

CHAPTER-WISE MARKS DISTRIBUTION

S. No.	Chapter	2018		2019		2020	2021			2022		2023	Average
		J	D	J	D	D	Jan	July	D	J	D	J	
1	Ratio & Proportion	1	2	1	1	3	3	3	3	2	1	-	1.81
2	Indices	1	1	2	2	1	1	1	4	2	1	3	1.72
3	Logarithm	2	1	2	2	2	1	1	2	2	2	2	1.72
4	Linear Equation	2	-	1	1	0	0	-	1	2	3	2	1.09
5	Quadratic Equation	3	2	1	3	4	3	4	2	1	2	2	2.45
6	Inequalities	1	1	3	1	1	1	1	2	1	1	2	1.36
7	Mathematics of Finance - Simple Interest	1	3	4	5	1	3	2	1	3	1	1	2.27
8	Mathematics of Finance - Compound Interest	2	11	3	7	6	7	5	4	3	8	5	5.54
9	Mathematics of Finance - Annuity	3	-	3	1	4	4	7	1	8	5	8	4.00
10	Permutations and Combinations	2	4	4	4	4	6	4	4	7	4	4	4.27
11	Sequence & Series	4	4	4	4	3	3	3	3	4	2	3	3.36
12	Sets, Function and Relation	3	4	5	2	4	3	4	3	3	3	5	3.54
13	*Calculus (Limit & Continuity)												
14	Differential Calculus	1	2	2	3	2	1	3	3	1	3	3	2.18
15	Integration	3	2	3	3	3	1	1	1	2	3	1	2.09
16	Number Series, Coding & Decoding	3	5	4	5	4	5	5	5	5	6	5	4.72
17	Direction Tests	6	5	4	6	4	3	4	8	5	5	4	4.90
18	Seating Arrangement	5	3	4	2	5	4	4	3	4	2	4	3.63
19	Blood Relations	4	4	4	4	3	4	4	5	5	7	7	4.63
20	Description of Data	4	7	5	4	7	10	8	5	8	4	5	6.09
21	Central Tendency	5	7	5	7	11	4	4	10	6	8	8	6.81
22	Measures of Dispersion	2	4	8	8	1	5	7	1	5	8	6	5.00
23	Probability	7	6	5	3	4	6	6	4	6	7	5	5.36

S. No.	Chapter	2018		2019		2020		2021		2022		2023		Average
		J	D	J	D	J	D	Jan	July	J	D	J	D	
24	Probability (Theoretical) Distribution	6	5	4	7	7	4	5	8	5	4	6		5.54
25	*Sampling Theory of Estimation													
26	Correlation	8	1	4	3	3	2	1	1	4	2	2		2.81
27	Regression Analysis	5	5	2	2	-	3	4	3	1	3	3		2.81
28	Index Numbers	8	3	4	3	3	3	4	5	5	5	4		4.27

Note : J : June; D : December

*Chapter 13 & Chapter 25 are newly added Chapters in Syllabus.

CHAPTER-WISE COMPARISON WITH STUDY MATERIAL

No.	Name of Chapter	Study Material Chapter
1	Ratio & Proportion	1
2	Indices	1
3	Logarithm	1
4	Linear Equation	2
5	Quadratic Equation	2
6	Inequalities	3
7	Mathematics of Finance - Simple Interest	4
8	Mathematics of Finance - Compound Interest	4
9	Mathematics of Finance - Annuity	4
10	Permutations and Combinations	5
11	Sequence & Series	6
12	Sets, Function and Relation	7
13	Calculus (Limit & Continuity)	7
14	Differential Calculus	8
15	Integration	8
16	Number Series, Coding & Decoding	9
17	Direction Tests	10
18	Seating Arrangement	11
19	Blood Relations	12
20	Description of Data	13
21	Central Tendency	14
22	Measures of Dispersion	14
23	Probability	15
24	Probability (Theoretical) Distribution	16
25	Sampling Theory of Estimation	

No.	Name of Chapter	Study Material Chapter
26	Correlation	17
27	Regression Analysis	17
28	Index Numbers	18

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Number Series

Arrangement of numbers which follows a particular rule in a certain order is called **Number series**. In the series, some number is wrongly putted OR some number is missing. We need to observe and find the accurate number to the series of numbers.

