

✓ Analytical Aptitude

Part-1

Venn Diagrams

Syllogism

Direction

Blood Relation

Coding Decoding

Comparison
Series

Part-2

Seating Arrangement

Data Interpretation

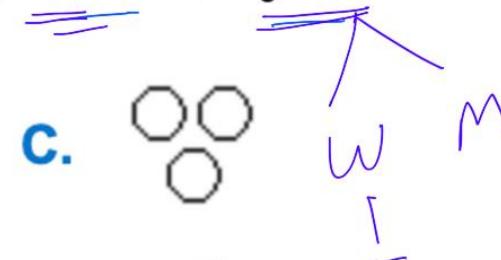
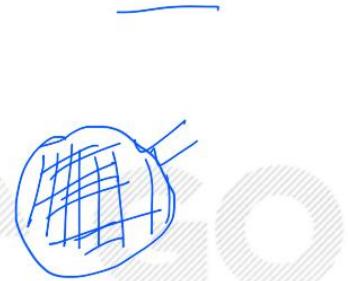
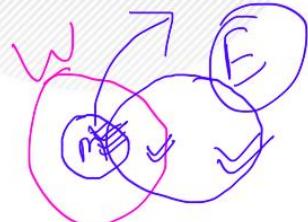
Clock

CLASSES



Venn Diagrams

1. Which of the following diagrams indicates the best relation between Women, Mothers and Engineers ?



2. Which of the following diagrams indicates the best relation between Factory, Product and Machinery ?

A.



B.



C.



D.



3. Which of the following diagrams indicates the best relation between Author, Lawyer and Singer ?

A.



B.



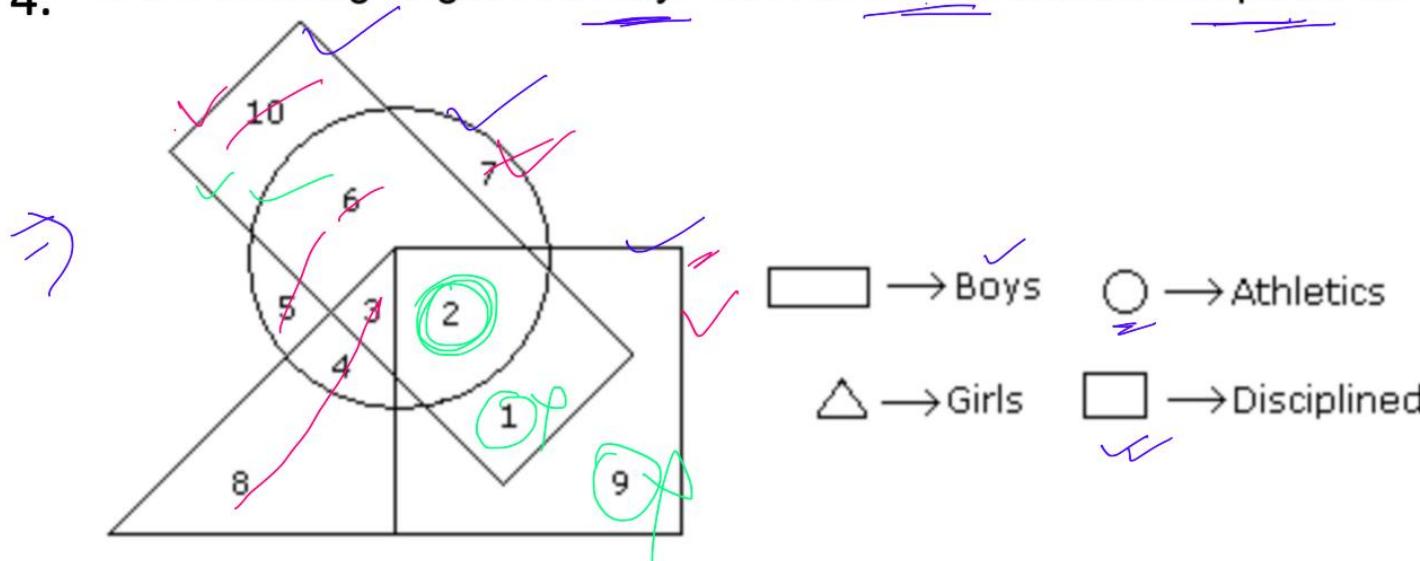
C.



D.

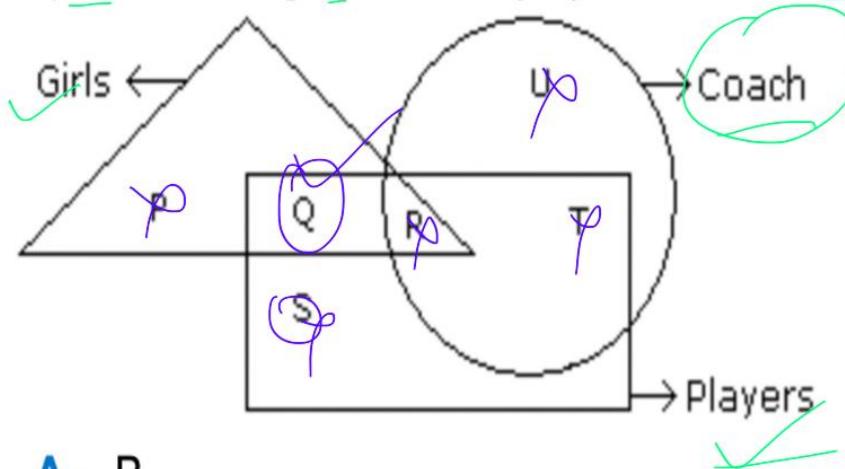


4. In the following diagram the boys who are athletic and are disciplined are indicated by which number?



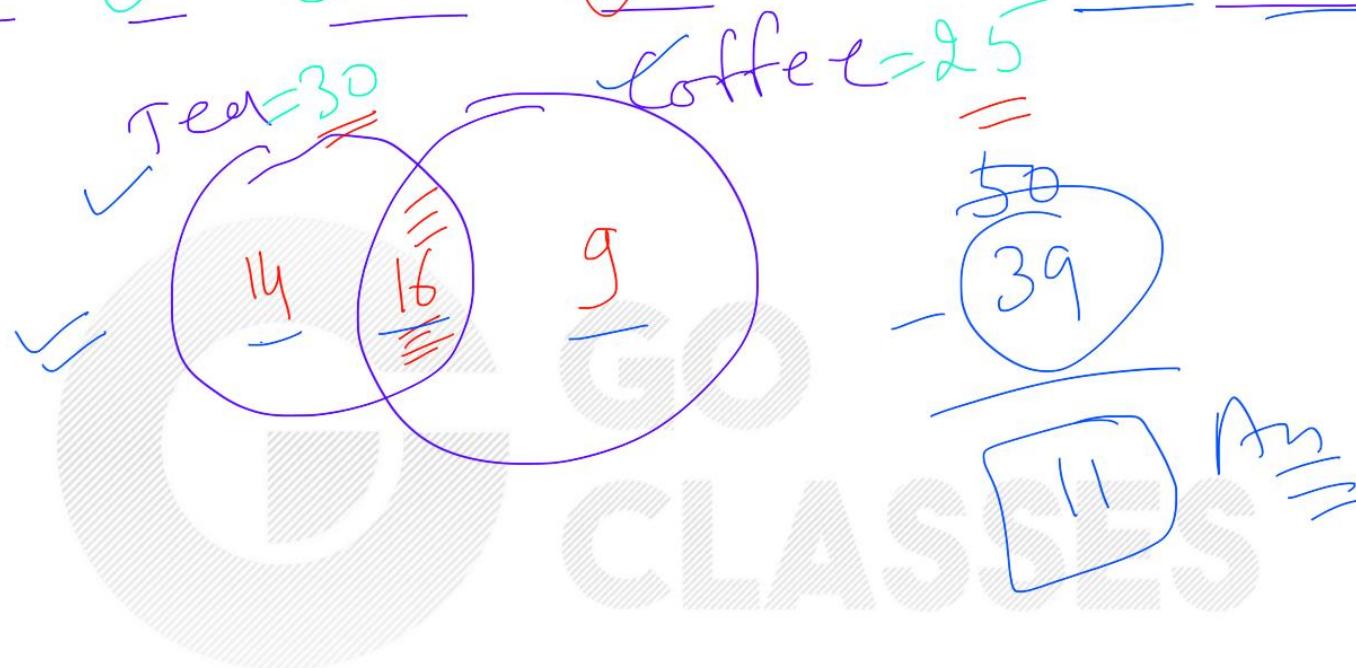
- A. 1
- B. 2
- C. 10
- D. 6

5. In the following figure triangle represents 'girls', square players and circle-coach. Which part of the diagram represents the girls who are player but not coach?



