GENERAL APTITUDE

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REASONING

Analogy

Q. Pen : Pencil : Ink ::

A. Orange : Banana : Juice

B. Table : Chair : Carpenter

C. Cow : Milk : Curd

D. Fish : Shark : Water

Ans : A

Analogy

Q. Planet : Orbit :: Projectile : ?

A. Track B. Path C. Milky Way D. Trajectory

Ans D

Q. Pigeon : Peace :: White Flag : ?

A. Friendship B. Victory C. Surrender D. War

Ans C. (negotiations)

Analogy

Q. 25 : 37 :: 49 : ?

A. 41 B. 56 C. 60 D. 65

Ans : D

Analogy

Q. 5 : 35 :: ?

A. 7 : 77 B. 9 : 45 C. 11 : 55 D. 3 : 24

Ans : A

Q. 9 : 8 :: 16 : ?

A. 27 B. 17 C. 14 D. 18

Ans: A

Analogy(Assignment)

Q1. 8 : 256 :: ?

A. 7 : 343 B. 9 : 243 C. 10 : 500 D. 5 : 75

Ans C

Q2. 8 : 28 :: 27 : ?

A. 8 B. 28 C. 64 D. 65

Ans D

Q3. 3 : 11 :: 7 : ?

A. 22 B. 29 C. 18 D. 51

Ans D

Analogy(Assignment)

Q1. Newspaper : Press :: Cloth : ?

A. Tailor B. Textile C. Factory D. Mill

Ans D

Q2. Train : Track ::

A. Idea : Brain B. Bullet : Barrel

C. Water : Boat D. Fame : Television

Ans B

Q3. Fear : Threat :: Anger : ?

A. Compulsion B. Panic C. Provocation D. Force

Ans C

Odd One out

Q. Find the odd one out:

A. 263 B. 111 C. 551 D. 383

Ans : D

Odd One out

Q. Find the odd one out -

A. Newspaper-Editor B. Film – Director

C. Car – Driver D. Book - Author

Ans : C

Odd One out(Assignment)

Q. Find the odd one out –

A. Sprinkle - Pour
B. Happiness - Merriment
C. Mist – Fog
D. Sad – Unhappy

Ans : D

Odd One out(Assignment)

Q1. A. Curd B. Butter C. Oil D. Cheese

Ans C

Q2. A. POCG B. KLIZ C. BUDX D. FMQV

Ans D

Q3. A. 751 B. 734 C. 981 D. 862

Ans A

Q4. A. 12 B. 25 C. 37 D. 64

Ans C

Q5. A. Arrow B. Axe C. Dagger D. Sword E. Knife

Ans : A

Coding Decoding(A-Z)

Q. In a coded language “SHOWER” is coded as “RHWOES”. What is the code for “FATHER”?

A. RHAEFT B. RAHTEF C. RTHAEF D. THAREF

Ans : B

Coding Decoding(A-Z)

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

Z Y X W V U T S R Q P O N .....Reverse order of Alphabet

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z .....Forward order of Alphabet

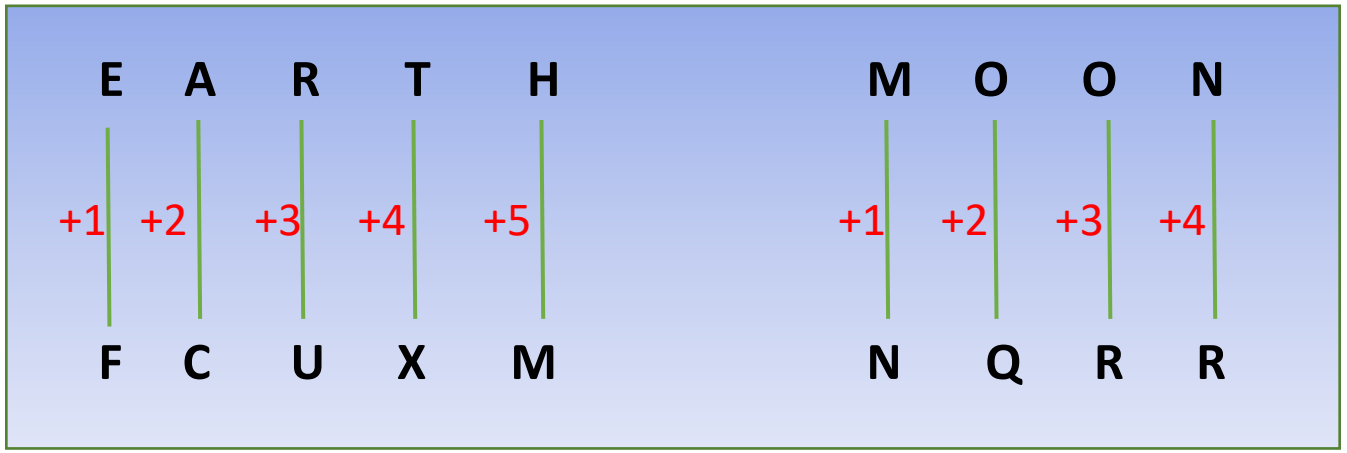
Q. DIRECT : WRIVXG :: SOME : _____

A. RPQS B. HNLK C. HLNV D. VNOP

Ans: C

Coding Decoding(A-Z)

Q. If EARTH is written as FCUXM in a certain code. How is MOON written in that code?



Q. If DELHI is written as EDMGJ in a certain code. How is NEPAL written in that code?

A. ODQZM B. FENHK C. OFQBM D. EFMIJ

Ans: A

Coding Decoding(A-Z)(Assignment)

Q. If “PATHOLOGY” is coded as “HTAPOYGOL”, then what is the code for “PROGRAMME”?

A. GORPREMMA B. GOREPRMMA

C. GORREPMMA D. ROGEPRMMA

- **Ans : A**

Coding Decoding(Assignment)

Q1. BANK : CBOL :: GROVE : _____

A. SPOMP B. HSPWF C. EVORG D. PSWFH

Ans : B

Q2. LARGE : NCTIG :: QUIET : _____

A. SWKGV B. GKVWS C. RPQMN D. TEIUG

Ans A

Coding Decoding(Assignment)

Q. RATES : ENGRF :: DWELT : _____

A. PRSTA B. RYJYM C. QJRYG D. RJMKN

Ans: C

Coding Decoding(Assignment)

Q. In a certain language, CHENNAI is coded as DGFMOZJ. How is MUMBAI coded in the same language ?

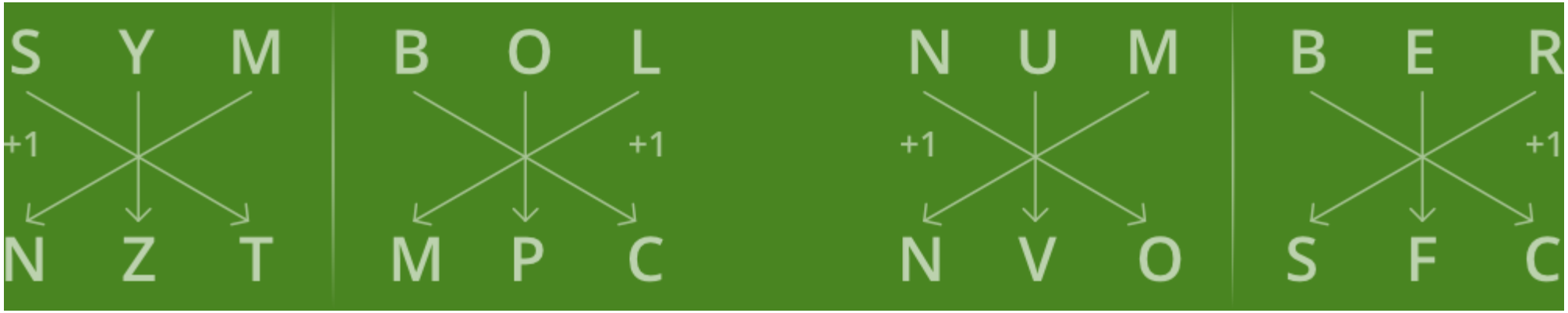
A. NTNABH **B.** LVLCZJ **C.** LTLCBH **D.** NVNCBJ

Ans: A

Coding Decoding(Assignment)

- If SYMBOL is written as NZTMPC is a certain code. How is NUMBER written in that code?