Examples : 2, 4, 6, 8, is a series, because it follows a particular rule/pattern. According to this rule, next number will be 10.

First of all we have to decide that what type of series are given in papers & according to that we have to use shortcut tricks as fast as we can.

Different types of Number Series**Perfect Square Series:**

This type of Series are based on square of a number which is in same order and one square number is missing in that given series.

Example 1 : 400, 441, 484, 529, 576, ?

Ans: $400 = 20^2$; $441 = 21^2$; $484 = 22^2$; $529 = 23^2$;
 $576 = 24^2$; **625 = 25^2**.

Perfect Cube Series:

This type of Series are based on cube of a number which is in same order and one cube number is missing in that given series.

Example 2 : 1000, 1331, 1728, 2197, ?

Ans: $1000 = 10^3$; $1331 = 11^3$; $1728 = 12^3$; $2197 = 13^3$; **2744 = 14^3**

Geometric Series:

This type of series are based on ascending or descending order of numbers and each successive number is obtain by multiplying or dividing the previous number with a fixed number.

Example 3: 45, 405, 3645, 32805, ?

Ans: $45 \times 9 = 405$; $405 \times 9 = 3645$; $3645 \times 9 = 32805$; **32805 $\times 9 = 295245$**

Difference Series: Here difference between two consecutive terms OR difference between alternate terms are equal OR these difference make an another series.

Example 4 : 7, 12, 17, 22,

Ans. Here difference between two consecutive terms is equal i.e. 5; **Next term = 22 + 5 = 27**

Ratio Series : Here the ratio OR division of two consecutive terms are equal. It is same pattern for alternate terms.

Example 5: 8, 24, 72, 216,

Ans. $24 / 8 = 3$; $72 / 24 = 3$; $216 / 72 = 3$; **Next term = $216 \times 3 = 648$**

Prime Number : Series of prime numbers.

Example 6 : 2, 5, 11, 19, 29,

Ans. It is a series of prime numbers. Here, between two consecutive prime numbers, there is one missing prime number. After 29 next prime number is 31. Leave it. Hence **Next term = 37**

Mixed Series : It is combination of two or more different type of series.

Example 7 : 3, 4, 7, 9, 11, 16, 15, 25, 19,

Here 1st, 3rd, 5th, 7th, 9th term are in Arithmetic progression while 4, 9, 16, are squares of consecutive numbers. Hence **Next Term = $5^2 = 25$** .

Arithmetic Progression / Series : Here arrangement of numbers makes an Arithmetic Progression.

Example 8 : 100, 95, 90, 85,

It is in AP. Here difference between two consecutive terms is equal. Hence **Next Term = 80**.

Geometric Progression / Series : Here arrangement of numbers makes a Geometric Progression.

Example 9 : 4, 12, 36, 108,

It is in GP. Here ratio between two consecutive terms is equal.

Hence **Next Term = $108 \times 3 = 324$** .

Two-Tier Arithmetic or Geometric Series : - In this series, difference between two consecutive terms makes an Arithmetic or Geometric progression or series.

Example 10 : 2, 5, 10, 17, 26,

Here $(5 - 2 = 3)$; $(10 - 5 = 5)$; $(17 - 10 = 7)$; $(26 - 17 = 9)$ i.e. difference of consecutive terms 3; 5; 7; 9; ...are making Arithmetic progression. Hence **next difference = 11**.

& **Next term = $26 + 11 = 37$**

Example 11 : 2, 5, 11, 23, 47,

Here $(5 - 2 = 3)$; $(11 - 5 = 6)$; $(23 - 11 = 12)$; $(47 - 23 = 24)$ i.e. difference of consecutive terms 3; 6; 12; 24; ...are making Geometric progression. Hence **next difference = 48**.

& **Next term = $47 + 48 = 95$**

Alphabet Series: -

Questions are also asked relating to positions of English alphabets. This topic is very important from examination point of view. So we need to memorize the positions of the alphabets so that we can handle each and every question based on this topic. If it is not memorised, then write these letters sequence as given below on blank page of the Question paper with their positions from both ends as given below :

Going forward & backward both.