- A. P
- B. Q
- C. R
- D. S

6. In a group of 50 persons, 30 like tea, 25 like coffee and 16 like both. How many like neither tea nor coffee?



7. 25 persons are in a room. 15 of them play hockey, 17 of them play football and 10 of them play both hockey and football. Then the number of persons playing neither hockey nor football is:

- A. 2
- B. 17
- C. 13
- D. 3

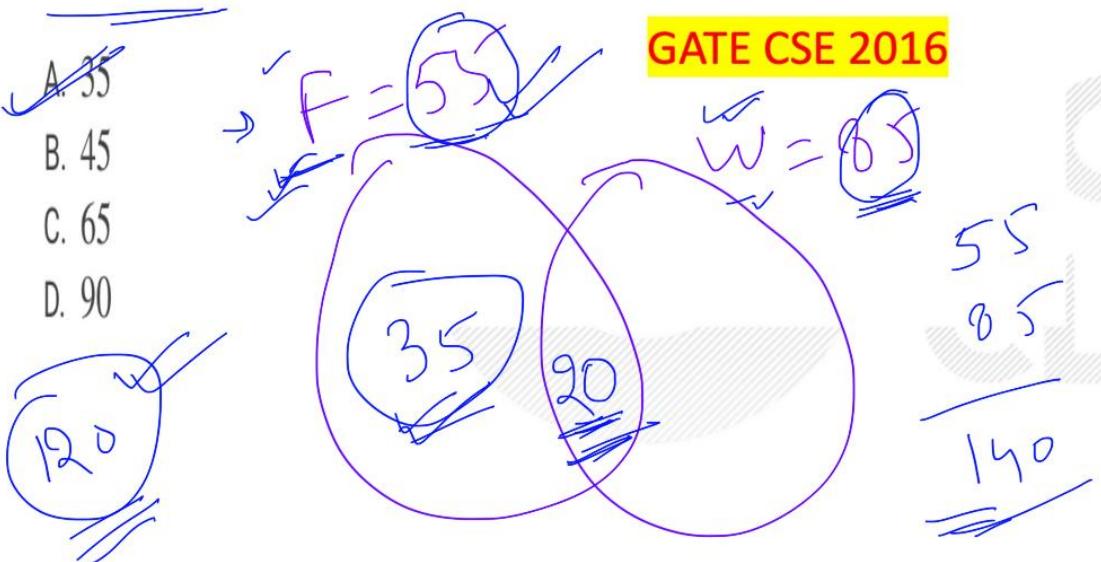
Ans



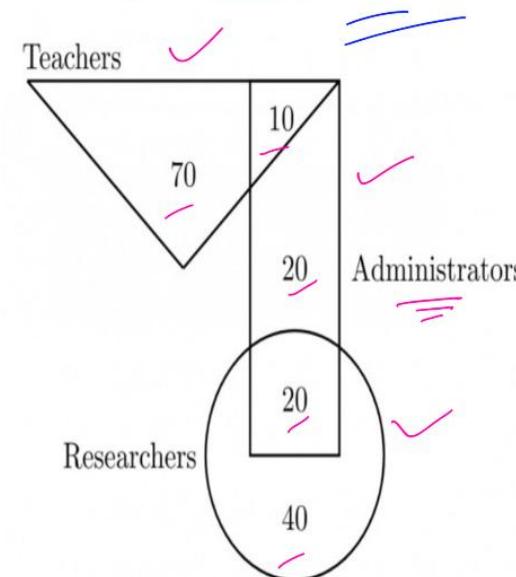
GATE CSE 2010

8. Among 150 faculty members in an institute, 55 are connected with each other through Facebook and 85 are connected through Whatsapp. 30 faculty members do not have Facebook or Whatsapp accounts. The numbers of faculty members connected only through Facebook accounts is ____.

- A. 35
- B. 45
- C. 65
- D. 90



9. In the given diagram, teachers are represented in the triangle, researchers in the circle and administrators in the rectangle. Out of the total number of the people, the percentage of administrators shall be in the range of ____

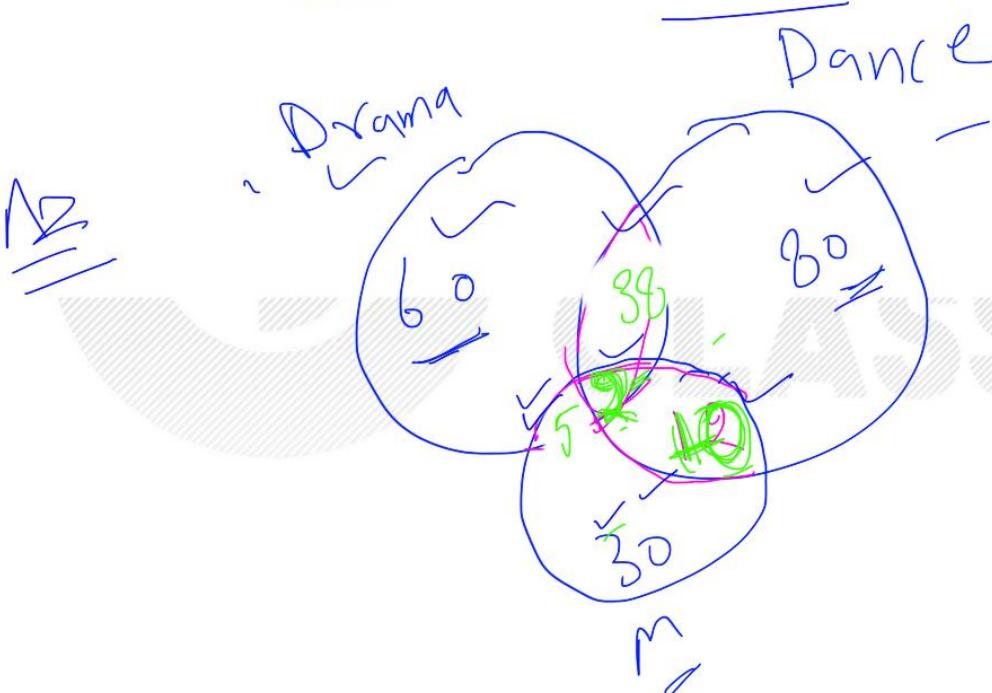


- A. 0 to 15
- B. 16 to 30
- C. 31 to 45
- D. 46 to 60

GATE CSE 2019

10. In a college, there are three student clubs, 60 students are only in the Drama club, 80 students are only in the Dance club, 30 students are only in Maths club, 40 students are in both Drama and Dance clubs, 12 students are in both Dance and Maths clubs, 7 students are in both Drama and Maths clubs, and 2 students are in all clubs. If 75% of the students in the college are not in any of these clubs, then the total number of students in the college is _____.