Ans: NVOSFC



Coding Decoding(Assignment)

Q1: If in a certain language, MADRAS is coded as NBESBT, how is BOMBAY coded in that code?

A. CPNCBX B. CPNCBZ C. CPOCBZ D. CQOCBZ E. None of these

Ans: B

Q2: In a certain code, TRIPPLE is written as SQHOOKD. How is DISPOSE written in that code?

A. CHRONRD B. DSOESPI C. ESJTPTF D. ESOPSID E. None of these

Ans: A

Q3: If in a code language. COULD is written as BNTKC and MARGIN is written as LZQFHM, how will MOULDING be written in that code?

A. CHMFINTK B. LNKTCHMF C. LNTKCHMF D. NITKHCMF E. None of these

Ans: C

Coding Decoding(Assignment)

Q4: In a certain code, MONKEY is written as XDJMNL. How is TIGER written in that code?

A. QDFHS B. SDFHS C. SHFDQ D. UJHFS E. None of these

Ans: A

Q5: If FRAGRANCE is written as SBHSBODFG, how can IMPOSING be written?

A. NQPTJHOJ B. NQPTJOHI C. NQTPJOHJ D.NQPTJOHJ E. None of these

Ans: D

Coding Decoding(Assignment)

In a certain code, POETRY is written as QONDSQX and OVER is written as PNUDQ. How is MORE written in that code language?

A. LNNQD

B. NNNQD

C. NLNQD

D. NLPQD

E. None of these

Ans: C

(The first letter of the word is replaced by a set of two letters - one following it and the other preceding it - in the code. The remaining letters of the word are each moved one step backward)

Series-Numerical

- **Series** : In case of a series there may not be a particular formula but the terms have definite relationship which has to be recognized.
- **Difference or Sum Type Series**

1, 4, 10, 19, 31, ?

Difference between 2 terms increases in multiples of 3

- **Cumulative Series**

1, 3, 4, 7, 11, 18….

Each term is the addition of the previous terms.

- **Power Series**

0, 6, 24, 60, 120, ….

Here each term is defined as $n^3 - n$

- **Alternate Series**

1, 5, 9, 10, 25, 15, 49,….

Consists of two series of alternate terms having relationship.

Puzzle Test

Q. If 'paper' is called 'wood', 'wood' is called 'straw', 'straw' is called 'grass', 'grass' is called 'rubber' and 'rubber' is called 'cloth', what is furniture made up of -

A. grass B. straw C. wood D. paper

Ans: B

Puzzle Test(Assignment)

- If white is called blue, blue is called red, red is called yellow, yellow is called green, green is called black, black is called violet and violet is called orange, what would be the colour of human blood ?
- A. Red B. Green C. Yellow D. Voilet E. Orange
- **Ans: C**

- If sky is called sea, sea is called water, water is called air and air is called cloud, then what do we drink when thirsty?

A. Sky B. Air C. Water D. Sea

Ans: B

Puzzle Test(Assignment)

- If pen is called butter, butter is called soap, soap is called ink, ink is called honey. Which of the following is used for washing clothes?

A. Honey B. Butter C. Red D. Ink

Ans: D

- If air is called green, green is called blue, blue is called sky, sky is called yellow, then what is the colour of clear sky?

A. Yellow B. Pink C. Sky D. Water

Ans: C

Puzzle Test(Assignment)

- If train is called bus, bus is called tractor, tractor is called car, car is called scooter. Which is used to plough a field?

A. Train B. Bus C. Tractor D. Car

Ans: D

- If room is called bed, bed is called window, window is called flower and flower is called cooler. On what would a man sleep?

A. Window B. Bed C. Flower D. Cooler

Ans: A

Puzzle Test(Assignment)

- If book is called watch, watch is called bag, bag is called bottle and bottle is called window. Which is used to carry the books?

A. Bottle B. Bag C. Book D. Watch

Ans: A

- If fork is called glass, glass is called tray, tray is called bucket, then what is used to drink water?

A. Fork B. Glass C. Tray D. Bucket

Ans: C

Linear Arrangement

Five friends are sitting on a bench.

Sunil is sitting next to Sunita & Sanjay is next to Bindu.

Bindu is not sitting with Sumit. Sumit is on the left end of the bench & Sanjay is on the second position from the right.

Sunil is on the right of Sunita & Sunita on the right side of Sumit. Sunil & Sanjay are sitting together.

Based on the above data, answer the following:

1	2	3	4	5
Sumit	Sunita	Sunil	Sanjay	Bindu

Q1. Who occupies the centre position?

A. Sumit B. Sunil C. Sanjay D. Bindu

Ans: B

Q2 Sunil is sitting between

A. Sunita & Bindu B. Sumit & Bindu C. Sunita & Sanjay D. Sanjay & Sumit

Ans: C

Q3. Sumit is sitting on the

A. second place from right B. extreme left C. second place from left D. extreme right

Ans: B

Q4. Sunita is sitting how many places away from Bindu?

A. 1 B. 4 C. 2 D. 5

Ans: C

Linear Arrangement(Assignment)

Q. A, B, C, D, E, F & G are sitting on a wall all facing east. C is immediate to the right of D. B is at an extreme end and has E as his neighbor. G is between E and F. D is sitting third from the south end. Who are D's neighbors?

A. C,E B. A,C C. C,F D. A,F

Ans: C

Circular Seating Arrangement

Q. A group of 8 members sit in a circle facing towards the centre. D is between A & F & D is opposite to G. E is to the right of A but E is on the left of C, C whose right hand neighbour is G. B has H to his left & F to his right.

Who is diagonally opposite to A?

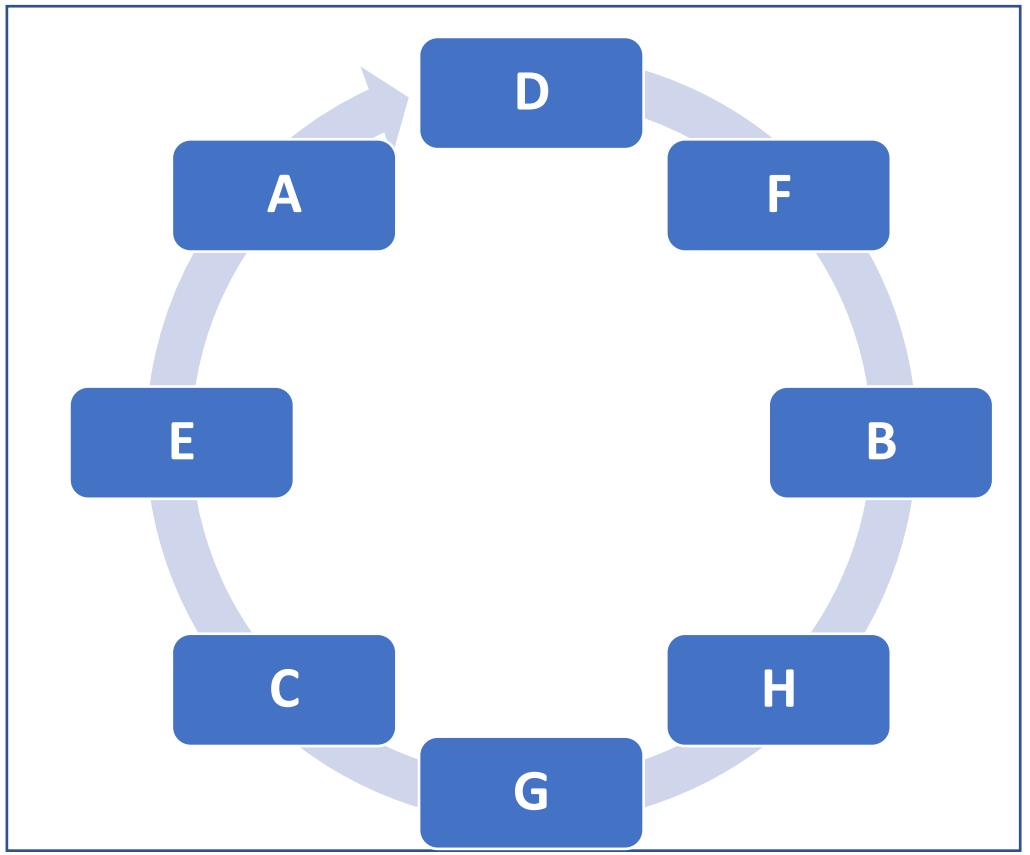
A. B B. F C. G D. H

Ans: D

Who is to the right of D?