26	25	24	23	22	21	20	19	18	17	16	15	14
A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13
13	12	11	10	9	8	7	6	5	4	3	2	1
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

On that basis we will try to understand the logic behind the series or sequence of letters, numbers or alphanumeric. There are some important assumptions given below for solving the letter series questions.

Check some points as (i) whether it is a continuous series or not (ii) Missing terms in the series (iii) Immediate next or before term of the series (iv) Squares or cubes of numbers (v) Mathematical operations like addition, subtraction, multiplication or division (vi) Arithmetic or Geometric series or Harmonic series.

Example 1:

E, J, O, ?

(a) T (b) S (c) V (d) None

Solution : First, we write the position of letters of given question. They are 5, 10, 15, in AP

Hence next position = 20. Letter at this position is T.

So, (a) is correct.

Example 2 :

C, , G, K, O, ?

- (a) T (b) S (c) U (d) None

Solution : First, we write the position of letters of given question. They are 3, 7, 11, 15, in AP

Hence next position = 19. Letter at this position is S.

So, (b) is correct.

Example 3 :

A, D, H, M, S, ?

- (a) X (b) Y (c) Z (d) None

Solution : First, we write the position of letters of given question. They are 1, 4, 8, 13, 19

It can be understand as $(1 + 3 = 4)$; $(4 + 4 = 8)$; $(8 + 5 = 13)$; $(13 + 6 = 19)$.

So, Next term should be $19 + 7 = 26$.

Hence, Letter at 26th position is Z.

So, (c) is correct.

Example 4 : AK, FP, KU, ?, UE, ZJ

- (a) PZ (b) KT (c) JU (d) None

Solution :- (a) is correct.

First, we write the position of letters of given series. They are:

(1, 11), (6, 16), (11, 21), ?, (21, 5), (26, 10).

Clearly we see that the first numbers of each pair making a definite pattern as 1, 6, 11, ?, 21, 26;

Difference between two successive terms = 5. So, 4th term = $11 + 5 = 16$. Letter at this position is P.

Similarly, we see that the 2nd numbers of each pair making a definite pattern as 11, 16, 21, ?, 5, 10.

If all alphabets are put on circle to make it as cyclic order, we consider that after Z (26th position), position will start from A i.e. 1st position. Here, try to understand the sequence as $(11 + 5 = 16)$;

$(16 + 5 = 21)$; $(21 + 5 = 26)$; $(0 + 5 = 5)$; $(5 + 5 = 10)$. So 4th term = $(21 + 5 = 26)$. Letter at this position = Z. Hence ordered pair in terms of letter is (PZ).

Hence option (a) is correct.

Letter Series & Continuous Pattern Series

Letter Series type questions usually consists of a series of small letters which follow a specific pattern. However, some letters are missing from the set. The students need to identify the missing letter in the series. These missing letters are then given in proper order as one of the alternatives. Thus, the candidates can know the tips to solve the Letter Series Logical Reasoning Questions by practicing. To understand the tips of the Letter Series, first of all, the candidates must have the knowledge of the alphabetical order, its numerical position, and its opposite word. Some examples are given below :

Example 1. QPO, NML, KJI, _____, EDC

- (a) HGF (b) CAB (c) JKL (d) GHI

Solution : (a) is correct. All terms in reverse order.

Directions : In each of the following letter series, some of the letters are missing which are given in that order as one of the alternatives below it. Choose the correct alternative.

Example 2. _____ aba _____ ba _____ ab

- (a) abbba (b) abbab (c) baabb (d) bbaba

Solution : (b) : The series is ab/ab/ab/ab/ab. Thus, the pattern 'ab' is repeated.

Odd Man Out : In this type of question, all options follow a particular character except one option. That exception a option is called **Odd Man Out** or **Odd One Out**.

Example 1 : Find odd man out of the following:

2, 3, 5, 7, 11, 13, 17.

- (a) 2 (b) 11 (c) 7 (d) 13

Solution : (a) is correct.

All are odd & prime number except 2 which is even & prime number.

Example 2 : Find odd man out of the following:

1, 3, 5, 7, 11, 13, 17.

- (a) 1 (b) 11 (c) 7 (d) 13

Solution : (a) is correct.

All are prime number except 1 which is neither prime nor composite.