- A. 1000
- B. 975
- C. 900
- D. 225



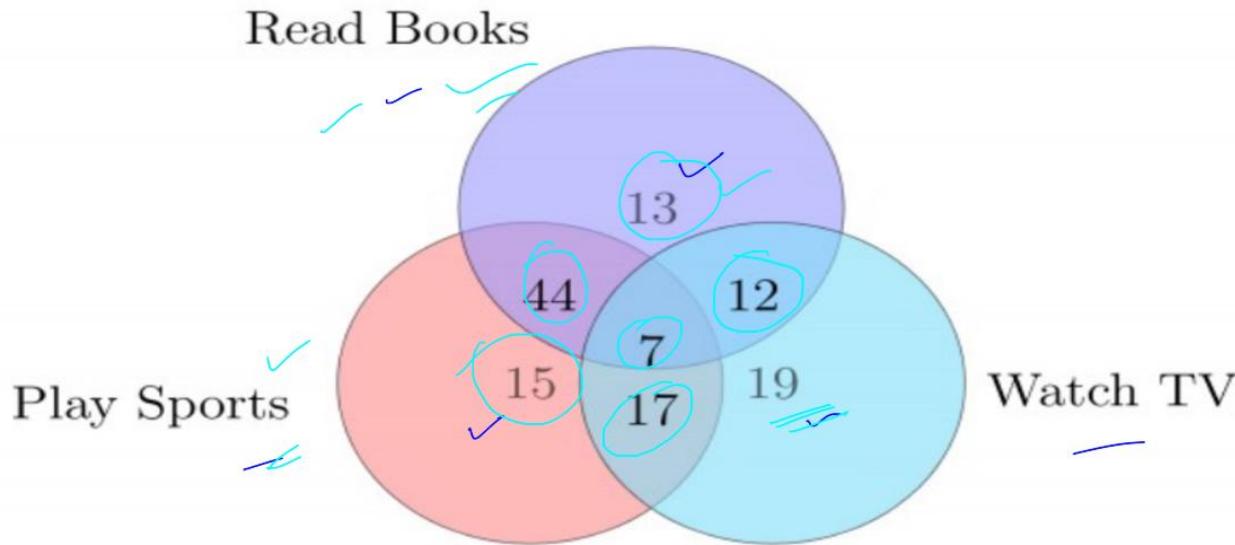
GATE CSE 2019

$$25\% \Rightarrow 225$$

$$100\% = 225 + 100$$

$$= 900$$

11. The Venn diagram shows the preference of the student population for leisure activities.

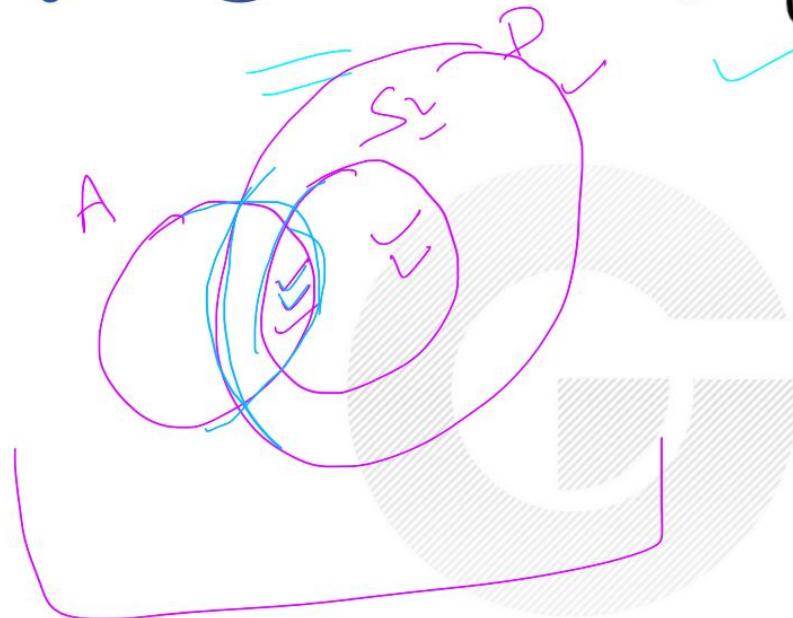


From the data given, the number of students who like to read books or play sports is _____.

- A. 44
- B. 51
- C. 79
- D. 108

GATE EC 2016

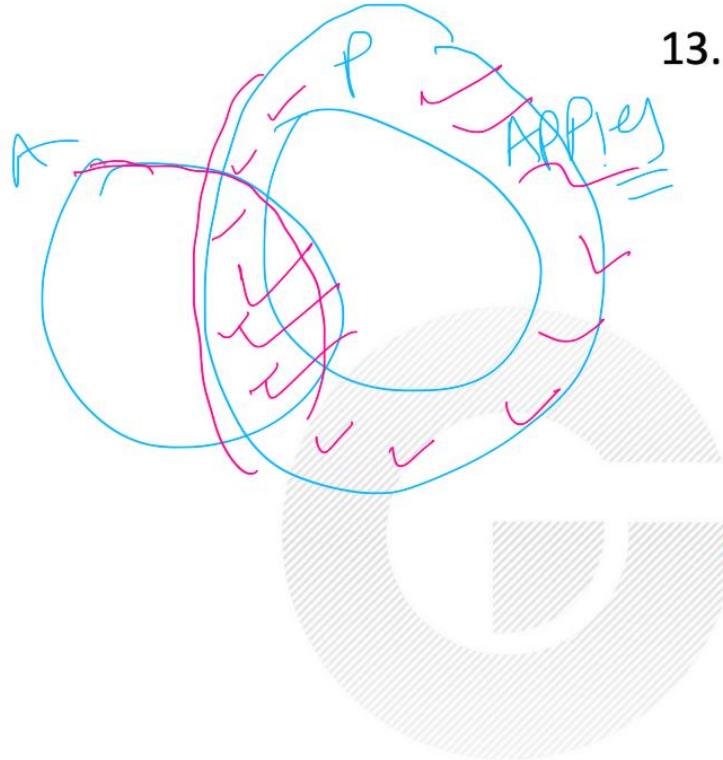
Syllogism



12. **Statements:** Some actors are singers. All the singers are dancers.
Conclusions:

1. ✓ Some actors are dancers.
2. No singer is actor.

- A. Only (1) conclusion follows
B. Only (2) conclusion follows
C. Either (1) or (2) follows
D. Neither (1) nor (2) follows



13. **Statements:** Some ants are parrots. All the parrots are apples.

Conclusions:

1. All the apples are parrots.

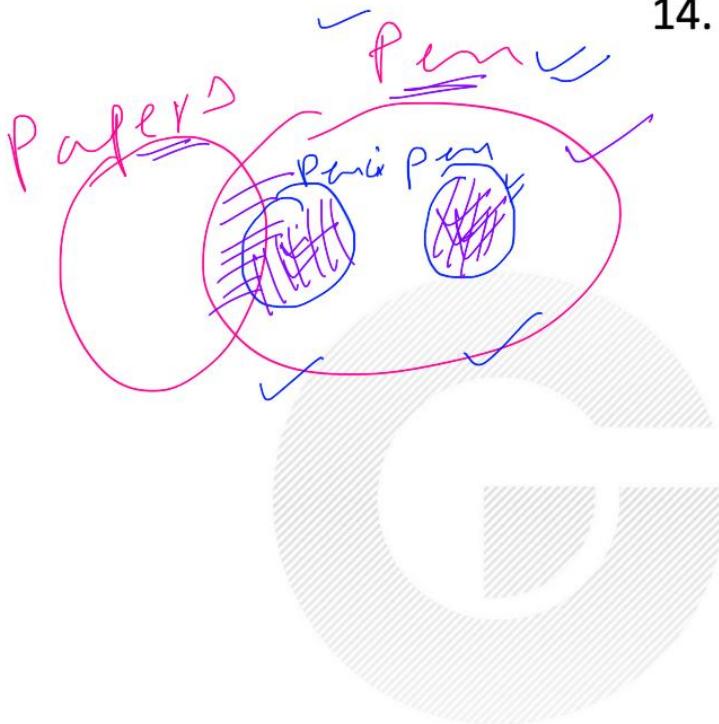
2. Some ants are apples.

- A. Only (1) conclusion follows
- B. Only (2) conclusion follows
- C. Either (1) or (2) follows
- D. Neither (1) nor (2) follows
- E. Both (1) and (2) follow

14.

Statements: Some papers are pens. All the pencils are pens.

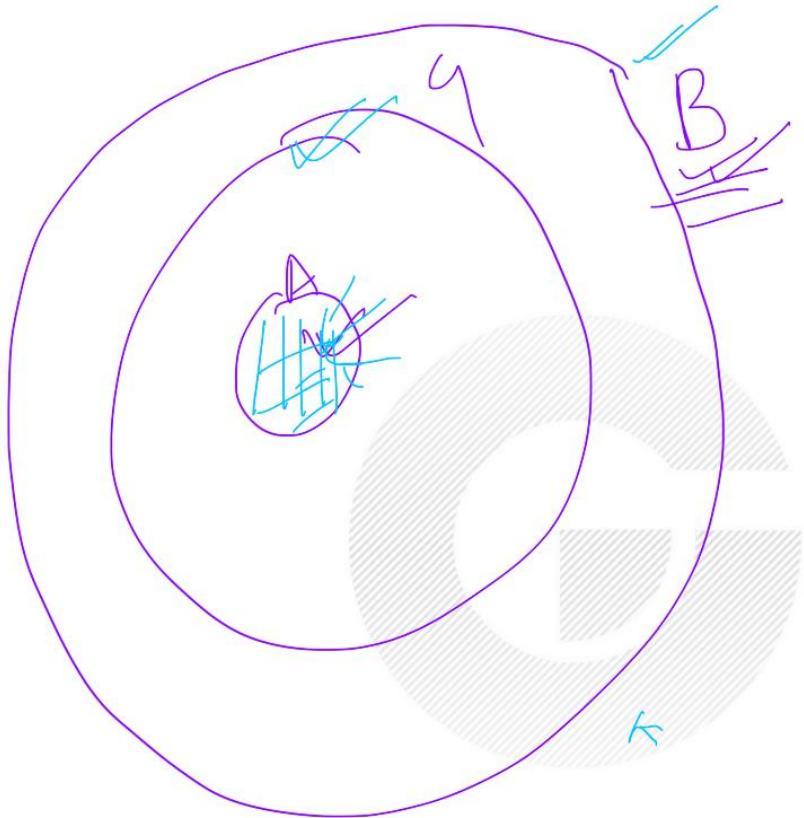
Conclusions:



1. Some pens are pencils.

2. Some pens are papers.

- A. Only (1) conclusion follows
- B. Only (2) conclusion follows
- C. Either (1) or (2) follows
- D. Neither (1) nor (2) follows
- E. Both (1) and (2) follow

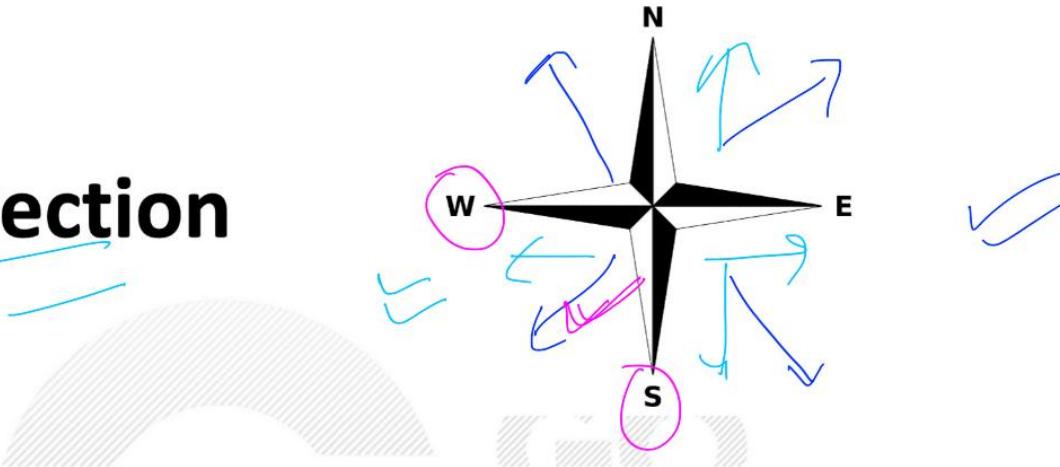


15. **Statements:** All the actors are girls. All the girls are beautiful.