A. B B. G C. A D. H

Ans: C



Circular Seating Arrangement(Assignment)

Q. Six friends are playing a card game on a round table. Subodh is to the right of Prabodh. There is one person between Sudha and Uma. Prabir is between Subodh & Uma & second to the left of Alok.

Who is to the right of Sudha?

A. Prabodh B. Uma C. Alok D. Prabir

Ans : A

Who is diagonally opposite of Prabir?

A. Prabodh B. Uma C. Sudha D. Prabir

Ans : C

Matrix Arrangement

Q. There are 6 friends A,B,C,D,E & F. Each one is proficient in one of the games, namely, Badminton, Volleyball, Cricket, Hockey, Tennis & Polo. Each owns a different colored car, namely, yellow, green, black, white, blue & red. D plays Polo & owns a yellow car. C does not play either Tennis or Hockey & owns neither Blue nor Yellow car. E owns a White car & plays Badminton. B does not play Tennis, he owns a Red car. A plays Cricket & owns a Black car.

Q1. Who plays Volleyball?

A. B B. C C. F D. Data Inadequate

Ans : B

Q2. What is the color of F's car?

A. Green B. Blue C. Red D. Either Green or Blue.

Ans : B

Matrix Arrangement(Assignment)

There are 5 people each of whom wear only one of five different brands of shirts.
Five people --- A, B, C, D & E
Five brands --- Parx, Allen Solly, Newport, Arrow & Excalibur
1] A does not wear Allen Solly or Excalibur.
2] D wears Newport or Allen Solly.
3] C wears Parx.
4] B does not wear Arrow, Newport or Excalibur.

Q1. Who wears Excalibur?
A. A B. E C. B D. D
Ans: B

Q2 What does D wear?
A. Arrow B. Allen Solly C. Newport D. Excalibur
Ans: C

Coding Decoding

Q. If in a certain language "sing and play" is coded as "ra pa le", "I play football" is coded as "pa se fa" and "she can sing" is coded as "te ra ba" then what is the code for the word "and" in the code language?

A. le B. se C. fa D. te

Ans : A

Coding Decoding(Assignment)

Q. Study the given information and select the most appropriate term for 'save more money'
'time and money' is coded as 'tis nim jes'
'manage money judiciously' is coded as 'lop xer nim'
'save more time' is coded as 'jes kib dob'
'save enough judiciously' is coded as 'xer kib hix'.

A. nim hix kib
B. jes nim dob
C. kib nim dob
D. none of these

Ans: C

Coding Decoding(Assignment)

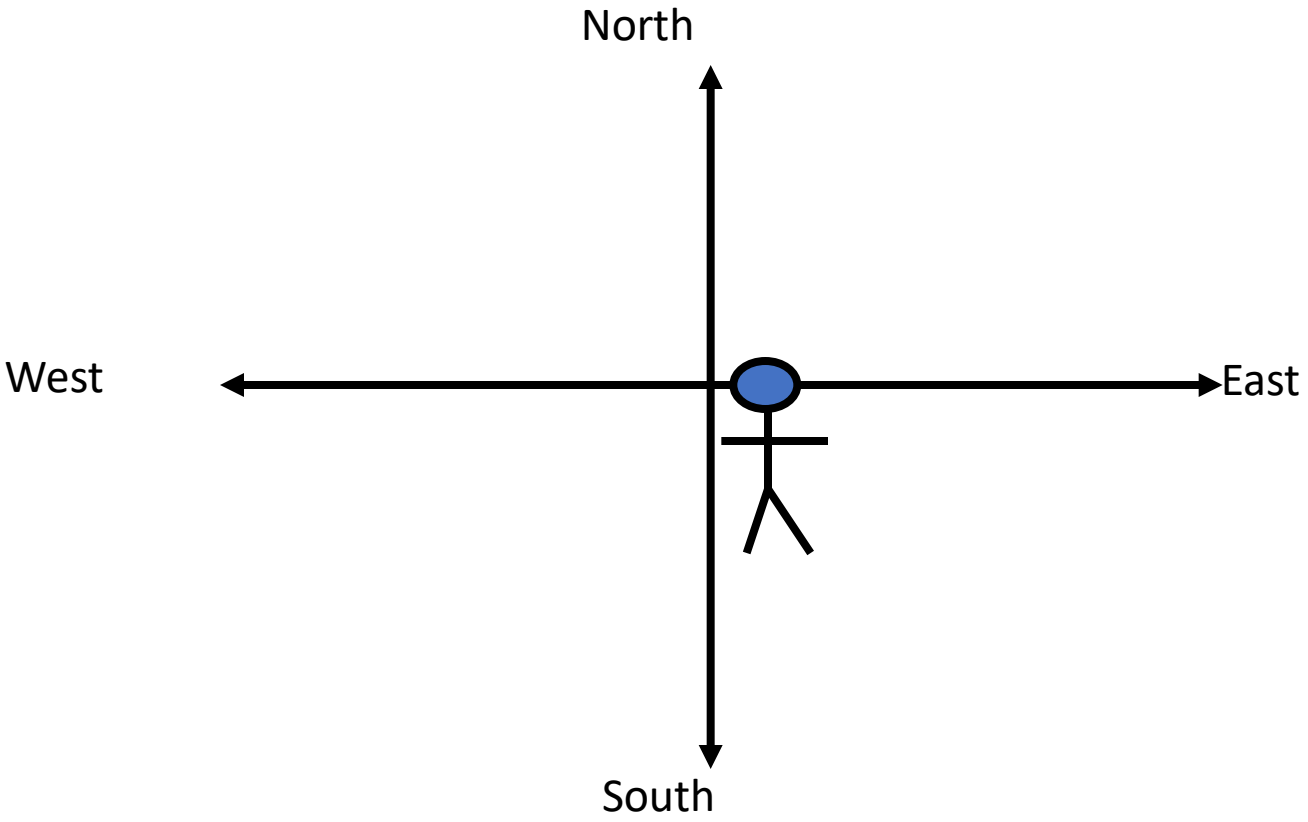
- In a secret code,
- 762= shoes are old
- 248 = grandpa is old
- 573 = buy good shoes.
- What stands for 'are' in this code?
- A. 2 B. 4 C. 6 D. 8
- **Ans: C**

