii)

Clearly, from (i) and (ii), we conclude that T is taller than each one of P, N, D, R and Q. So, T is the tallest.

Symbols

56. In which of these expressions 'S > V' be definitely false?

A. $S > P \geq Q = G \geq R > V$ B. $P < A \leq S \leq T; V \geq O > T$

C. $V \leq A \leq L = R < S$ D. $S > C \geq F \leq H; V < F$

E. $S > T = O \geq P; V < J = P$

57. Which of the following symbols should be placed in the blank spaces respectively (in the same order from left to right) in order to complete the given expression in such a manner that both 'D > S' as well as 'E ≤ B' definitely holds true? B _ A _ S _ E _ D

A. >, ≥, <, = B. >, >, ≥, < C. ≥, ≥, ≥, ≤

D. ≥, =, ≥, < E. Other than those given as options

58. In Which of the following expressions does the expression 'L = T' to definitely hold true?

A. $K \geq L \leq R = P < S \leq T$ B. $U \geq T \geq M = F \leq A \geq L$

C. $L \geq C > Q \geq B = N \leq T$ D. $G \geq L = A < B \leq S \leq T$

E. $T \geq E = G \geq W = Y \geq L$

59. Which of the following expressions is true if the expression $P < T < Q > S > M > W$ is definitely true?

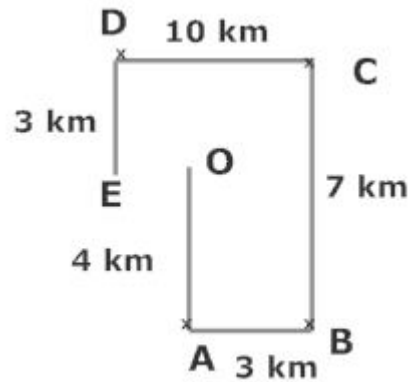
A. $W \leq P$ B. $S < P$ C. $M > P$ D. $W < Q$ E. $T \leq M$

60. Statements: $Y \leq K < D = S$; $D < V < O$; $G \geq D < Q$

Conclusions: i. $G > V$, ii. $Y < Q$

A. Only I is true B. Only II is true C. Either I or II true

D. Neither I nor II is true E. Both I and II are true



Answers Directions : 1. 7km, 2. 7km, 3. 5km, 4. E@\$A, 5. SouthEast of Y.

Answers Coding Decoding: 2, 3, 4, 1, 3

Solution:

Input: 62 59 jnop 16 itrs 29 smkj 44 xkov 33 mnmn gjrt

Step I: rohn 118 62 jnop 16 itrs 29 44 xkov 33 mnmn gjrt

Step II: lpjr 155 rohn 118 jnop 16 itrs 29 44 xkov 33 gjrt

Step III: iplt 99 lpjr 155 rohn 118 16 itrs 29 44 xkov gjrt

Step IV: hvow 154 iplt 99 lpjr 155 rohn 118 16 29 xkov gjrt

Step V: flox 116 hvow 154 iplt 99 lpjr 155 rohn 118 16 xkov

Step VI: wmlz 72 flox 116 hvow 154 iplt 99 lpjr 155 rohn 118

Answers IO = 1, 3, 1, 5, 5

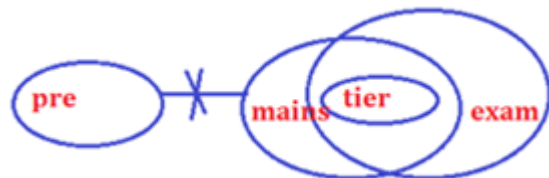
Blood Relation:

G, H, I, L are females and either C or D is female. Answers: 4, 4, 5, 5, 3

Data Sufficiency: B D A B C

Symbols B D E D B

1. Answer E



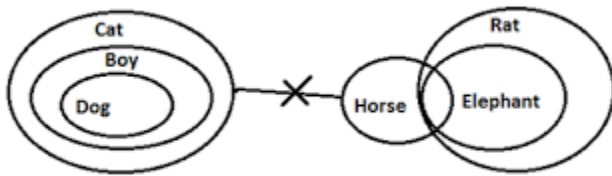
2. E All follows



3. Answer E.



4. Answer C



5. Answer E