Conclusions:

- 1. All the actors are beautiful.
 - 2. Some girls are actors.
- A. Only (1) conclusion follows
- B. Only (2) conclusion follows
- C. Either (1) or (2) follows
- D. Neither (1) nor (2) follows
- E. Both (1) and (2) follow

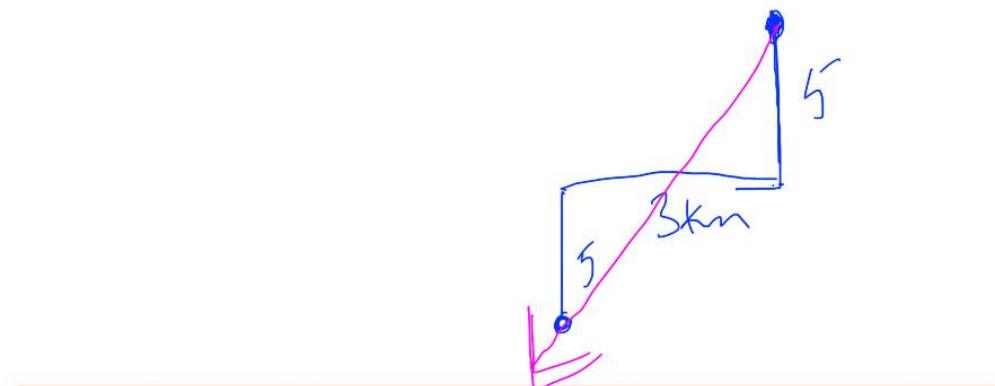
Direction



16. A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km.

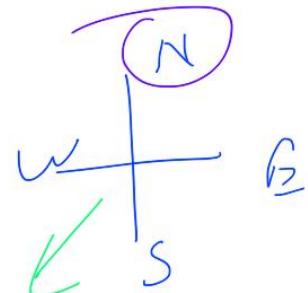
Now in which direction is he from the starting place?

- A. West
- B. South
- C. North-East
- D. South-West



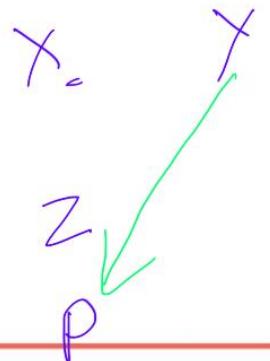
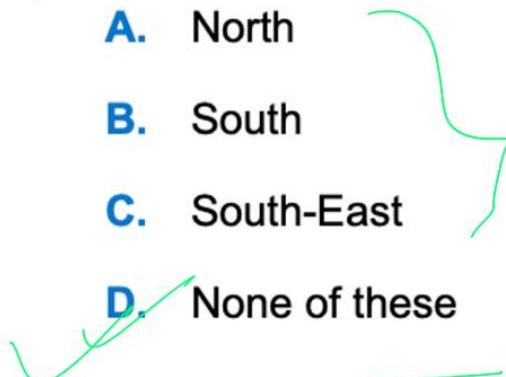
17. One morning Udai and Vishal were talking to each other face to face at a crossing. If Vishal's shadow was exactly to the left of Udai, which direction was Udai facing?

- A. East
- B. West
- C. North
- D. South



18. Y is in the East of X which is in the North of Z. If P is in the South of Z, then in which direction of Y, is P?

- A. North
- B. South
- C. South-East
- D. None of these



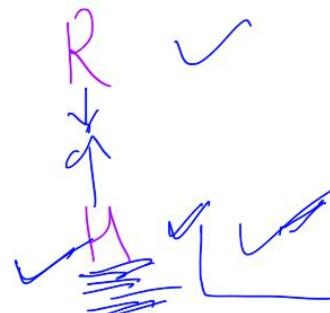
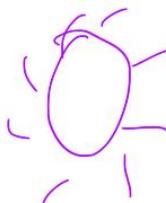


19. If South-East becomes North, North-East becomes West and so on. What will West become?

- A. North-East
- B. North-West
- C. South-East
- D. South-West

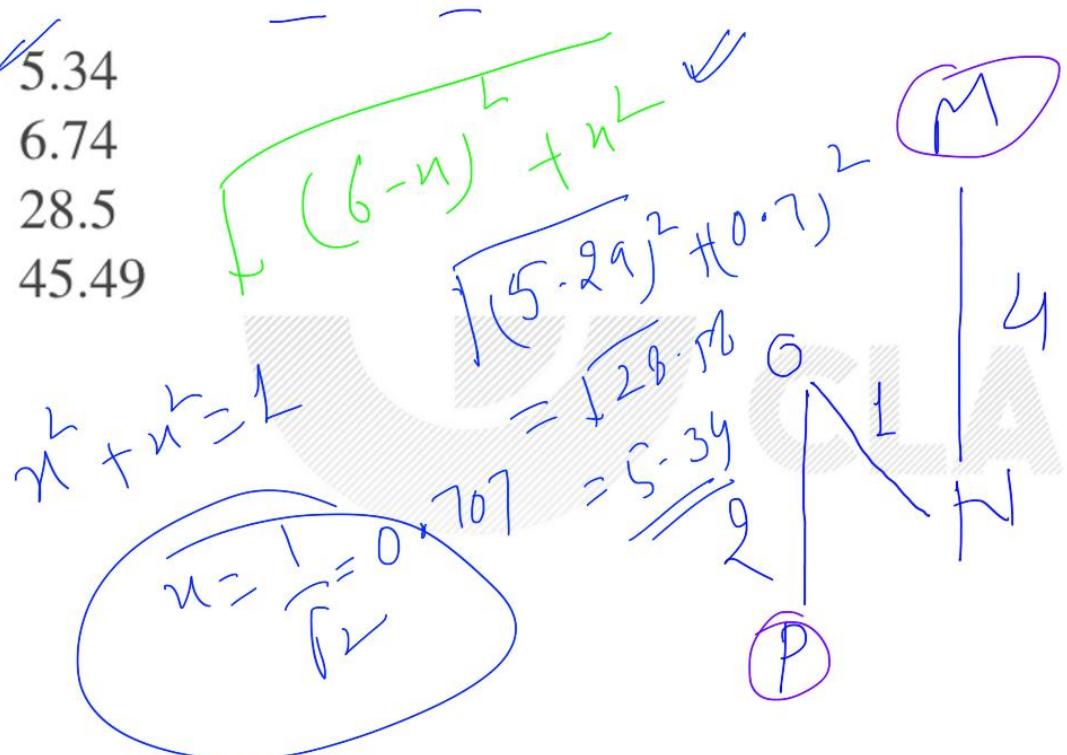
20. One evening before sunset Rekha and Hema were talking to each other face to face. If Hema's shadow was exactly to the right of Hema, which direction was Rekha facing?

- A. North
- B. South
- C. East
- D. Data is inadequate

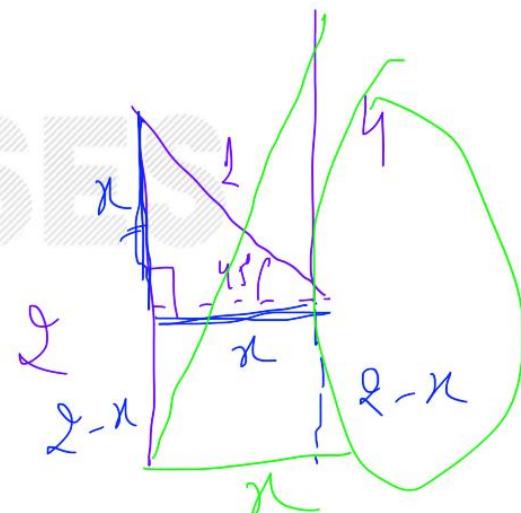


21. Four branches of a company are located at M, N, O and P. M is north of N at a distance of 4 km; P is south of O at a distance of 2 km; N is southeast of O by 1 km. What is the distance between M and P in km?