Directions

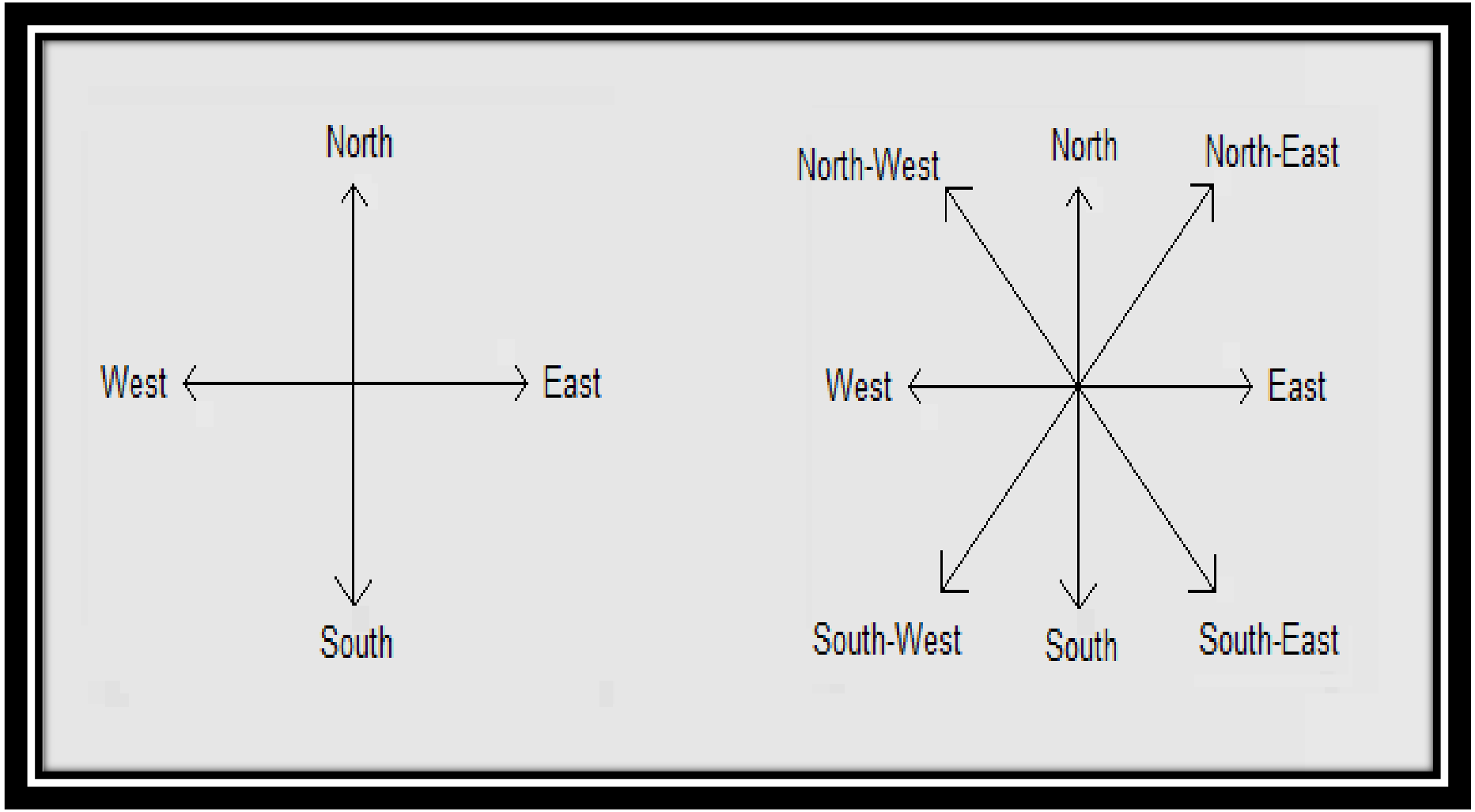
The key to solving these problems is **getting your directions right.**

It is the person's right or left not yours. The key is to think that you are walking as per the directions given in place of the man.

Visualize.



Directions


North
West
East
South
North-West
North
North-East
West
East
South-West
South
South-East

Directions

Q. A walks 10m in front and 10m to the right. Then every time turning to his left, he walks 5, 15 and 15m respectively. How far is he now from his starting point and facing in which direction?

A. 5m south B. 15m north

C. 5m north D. 15m south

Ans : A

Directions

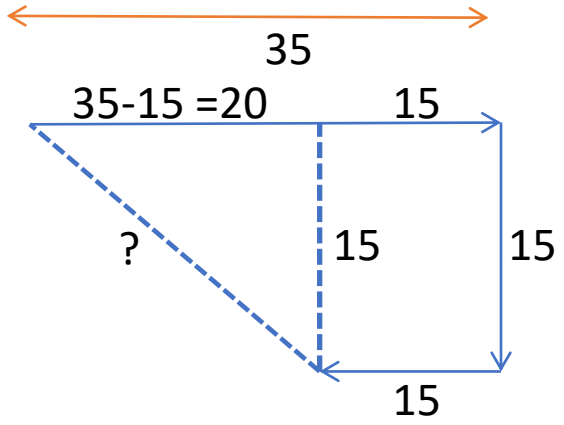
Q. I start walking towards east and after 35 metres turn right and walk another 15 metres and again turn right and walk further 15 metres and stop. What is the minimum distance I have to walk to get to my starting point?

A. 25 metres B. 30 metres C. 35 metres D. 20 metres

Ans: A

"**In a right-angled triangle, the square of the hypotenuse side is equal to the sum of squares of the other two sides**", **hypotenuse** is the longest side, as it is opposite to the angle 90°

Hypotenuse^2 = Perpendicular^2 + Base^2



By Pythagoras Theorem –

Min dist =$\sqrt{(20^2+15^2)}$

= $\sqrt{400+225}$

= $\sqrt{625}$

= 25

Directions(Assignment)

Q. Starting from a point x Ramu walked 25 meters towards the west he turned to his left and walked 30 meters he then turned to his left and walked 25 meters he then further turned to his right and walked 12 meters how far is Ramu from the point x and in which direction?

A. 42 m south B. 47 m east C. 42 m north D. 27 m south

Ans : A

Directions(Assignment)

Q. A walks southwards then turns right, then right again and then left and again left. In which direction is he from his starting point if he walked the same distance in before each turn?

A. North-west B. South-east C. South-west D. South

Ans: C

Directions(Assignment)

Q. I am facing East. Turning to the right I go 20 m, then turning to the left I go 20 m and turning to the right I go 20 m, then again turning to the right I go 40 m and then again I go 40 m to the right. In which direction am I from my original position?

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

Ans : B

Blood Relation

List of different types of relations to solve questions based on Blood Relationships.	
Relationship	Terms
Father's son or mother's son	Brother
Father's daughter or mother's daughter	Sister
Mother's brother (younger or elder)	Maternal Uncle
Father's brother (younger or elder)	Uncle (Paternal)
Father's sister (younger or elder)	Aunt
Mother's sister (younger or elder)	Aunt
Son's wife	Daughter-in-law
Daughter's husband	Son-in-law
Sister's husband	Brother-in-law
Husband's brother or wife's brother	Brother-in-law
Brother's wife	Sister-in-law
Husband's sister or wife's sister	Sister-in-law
Husband's father or wife's father	Father-in-law
Husband's mother or wife's mother	Mother-in-law
Brother's son or sister's son	Nephew

Blood Relation

Q. ‘P+Q’ means P is the brother of Q

‘PXQ’ means P is the father of Q

‘P- Q’ means P is the sister of Q

Which of the following represents ‘S’ is the niece of ‘T’?

A. T x S + M - K

B. T + M x S - K

C. K – S x M + T

D. T x M + S - K

Ans : B

Blood Relations

Q. Pointing to a boy in the photograph, Monika said, “His sister is the only daughter of my father”. How is the boy related to Monika’s father?

A. Nephew

B. Father

C. Son

D. Brother

E. None of these

Ans: C

Blood Relations(Assignment)

Q. Introducing a man, a woman said, "He is the only son of my mother's mother." How is the woman related to the man ?

A. Mother

B. Aunt

C. Sister

D. Niece

E. None of these

Ans: D

(Mother's mother---Maternal grand mother; Maternal grand mother's only son----Maternal uncle.
So, the man is woman's maternal uncle i.e., the woman is man's niece.)

Blood Relations(Assignment)

Q. A woman introduces a man as the son of the brother of her mother. How is the man related to the woman?

A. Nephew

B. Son

C. Cousin

D. Uncle

E. Grandson

Ans: C

Blood Relations(Assignment)

Q. P and Q are sisters and R and S are brothers. P's daughter is S's sister. How is Q related to R?

A. Aunt

B. Niece

C. Nephew

D. Grandmother

Ans: A

Blood Relations(Assignment)

1. A + B means A is the brother of B
2. A × B means A is the father of B
3. A ÷ B means A is the mother of B

Which of the following would mean "G is the son of H"?
A. H × I × G
B. H + G × I
C. H ÷ G ÷ I
D. H × G + I

Ans: D

Blood Relations(Assignment)

Q. A + B means A is the son of B;
A - B means A is the wife of B;
A x B means A is the brother of B;
A ÷ B means A is the mother of B; and
A = B means A is the sister of B.
What does P = R ÷ Q mean ?

a. P is the aunt of Q.

b. P is the sister of Q.

c. Q is the niece of P.

d. Q is the daughter of P.