- A. 5.34
- B. 6.74
- C. 28.5
- D. 45.49



GATE CSE 2015



22. There are five buildings called V , W , X , Y and Z in a row (not necessarily in that order). V is to the West of W . Z is to the East of X and the West of V . W is to the West of Y . Which is the building in the middle?

A. V M

B. W

C. X

D. Y

GATE CSE 2017



23. Three of the five students are allocated to a hostel put in special requests to the warden, Given the floor plan of the vacant rooms, select the allocation plan that will accommodate all their requests.

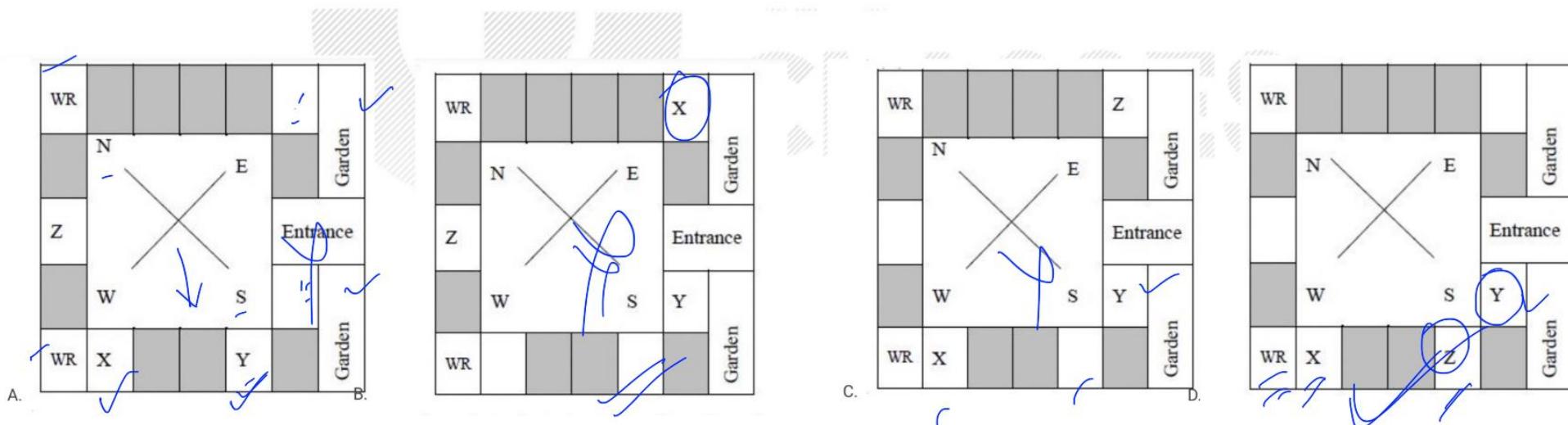
Request by X: Due to pollen allergy, I want to avoid a wing next to the garden.

Request by Y: I want to live as far from the washrooms as possible, since I am very much sensitive to smell.

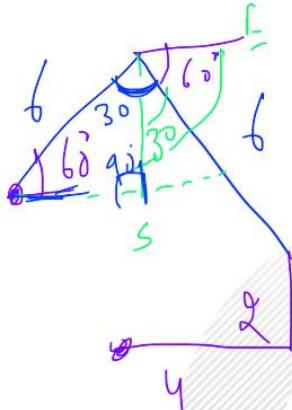
Request by Z: I believe in Vaastu and so I want to stay in South-West wing.

GATE CSE 2019

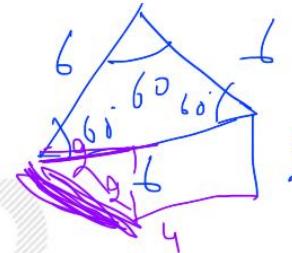
The shaded rooms are already occupied. WR is washroom



- 24.** Mr. Vivek walks 6 meters North-east, then turns and walks 6 meters South-east, both at 60 degrees to east. He further moves 2 meters South and 4 meters West. What is the straight distance in meters between the point he started from and the point he finally reached?



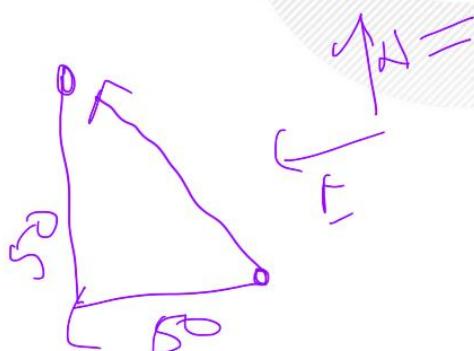
- A. $2\sqrt{2}$
- B. 2
- C. $\sqrt{2}$
- D. $1/\sqrt{2}$



GATE CE 2015

$$\sqrt{4+4} = \boxed{2\sqrt{2}}$$

- 25.** The front door of Mr. X's house faces East. Mr. X leaves the house, walking 50 m straight from the back door that is situated directly opposite to the front door. He then turns to his right, walks for another 50 m and stops. The direction of the point Mr. X is now located at with respect to the starting point is __

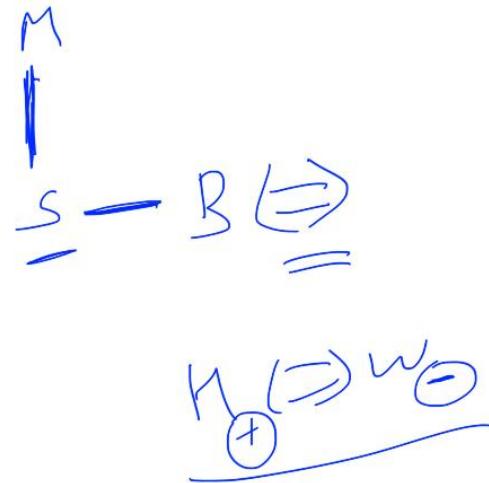
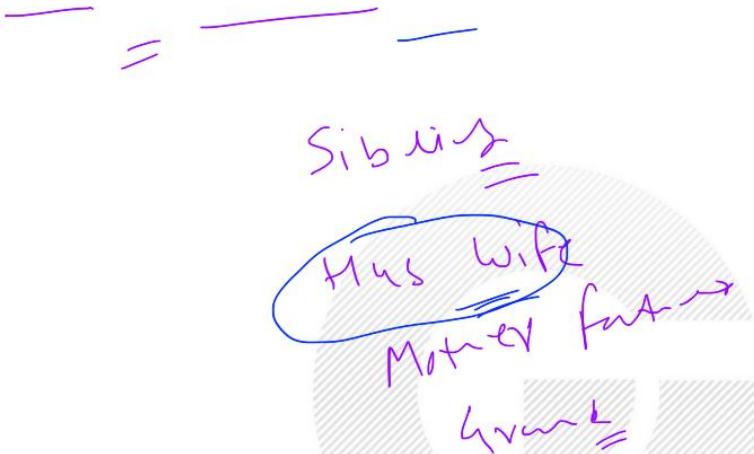


- A. South-East
- B. North-East
- C. West
- D. North-West



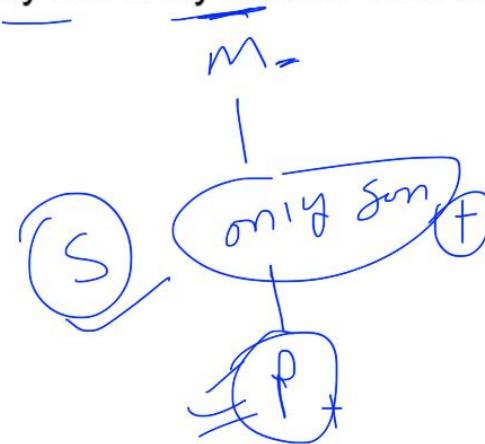
GATE ME 2021

Blood Relation



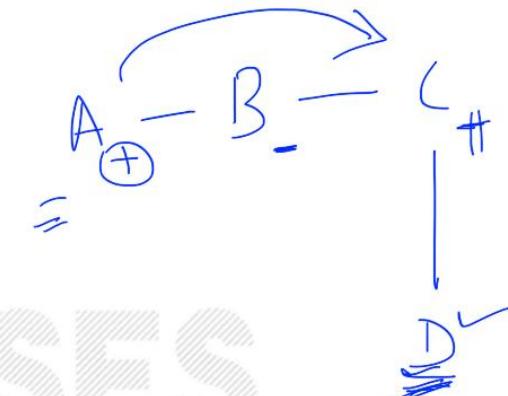
26. Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother." How is Suresh related to that boy?