Ans: a

Blood Relations(Assignment)

Q. Pointing to a girl, Kirti Said, “She is the daughter of my brother’s wife”. How is the girl related to Kirti?

A. Nephew

B. Niece

C. Sister-in-law

D. Mother

E. None of these

Ans: B

Blood Relations(Assignment)

Q. A is the son of C; C and Q are sisters; Z is the mother of Q and P is the son of Z. Which of the following statements is true?

A. P and A are cousins

B. P is the maternal uncle of A

C. Q is the maternal grandfather of A

D. C and P are sisters

Ans: B

- C and Q are sisters and A is the son of C.
- C is the mother of A and Z is the mother Q.
  Hence, Z is the maternal grandmother of A.
- P is the son of Z.
- Hence, P is the maternal uncle of A.

Blood Relations(Assignment)

Q. Sherlock said to a lady sitting in a car, "The only daughter of the brother of my wife is the sister-in-law of the brother of your sister." How the husband of the lady is related to Sherlock ?

A. Maternal uncle B. Uncle C. Father D. Son-in-law

Ans: D

- Sherlock’s son-in-law is the brother of the lady who was sitting in the car.
- Hence, the husband is also the son-in-law of Sherlock .

Data Sufficiency

Q. What day is the fourteenth of a given month?

I. The last day of the month is a Wednesday.

II. The third Saturday of the month was seventeenth.

A. if the data in statement I alone are sufficient

B. if the data in statement II alone are sufficient

C. if the data even in both the statement together are not sufficient

D. if the data in both the statements together are sufficient.

Ans : B

Data Sufficiency(Assignment)

Q. You must submit your application within 10 days from, the date of release of this advertisement." What is the exact date before which the application must be submitted?

I. The advertisement was released on 18th February.

II. It was a leap year.

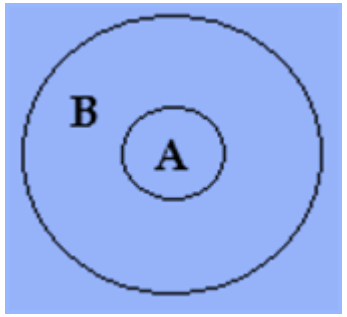
- a. If the data in statement I alone are sufficient.
- b. If the data in statement II alone are sufficient.
- c. If the data either in statement I alone or in statement II alone are sufficient.
- d. If the data given in both the statements I and II together are not sufficient.
- Answer: a

Syllogisms

- The syllogisms are just argument sentences that require deductive reasoning to arrive at some conclusions.
- **Steps to solve the Syllogism questions:-**
- Read the question thoroughly
- Start drawing the Venn diagram to make the explanation more clear and simplified.
- Follow the sequence of the question while drawing
- Analyse the conclusion from the Venn diagram
- Check for other alternative solutions at the end
- Always pay attention to words like ‘some’, ‘a few’, ‘all’, ‘atleast’, etc. These words form the base to solve the syllogism questions.
- Never assume anything while solving the syllogism questions. The only data that has to be followed while solving the question is the data mentioned in the question. No extra assumption must be made while solving questions.

Types of Syllogism

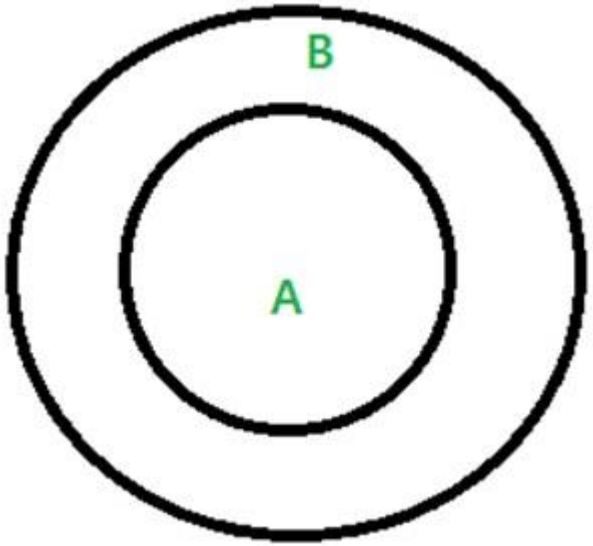
- **1. All A are B**
- A is contained in B but not necessarily vice versa.
- This means A is a subset of B, but B may not be a subset of A.



- It is visible that circle A is inside the circle B, which means that B contains the entire A, i.e. All A are B.

Example

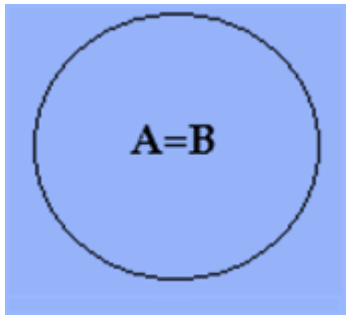
- **1) All A are B**
- Conclusions -
- Some B are A.
- Some A are B.



- **Example: All cats are animals.**
- Conclusions -
- Some animals are cats..
- Some cats are animals.

Types of Syllogism

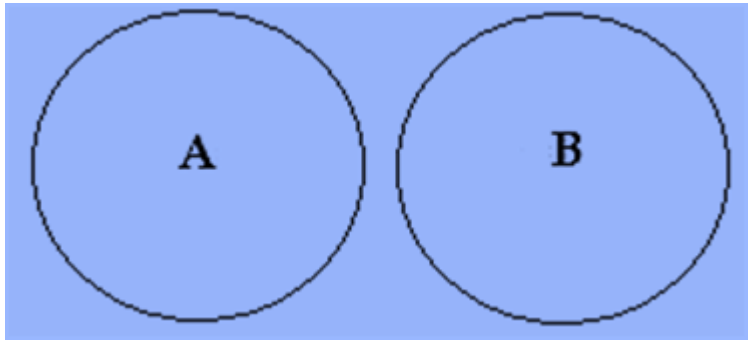
- **2. A = B**
- In this case, the conclusion is similar to the first type, i.e. “All A are B”. Here not only “All A are B”, but also “All B are A”.
- This means A is a subset of B and B is also a subset of A.



- Here A is contained in B and so is B contained in A. So, here A contains all B and again B also contains all A.

Types of Syllogism

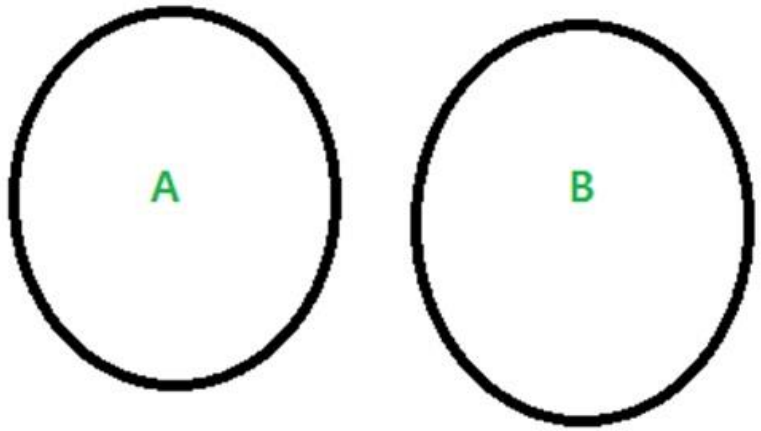
- **3. No A are B**
- B does not contain any of A and so A is not contained in B.
- This means that A and B are disjoint sets.



- Here no part of A is present inside of B and similarly, no part of A is present in A. So neither A nor B contain any part of B or A respectively.

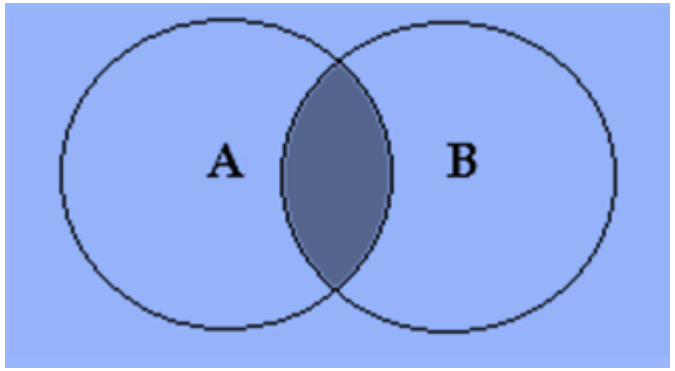
Examples

- **Example: No cats are animals.**
- Conclusions we get from the above pattern:
- No animals are cats.



Types of Syllogism

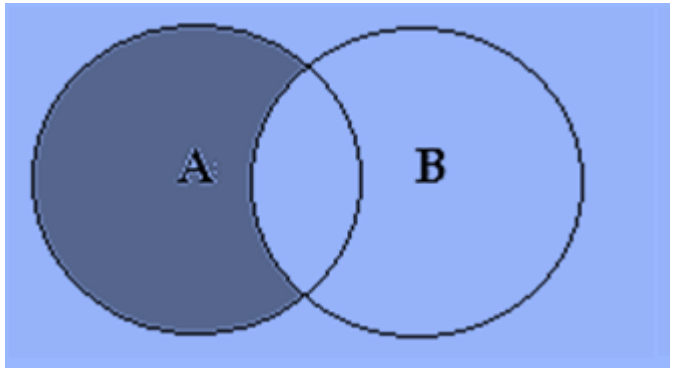
- **4. Some A are B**
- This is the case when some of A is in B that is A and B are intersecting, and thus some B are A will also be true.



- Here, the shaded portion indicates that some portion of A is contained in B while the unshaded portion is uncertain portion and does not indicate anything whether A is contained in B or not.

Types of Syllogism

- **5. Some A are not B**
- This means that some portion of A is not included in B for sure while the other part of A is uncertain whether it is included in B or not.



- Some portion of A is surely not included in B while there is no surety whether the shaded region is included in B or not.

Syllogisms

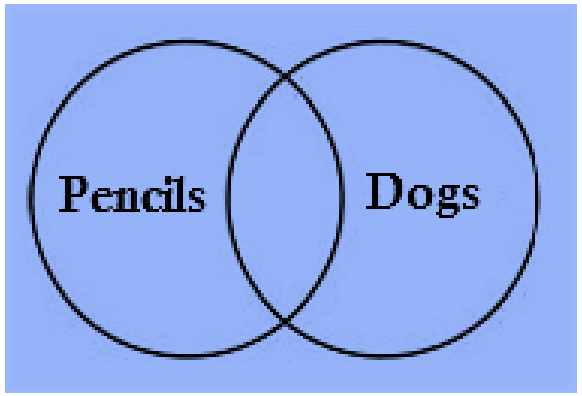
- Some rules that should be followed while solving the syllogism questions:
- Any “All” and “All” sentence will always imply an “All” conclusion.
- Any “All’ and “No” sentence will always imply a “No” conclusion.
- Any ‘All” and “Some” sentence will always imply a “No” conclusion.
- Any “Some” and “All” sentence will always imply a “Some” conclusion.
- Any “Some” and “No” sentence will always imply a “Some not’ conclusion.
- Any “Some” and “Some” sentence will always imply a “No” conclusion.

Syllogisms

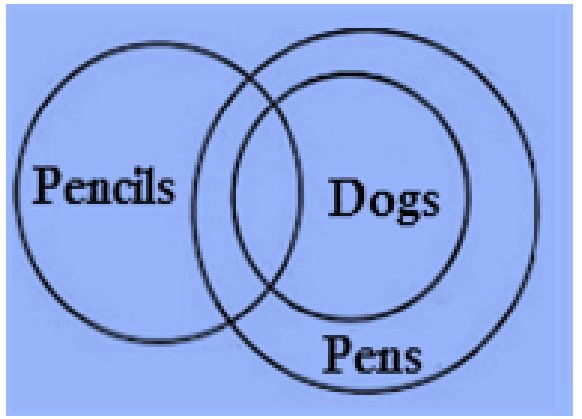
- **Statements:**
- Some pencils are dogs
- All dogs are pens
- All pens are cats

- **Conclusions:**
- All dogs are cats
- Some pens are pencils
- Some pencils are cats