- A. Brother
- B. Uncle
- C. Cousin
- D. Father



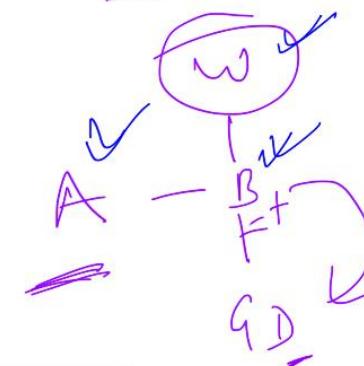
27. If A is the brother of B; B is the sister of C; and C is the father of D, how D is related to A?

- =
- A. Brother
 - B. Sister
 - C. Nephew
 - D. Cannot be determined



28. Pointing to a woman, Abhijit said, "Her granddaughter is the only daughter of my brother." How is the woman related to Abhijit?

- =
- A. Sister
 - B. Grandmother
 - C. Mother-in-law
 - D. Mother



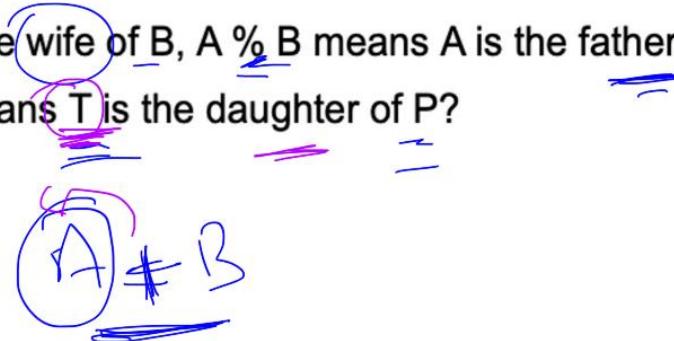
29. If $A + B$ means A is the sister of B; $A \times B$ means A is the wife of B, $A \% B$ means A is the father of B and $A - B$ means A is the brother of B. Which of the following means T is the daughter of P?

A. $P \times Q \% R + S - T$ ✗

B. $P \times Q \% R - T + S$ ✗

C. $P \times Q \% R + T - S$ ✗

D. $P \times Q \% R + S + T$ ✗



Directions to Solve

Each of these questions is based on the following information:

1. $M \% N$ means M is the son of N.



2. $M @ N$ means M is the sister of N.



3. $M \$ N$ means M is the father of N.



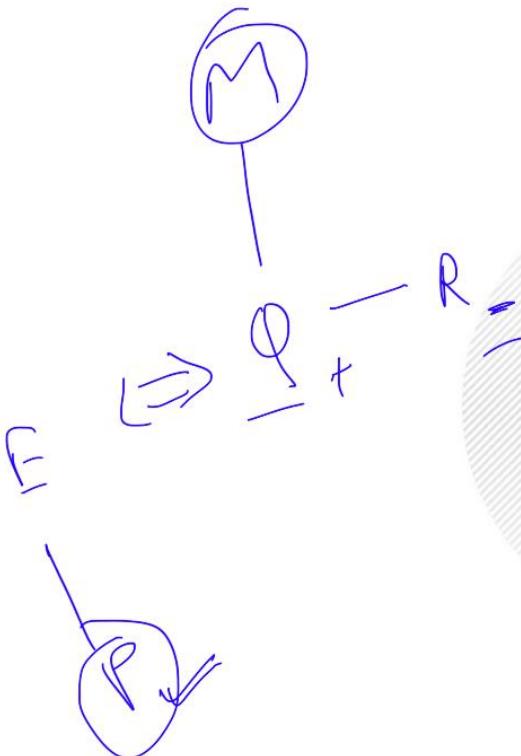
30. Which of the following shows the relation that C is the granddaughter of E?

- A. ~~C % B \\$ F \\$ E~~
- B. ~~B \\$ F \\$ E % C~~
- C. ~~C @ B % F % E~~
- D. ~~E % B \\$ F \\$ C~~

31. Which of the following shows the relation that S is the father of Q?

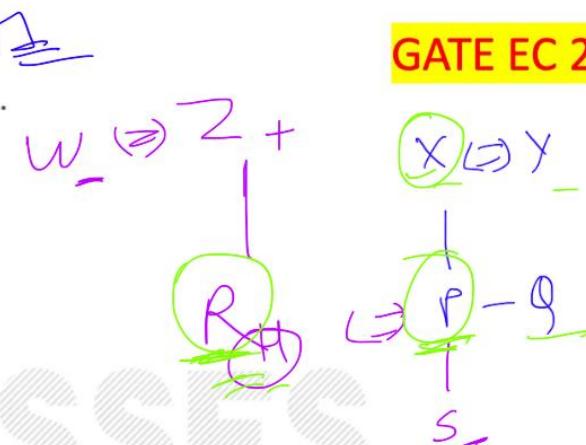
- A. ~~S @ P \\$ Q~~
- B. ~~Q @ P % S~~
- C. ~~Q \\$ S @ P~~
- D. ~~None of these~~

32. M has a son Q and a daughter R. He has no other children. E is the mother of P and daughter-in-law of M. How is P related to M?



- A. P is the son-in-law of M.
- B. P is the grandchild of M. A
- C. P is the daughter-in law of M.
- D. P is the grandfather of M.

GATE EC 2016

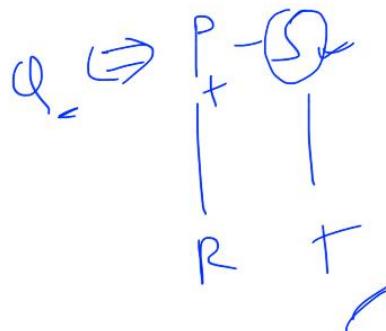


33. Each of P, Q, R, S, W, X, Y and Z has been married at most once. X and Y are married and have two children P and Q. Z is the grandfather of the daughter S of P. Further, Z and W are married and are parents of R. Which one of the following must necessarily be FALSE?

- A. X is the mother-in-law of R X
- B. P and R are not married to each other X
- C. P is a son of X and Y X
- D. Q cannot be married to R X

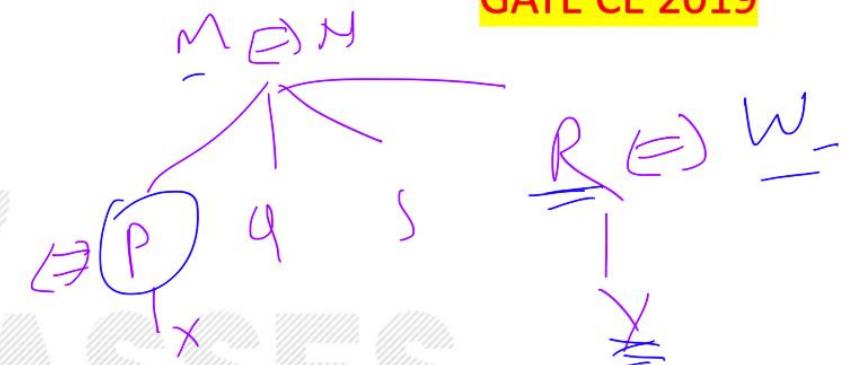
GATE EC 2017

34. *P, Q, R, S and T are related and belong to the same family. P is the brother of S, Q is the wife of P. R and T are the children of the siblings P and S respectively. Which one of the following statement is necessarily FALSE?*



- A. S is the aunt of R
- B. S is the aunt of T *(AB)*
- C. S is the sister-in-law of Q
- D. S is the brother of P

GATE CE 2019



35. *M and N had four children P, Q, R and S. Of them, only P and R were married. They had children X and Y respectively. If Y is a legitimate child of W, which of the following statements is necessarily FALSE?*

- A. M is the grandmother of Y
- B. R is the father of Y
- C. W is the wife of R
- D. W is the wife of P *(AB)*