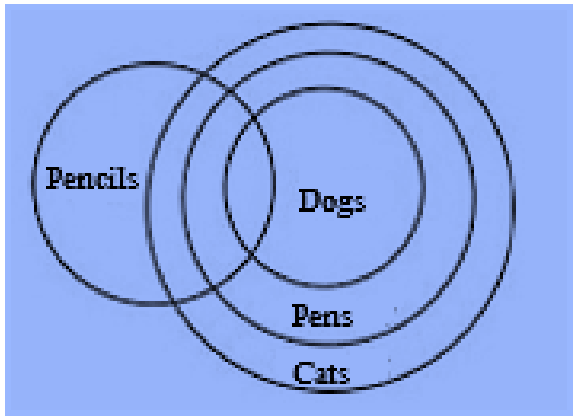
Some pencils are dogs



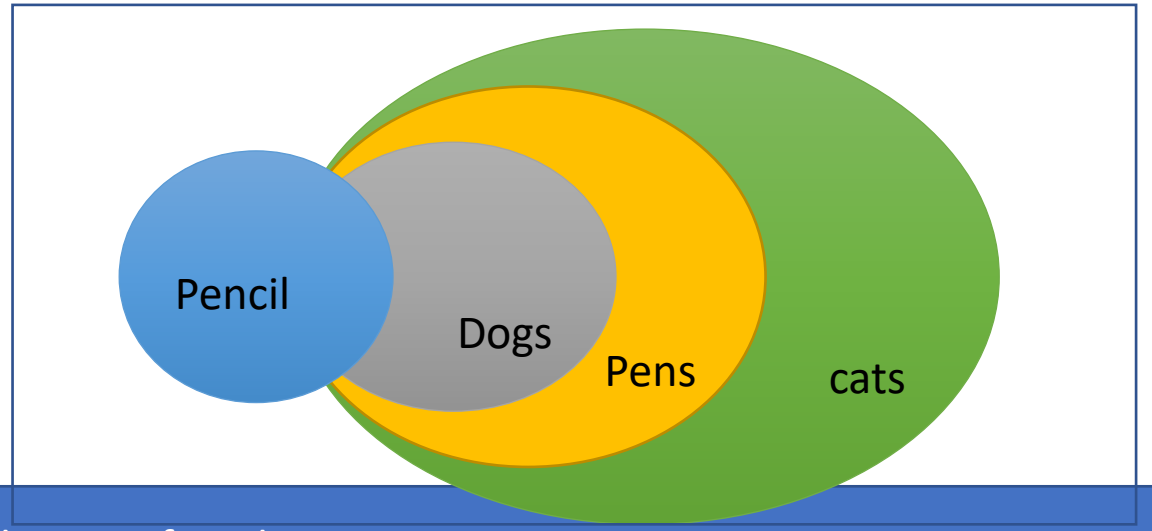
All dogs are pens



All pens are cats

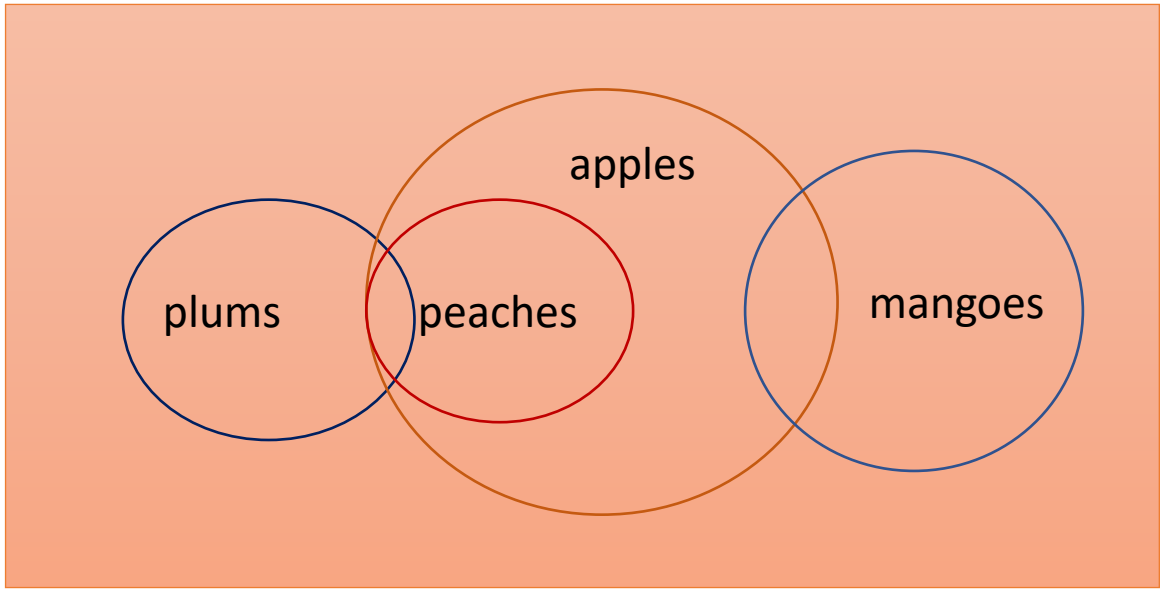


OR



Syllogisms

- **Statement I: Some plums are peaches**
- **Statement II: All peaches are apples**
- **Statement III: Some apples are mangoes**
- **Conclusion I:** Some mangoes are peaches
- **Conclusion II:** Some apples are peaches
- A. If only conclusion I follow
- B. If only conclusion II follows
- C. If conclusion I and II both follow
- D. If neither conclusion I nor conclusion II follows
- E. If either conclusion I or conclusion II follows
- **Ans: B**



Syllogisms

Q. Statements: All men are vertebrates. Some mammals are vertebrates.

Conclusions:

1. All men are mammals.

2. All mammals are men.

3. Some vertebrates are mammals.

4. All vertebrates are men.

A. Only (4)

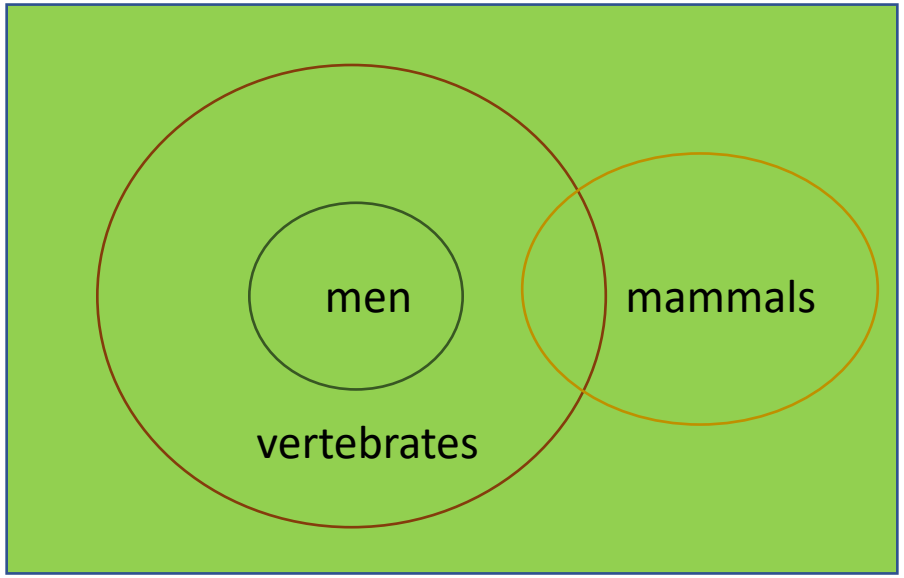
B. Only (2)

C. Only (3)

D. Only (1)

E. Only (1) and (3)

Ans: C



Miscellaneous

Q. How many such digits are there in the number 9346715 each of which is as far away from the beginning of the number as when the digits are rearranged in ascending order within the number?

A. 2 digits B. 3 digits C. 4 digits D.1 digit

Ans: A

- 9346715
- 9 - 0 places away from start
- **3 - 1 away**
- **4 - 2 away**
- 6 3 away
- 7 4 away
- 1 5 away
- 5 6 away
- 9**34**6715
- 1**34**5679
- There are **two** such digits 3 and 4 in the number 9346715 each of which is as far away from the beginning of the number as when the digits are rearranged in ascending order within the number

9346715 arranged in ascending order

1345679

1 - 0 away places away from start

3 - 1 away

4 - 2 away

5 3 away

6 4 away

7 5 away

9 6 away

Miscellaneous

Q. Arrange the given words in the sequence in which they occur in the dictionary.

1. Terrible 2. Thaw 3. Thank less 4. Testify 5. Terrain

A. 3, 4, 5, 1, 2

B. 2, 1, 5, 4, 3

C. 5, 1, 4, 3, 2

D. 2, 1, 3, 4, 5

Ans: C

- The dictionary sequence is:
- T**erra**in → T**erri**ble → T**es**tify → T**han**k less → T**haw**.

Miscellaneous

Q. BOOK coded as 32, FLOWER coded as 128 then KEYBOARD is coded as ?

A. 512 B. 256 C. 1024 D. 64

Ans: A

Soln:

Output = $2^{(\text{no.of words}+1)}$

Ranking & Ordering

Type 1 - Total persons in a queue-

Total number of persons = [Position of person from upward/right + Position of person from downward/left] – 1

Q. Arush ranks seventh from the top and twenty-sixth from the bottom in a class. How many students are there in the class?

A. 31 students B. 32 students C. 33 students D. 34 students

Ans: B

- The whole class consists of:

- |----------| Arush |----------|

  6 students 25 students

So, total students = (6 + 1 + 25) = 32 students.

Total students = [Position of person from upward/right + Position of person from downward/left] – 1

Total students = [7 + 26] – 1
= 33 – 1
= 32 students

Ranking & Ordering

Q. Arush ranks seventh from the top and twenty-sixth from the bottom in a class. How many students are there in the class?

A. 31 students B. 32 students C. 33 students D. 34 students

Ans: B

- The whole class consists of:

- |----------| Arush |----------|
  6 students 25 students

So, total students = (6 + 1 + 25) = 32 students.

Total students = [Position of person from upward/right + Position of person from downward/left] – 1

Total students = [7 + 26] – 1
= 33 – 1
= 32 students

- Total number of persons = [Position of person from upward/right + Position of person from downward/left] – 1

Ranking & Ordering(Assignment)

Q. Rahim ranks 7^{th} from the top and 28^{th} from bottom in a class. How many students are there in the class ?

A. 34 students B. 35 students C. 36 students D. 37 students

Ans: A

Total number of students = [7 + 28] – 1 = 35 – 1 = 34 students

Ranking & Ordering

Type 2 - Rank of person in a queue-

Position of person from upward = [total number of persons – position of person from down] + 1

Position of person from downward= [total number of persons – position of person from up] + 1

Position of person from right= [total number of persons – position of person from left] + 1

Position of person from left= [total number of persons – position of person from right] + 1

Ranking & Ordering

Q. Ravi is 7 ranks ahead of Sumit in a class of 39. If Sumit's rank is seventeenth from the last, what is Ravi's rank from the start?

A. 14th B. 15th C. 16th D. 17th

Ans: C

- Sol.
- So, Ravi is 24th from the last.
- |----------| Ravi |----------| Sumit |----------|
- ? 6 16
- Ravi's rank from start = [39 – 17+7)] +1 = 15 +1 = 16th
- So, Ravi is 16th from the start.

Position of person from upward = [total number of persons – position of person from down] + 1
Rank of Ravi from last(bottom) = 17+7 = 24th
Ravi's rank from start = [39 – 24)] +1 = 15 +1 =16th

Ranking & Ordering(Assignment)

Q. In class of 40 students rank of A from end is 20. Find rank of B from start if she is 5 ranks ahead of A?

A. 14th B. 15th C. 16th D. 17th

Soln:

- |----------| B |----------| A |----------|
- ? 4 20 19
- Rank of B from last = 20 + 5 = 25th
- Position of person from upward = [total number of persons – position of person from down] + 1
- Rank of A from start = (40 – 25) + 1 = 15 + 1 = 16th
- So, B is 16th from the start.