GATE ME 2019

Coding Decoding

A - 1	E - 5	{}
B - 2	F - 6	
C - 3	G - 7	
D - 4	H - 9	

✓

5	10	15	20	25
E	J	O	T	Y

P → 16

36. In a code, CORNER is written as GSVRIV. How can CENTRAL be written in that code?

- A. DFOUSBM
- B. GIRXVFP
- C. GNFIJKER
- D. None of these

✓

5 11 12 13
4 3 15 16 14 5 10
7 9 19 22 18 9 22
G S V R I V

37. In a certain code, TRIPPLE is written as SQHOOKD. How is DISPOSE written in that code?

- A. CHRONRD
- B. DSOESPI
- C. ESJPTPF
- D. ESOPSID

CHRONRD

5 10 15 20 25
E J O T J

38. In a certain code, SOCIAL is written as TQFMFR, then how you will code DIMPLE?

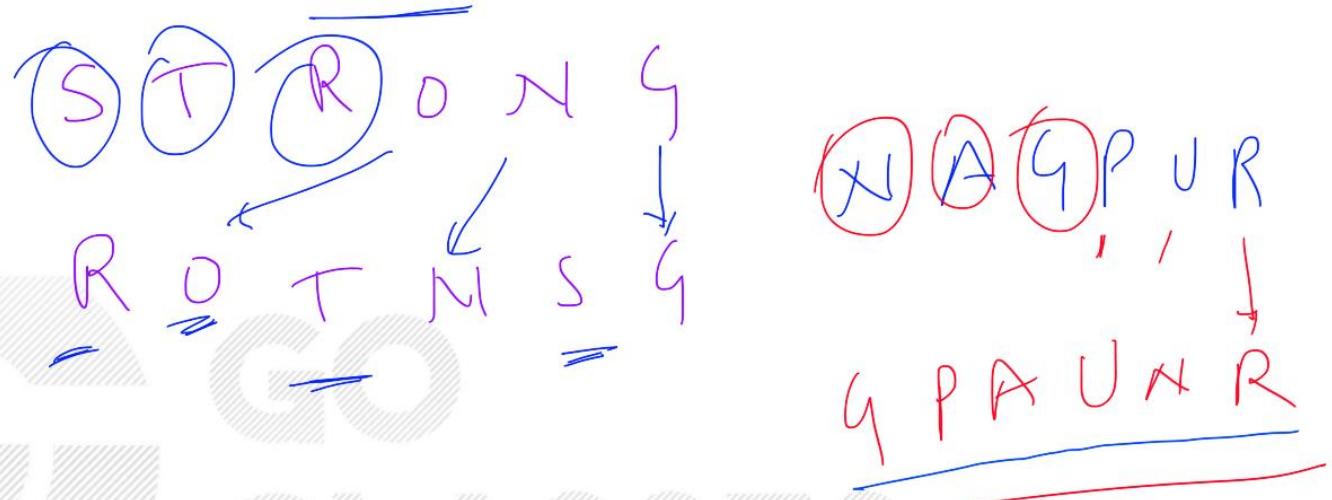
- A. EKPTOK
- B. EKPQPJ
- C. EKPSPJ
- D. EKPSOH

+1 +2 +3 +4 --

5 11 16 20 17 11
E K P T Q K

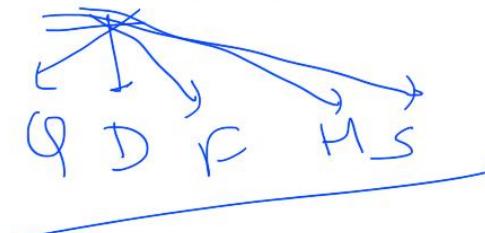
39. If **STRONG** is written as **ROTNSG**, then how would **NAGPUR** be written in the same code?

- A. PGAURN
- B. GPUANR
- C. PGUARN
- D. GPAUNR



40. In a certain code, **MONKEY** is written as **XDJMNL**. How is **TIGER** written in that code?

- A. SDFHS
- B. SHFDQ
- C. QDFHS
- D. UJHFS



41. In a certain code 'mystery of better life' is written as '53 97 79 21', 'life is a mystery' is written as '24 27 79 53' and 'she is playing better' is written as '24 21 12 22'. How is 'life' written in that code language?

- (A) 97
- (B) 21
- (C) 22
- (D) Data inadequate

Myst^{ry} → 53, 79
Life → 21
better → 21
p_j → 24

$$2+1+20+2+12+5 \Rightarrow \underline{\underline{60}}$$

Battle

$$\checkmark M + 16 + 20 + 16 + 16 = \underline{\underline{03}}$$

42. If Code of Battle is 6 then code of Motor is..?

$$6+0 \Rightarrow \underline{\underline{6}} \rightarrow \text{E J U T Y} \rightarrow \underline{\underline{(2) A 1}}$$

$$\checkmark (1) \Rightarrow 1+1 \Rightarrow \underline{\underline{(2) 4 6}}$$

43. If Code of Mobility is 46293927 then code of Examination is..?

44. If 'KCLFTSB' stands for 'best of luck' and 'SHSWDG' stands for 'good wishes', which of the following indicates 'ace the exam'? —

- A. MCHTX
- B. MXHTC
- C. XMHCT
- D. XMHTC

Mxhtc

GATE EC 2014

45. In a certain code, AMCF is written as EQGJ and NKUF is written as ROYJ. How will DHLP be written in that code? —

- A. RSTN
- B. TLPH
- C. HLPT
- D. XSVR

M

15
16

GATE EE 2018

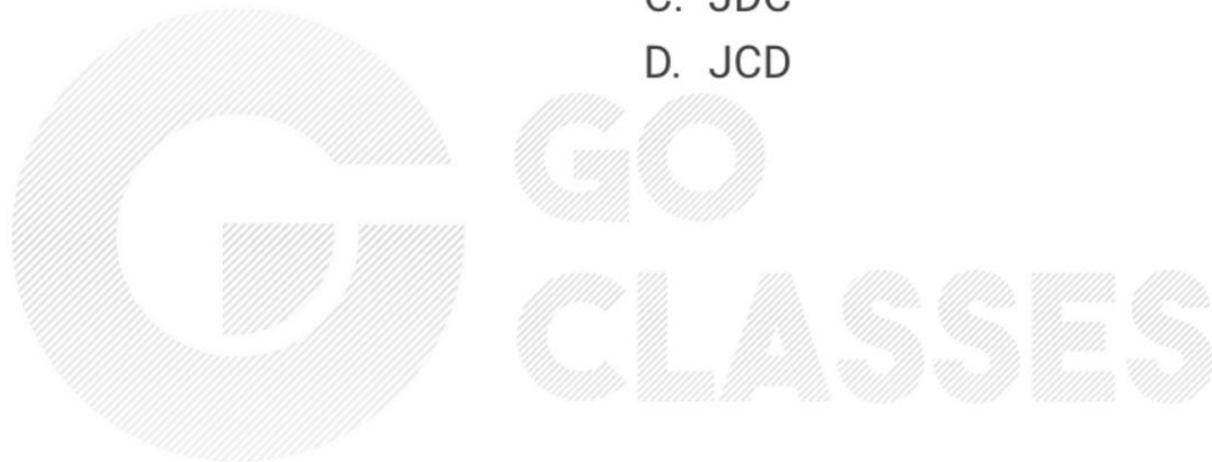
46. If IMHO=JNIP; IDK=JEL; and SO=TP, then IDC=_____

- A. JDE
- B. JED
- C. JDC
- D. JCD

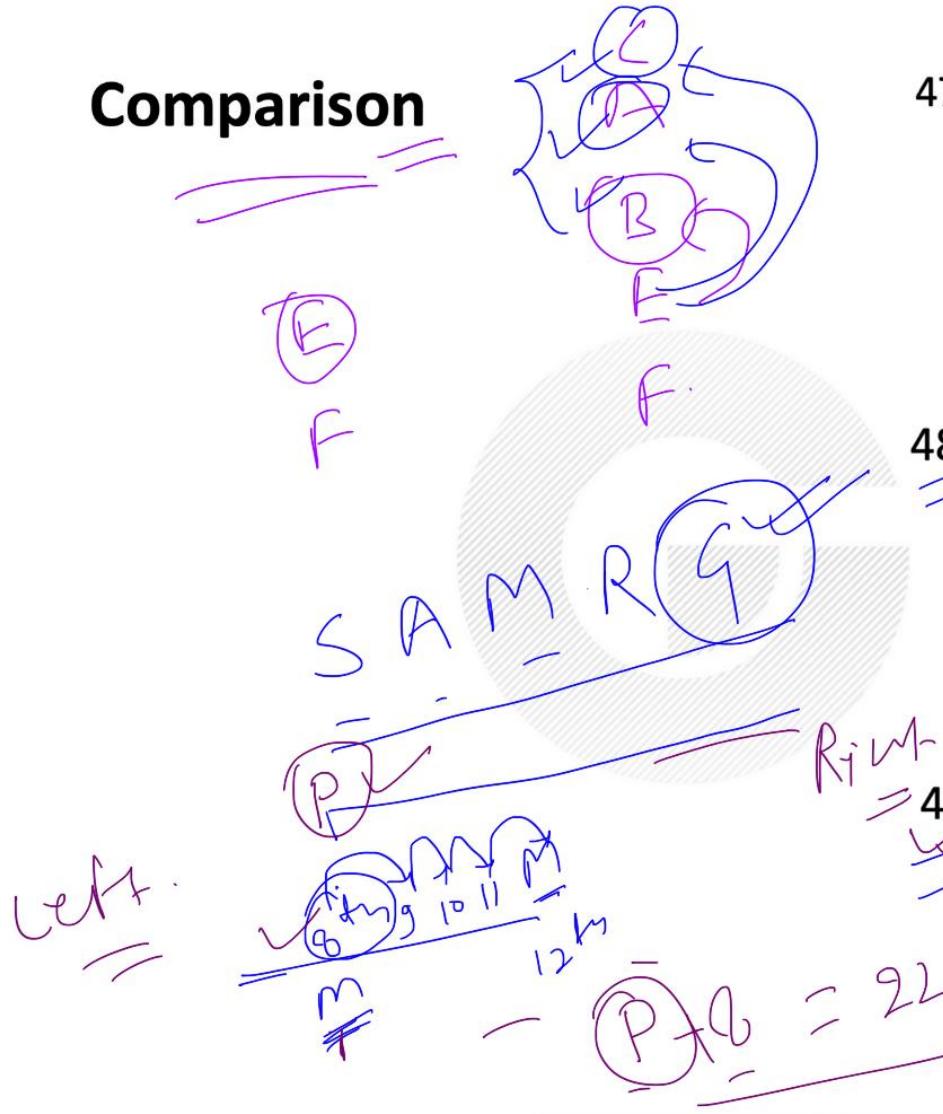
AZ

JED

GATE ME 2019



Comparison



47. If A is higher than B and C is higher than A, then E is higher than F but shorter than B

than who is higher than E?