Ranking & Ordering(Assignment)

Q. Anita ranks twelfth in a class of forty six. What will be her rank from the last?

A. 31th B. 35^{th} C. 36^{th} D. 37^{th}

Ans: B

Rank of Anita from last = [total students – her rank from first] + 1

= (46 -12) + 1

= 35^{th}

Ranking & Ordering

- **Type 3 – when two persons change their rank in a queue**
- If two persons are on a definite position from up and down(or left and right) and they interchange their ranks, then Total no. of persons in order = [present position of first person + previous position of second person] - 1

Ranking & Ordering

In a row of girls , Sheena is eighth from the left and Heena is seventeenth from the right. If they interchange their positions, Sheena becomes fourteenth from the left. How many girls are there in the row?

A. 34 B. 35 C. 30 D. 37

Ans: C

Total number of girls = [present position of Sheena + previous position of Heena] – 1

= [14 + 17] -1

= 30

Ranking & Ordering

- **Type 4 – when two persons change their rank in a queue**
- Previous position of first person = Difference of two positions of second person + previous position of second person
- **OR**
- present position of second person = Difference of two positions of first person + previous position of second person

Ranking & Ordering

Q. In a row of children, Dipa is fifth from the left and Vinay is sixth from the right. When they interchange their places among themselves, Dipa becomes thirteenth from the left. Then, what will be Vinay's position from right?

A. 4^{th} B. 14^{th} C. 8^{th} D. 12^{th}

Ans: B

Present position of Vinay = Difference of two positions of Dipa + previous position of Vinay

= (13 – 5) + 6

= 14^{th}

Races

Races

- A contest of speed in running, riding, driving, sailing or rowing is called a race.
- If in a race Ram is at starting point & Shyam starts from 20 mts ahead, then it is said that Ram has given Shyam a start of 20 mts or Ram gives Shyam 20 mts.
- This means that if they start from same point Ram would beat Shyam by 20 mts.

Races

Q. In a 100 mt race A gives B a start of 25 mt & still wins by 9 sec. Find the speed of A if speed of B is 6 kmph.

A.8 kmph B. 9 kmph C. 10 kmph D. 12 kmph

Soln

!----------100 m----------!

A<---25--->B<----------75m----------> A=t-9, B=t

Sb = 6 kmph = 6 x 5/18 = 5/3 m/s

Tb = Db/Sb = 75/(5/3) = 45 sec

Ta = Tb-9 = 36 sec

Sa = Da/Ta = 100/36 m/s

= 100/36 x 18/5

= 10 kmph

Ans C

Races

Q. In a 100 m race A beat B by 10 m & C by 20 m. By how many metres will B beat C

A.8.08 m B. 9.09 m C. 10.10 m D. 11.11 m

Soln

!----------100 m----------!

B----10----**A**
90 100

C--------20----------**A**
80 100

	A		B		C
Distance	100	:	90	:	80
			100	:	?

So when B covers 100 mts C covers = 80 x 100/90

= 800/9 m.

So B beats C by 100 – 800/9 = 100/9 = 11.11 m.

Ans D

Races(Assignment)

Q. In a 100 m race, A can beat B by 25 m and B can beat C by 4 m. In the same race, A can beat C by:

A. 21 m B. 26 m C. 28 m D. 29 m

- **Soln**:-

A : B = 100 : 75
B : C = 100 : 96

$A:C=(\frac{A}{B}\times\frac{B}{C})=(\frac{100}{75}\times\frac{100}{96})=100:72$

A beats C by (100−72)=28 m.

Ans: C

Circular Motion

- **Use of both relative speed & LCM**
- Let Sa, Sb = speeds of two persons.

  Sr = Their relative speed

  Distance traveled in 1 round = circumference

Case A : Both running in Same direction

Both meet again first time when → **Time = dist/Sr = Circumference/Sa-Sb**

Case B : Both running in opposite directions**(DistA+ DistB =Circumference)**

Both meet first time when → **Time = Circumference/Sa+Sb**

Case C : Both running in same/opposite directions

Both meet again at starting point at LCM of their Lap times.

Circular Motion(Races)

Q. Two friends P & Q start from same point at the same time on a circular track 336 meters long in opposite directions at 6 m/s & 8 m/s respectively. After how much time will they meet again at the starting point for the first time?

A. 56 sec B. 112 sec C. 168 sec D. 214 sec

Ans : C

Step1 – find the time taken by each member /player to complete 1 round

Step2 – Calculate LCM(Lap time)

$$\text{LapTm(P)} = \frac{\text{Circumference}}{\text{Sp}} = \frac{336}{6} = 56 \text{ sec}$$

$$\text{LapTm(Q)} = \frac{\text{Circumference}}{\text{SQ}} = \frac{336}{8} = 42 \text{ sec}$$

LCM(42,56) = 168 sec

Circular Motion(Assignment)

Q. A, B & C start together running along a circular track of 500 m at 8 km/hr, 5 km/hr & 3 km/hr respectively. After how much time will all three meet again at the starting point for the first time?

A. 20 min B. 24 min C. 30 min D. 36 min

Ans: C

IMPORTANT FORMULAE

- **I**.1.Area of a rectangle=(length x breadth)
- Therefore length = (area/breadth) and breadth=(area/length)
- 2.Perimeter of a rectangle = 2 x (length + breadth)

- **II**.Area of a square = (side)^2 =1/2(diagonal)^2
- **III** Area of four walls of a room = 2*(length + breadth)*(height)

- **IV** 1.Area of the triangle=1/2(base*height)
- 2. Area of a triangle = (s*(s-a)(s-b)(s-c))^(1/2), where a,b,c are the sides of a triangle & s= ½(a+b+c)
- 3.Area of the equilateral triangle =((3^1/2)/4)*(side)^2

IMPORTANT FORMULAE

- **V.**1.Area of the parellogram =(base *height)
- 2.Area of the rhombus=1/2(product of the diagonals)
- 3.Area of the trapezium=1/2(size of parallel sides)*distance between them.

- **VI** 1.Area of a circle =pi*r^2,where r is the radius
- 2. Circumference of a circle = 2ΠR.
- 3. Length of an arc = 2ΠRθ/(360) where θ is the central angle
- 4. Area of a sector = (1/2) (arc x R) = pi*R^2*θ/360.

- **VII**. 1. Area of a semi-circle = (pi)*R^2.
- 2. Circumference of a semi-circle = (pi)*R.
- where, **pi** = 3.142

VOLUME AND SURFACE AREA – IMPORTANT FORMULAE

- **I. CUBOID**
- Let length = l, breadth = b and height = h units. Then,
- **1**. Volume = (l x b x h) cubic.units.
- **2. Surface area=** 2(lb + bh + lh) sq.units.
- **3. Diagonal**.=$\sqrt{l^2 + b^2+h^2}$ units

- **II. CUBE**
- Let each edge of a cube be of length a. Then,
- **1. Volume** = a^3 cubic units.
- **2. Surface area** = $6a^2$ sq. units.
- **3. Diagonal** =$\sqrt{3}$ a units.

- **III. CYLINDER**
- Let radius of base = r and Height (or length) = h. Then,
- **1. Volume** = (∏ r2h) cubic units.
- **2. Curved surface area** = (2∏ rh). units.
- **3. Total surface area** =2 ∏ r (h+r) sq. units

VOLUME AND SURFACE AREA – IMPORTANT FORMULAE

- **IV. CONE**
- Let radius of base = r and Height = h. Then,
- **1. Slant height, l =** $\sqrt{h2+r2}$
- **2. Volume** = (1/3) ∏ r^2h cubic units.
- **3. Curved surface area** = (∏ rl) sq. units.
- **4. Total surface area** = (∏ rl + ∏ r^2) sq. units.

- **V. SPHERE**
- Let the radius of the sphere be r. Then,
- **1. Volume** = (4/3) ∏ r^3 cubic units.
- **2. Surface area** = (4 ∏ r^2) sq. units.

- **VI. HEMISPHERE**
- Let the radius of a hemisphere be r. Then,
- **1. Volume** = (2/3) ∏ r^3 cubic units.
- **2. Curved surface area** = (2 ∏ r^2) sq. units.
- **3. Total surface area** = (3 ∏ r^2) units.


THANK
YOU!