Then

A

B

C

F

48. Five Boys take part in a race. Raj finished before Mohit but behind Gaurav. Ashish finished before Sanchit but behind Mohit. Who won the race.

Gaurav

49. In a Row of 21 girls, when Monica shifted by 4 places towards right she became 12th from left. Find her earlier position from right end of the row.

$$P = 14 \text{ by } 2$$

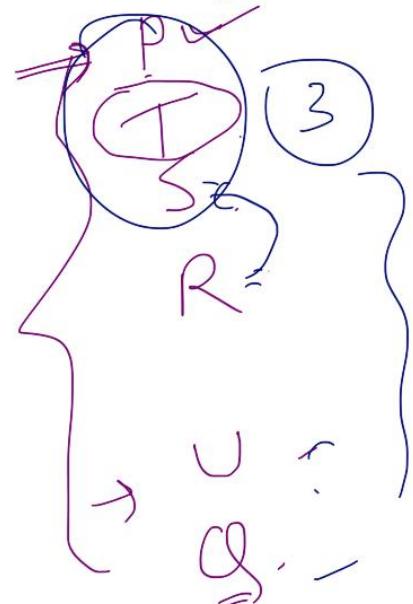
50. Six students P, Q, R, S, T and U, with distinct heights, compare their heights and make the following observations.

- Observation I: S is taller than R.
- Observation II: Q is the shortest of all.
- Observation III: U is taller than only one student.
- Observation IV: T is taller than S but is not the tallest

The number of students that are taller than R is the same as the number of students shorter than _____.

✓

- A. T
B. R
~~C. S~~
D. P
=



GATE CSE 2021

51. Hari(H), Gita(G), Irfan(I) and Saira(S) are siblings (i.e., brothers and sisters). All were born on 1st January. The age difference between any two successive siblings (that is born one after another) is less than three years. Given the following facts:

- i. Hari's age + Gita's age > Irfan's age + Saira's age
- ii. The age difference between Gita and Saira is one year. However Gita is not the oldest and Saira is not the youngest.
- iii. There are no twins.

In what order they were born (oldest first)?

- A. HSIG
- B. SGHI
- C. IGSH
- D. IHSG

$$\begin{array}{l} \cancel{G} - S = 1 \\ \cancel{S} - G = 1 \end{array}$$

GATE CSE 2010

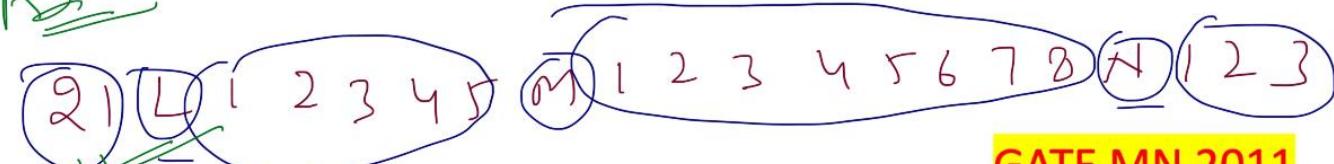
$$H + G > I + S$$

$$H + I > S \rightarrow H > S$$

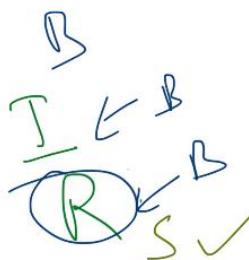
$$H > I$$

52. L, M and N are waiting in a queue meant for children to enter the zoo. There are 5 children between L and M, and 8 children between M and N. If there are 3 children ahead of N and 21 children behind L, then what is the minimum number of children in the queue?

- A. 28
- B. 27
- C. 41
- D. 40



GATE MN 2011



53. Ravi is taller than Arun but shorter than Iqbal. Sam is shorter than Ravi. Mohan is shorter than Arun. Balu is taller than Mohan and Sam. The tallest person can be

- A. Mohan
- B. Ravi
- C. Balu
- D. Arun



GATE AR 2012

54. In a group of four children, Som is younger to Riaz. Shiv is elder to Ansu. Ansu is youngest in the group. Which of the following statements is/are required to find the eldest child in the group?



Statements

1. Shiv is younger to Riaz. ✓

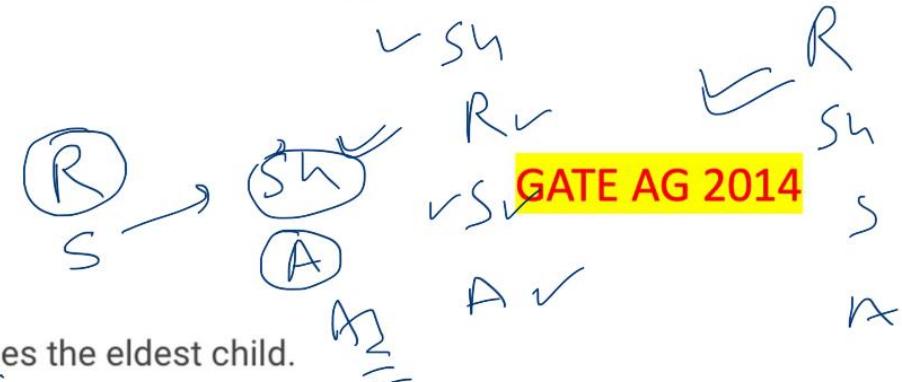
2. Shiv is elder to Som.

A Statement 1 by itself determines the eldest child.

B. Statement 2 by itself determines the eldest child.

C. Statements 1 and 2 are both required to determine the eldest child.

D. Statements 1 and 2 are not sufficient to determine the eldest child.



55. In which of the following options will the expression $P < M$ be definitely true?

A. $M < R > P > S$

B. $M > S < P < F$

C. $Q < M < F = P$

D. $P = A < R < M$

GATE EC 2014

Series ✓

56. $2, 1, \left(\frac{1}{2}\right), \left(\frac{1}{4}\right), \dots$

\equiv



57. 7, 10, 8, 11, 9, 12, ... (10) ✓ ✓ ✓ EJU

58. $\overbrace{53, 53}^{\text{1st}}, \overbrace{40, 40}^{\text{2nd}}, \overbrace{27, 27}^{\text{3rd}}, \dots$

$$59. \quad 113, 85, 61, 41, \overset{25}{\dots}, 13, 5$$

~~A_2~~ ~~$64 + 5 + 1$~~

~~$\frac{20}{20} \frac{24}{20} \frac{20}{16} \frac{16}{12} =$~~

~~$9 \times 1 + 1$~~

61. 
$$\begin{array}{ccccccccc} & \overset{6}{\brace{1 \quad 10}} & \overset{6}{\brace{7 \quad 20}} & \overset{6}{\brace{13 \quad 30}} & \overset{6}{\brace{19 \quad 40}} & & & \\ 61. & 1 & 10 & 7 & 20 & 13 & 30 & 19 & 40 \xrightarrow{\quad 25 \quad} \end{array}$$

$$62. F_2, \underline{F_4}, D_8, C_{16}, B_{32}, \dots A_{64}$$

63. SCD, TEF, UGH, VIJ, WKL
(5 3 205 217 9)

64. Which number does not belong in the series below?

- ~~2, 5, 10, 17, 26, 37, 50, 64~~ ~~65~~

- A. 17
B. 37
C. 64
D. 26

GATE CSE 2014

65. Find the next term in the sequence: 7G, 11K, 13M, ____.

- A. 15Q
B. 17Q
C. 15P
D. 17P

GATE EC 2014

66. The next term in the series 81, 54, 36, 24, ... is ____.

- 27 → 18 → 12 → 6 → 3 → 1.5

GATE EC 2014

67. What is the next number in the series?

- PATA - 2 =
12 → 35 → 81 → 173 → 357 → 725

GATE EC 2014

$$\begin{aligned}12 \times 2 &= 24 + 11 \\35 \times 2 &= 70 + 11 \\81 \times 2 &= 162 + 11 \\173 \times 2 &= 346 + 11 \\357 \times 2 &= 714 + 11 \\725 &\quad\end{aligned}$$

68. Fill in the missing number in the series.

GATE EC 2014

- 2 3 6 15 ____ 157.5 630