Example 3 : Find odd man out of the following:

- (a) 13 (b) 17 (c) 23 (d) 63

Solution :- Each of the numbers except 63, is a prime number. Hence, the answer is (d).

Example 4 : Find odd man out of the following:

- (a) 15 (b) 25 (c) 37 (d) 49

Solution : Clearly, 37 is the only prime number in the group. Hence, the answer is (c).

Example 5 : Find odd man out of the following:

- (a) 16 (b) 36 (c) 78 (d) 256

Solution : Each of the numbers except 78, is a perfect square. Hence, the answer is (c).

Example 6 : Find odd man out of the following:

- (a) 8 (b) 28 (c) 343 (d) 125

Solution : Each of the numbers except 28, is a perfect cube. Hence, the answer is (b).

Example 7 : Find odd man out of the following:

- (a) 21 (b) 36 (c) 49 (d) 56

Solution : Each of the numbers except 36, is divisible by 7. Hence, the answer is (b).

Example 8 : Find odd man out of the following:

- (a) 295 (b) 381 (c) 552 (d) 729

Solution : Each of the numbers except 552, is an odd number. Hence, the answer is (c).

Example 9 : Find odd man out of the following:

1, 4, 9, 16, 19, 36, 49, 64, 81

- (a) 9 (b) 19 (c) 49 (d) 16

Solution : (b) is correct.

All except 19 are perfect square. Square root of 19 does not give a whole number.

Hence, the answer is (b).

CODING - DECODING

A **CODE** is a system of words, letters, figures, or symbols used to represent others, especially for the purposes of secrecy. Therefore, Coding is a method of transmitting

a message between the sender and the receiver without knowing it by a third person. The Test of Coding and Decoding is set up to judge the candidate's ability.

LETTER CODING

In this case, the letters in a word are replaced by certain other letters according to a specific rule to make its code. The candidate is required to detect the pattern or rule and answer the questions according to that rule.

Example 1 : In a certain code, TEACHER is written as VGCEJGT. How is CHILDREN written in that code ?

- (a) EJKNEGTP (b) EGKNEITP (c) EJKNFGTO (d) EJKNFTGP

(B.T.M. 2006)

Solution : First of all, compare 1st letter of both words i.e. compare T with V. Clearly V is 2 steps ahead with respect of T. Similarly compare remaining letters as above accordingly. We get as

T	E	A	C	H	E	R
+2 ↓	+2 ↓	+2 ↓	+2 ↓	+2 ↓	+2 ↓	+2 ↓
V	G	C	E	J	G	T

Similarly, posting letters which are 2 steps ahead with respect to each letter of the word CHILDREN; we get the required result as given below.

C	H	I	L	D	R	E	N
+2 ↓	+2 ↓	+2 ↓	+2 ↓	+2 ↓	+2 ↓	+2 ↓	+2 ↓
E	J	K	N	F	T	G	P

Hence, the answer is option (d).

Example 2 : If HEALTH is written as GSKZDG, then how will NORTH be written in that code ?

- (a) OPSUI (b) GSQNM (c) FRPML (d) IUSPO

(M.C.A. 2005)

Solution : Analysing it, we get that : 1st reverse the order of letters of the word HEALTH as

HTLAEH then compare it with the letters of the coded word GSKZDG. We get as

H	T	L	A	E	H
-1 ↓	-1 ↓	-1 ↓	-1 ↓	-1 ↓	-1 ↓
G	S	K	Z	D	G

Similarly doing as above, we get as : Reversing the order of letters in NORTH, we get HTRON.

H	T	R	O	N
-1↓	-1↓	-1↓	-1↓	-1↓
G	S	Q	N	M

Hence, the required code is GSQNM. So, the answer is (b).

PAST EXAM QUESTIONS WITH SOLUTIONS (MEMORY BASED)

Q.1. In a certain code, RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code?

- (a) 318826 (b) 318286 (c) 618826 (d) 338816

[May 2018]

Solution :

(a)	R I P P L E	L I F E
	↓ ↓ ↓ ↓ ↓	↓ ↓ ↓ ↓
Then	6 1 3 3 8 2	8 1 9 2
	P I L L E R	
	↓ ↓ ↓ ↓ ↓	
	3 1 8 8 2 6	

Hence code of PILLER is 318826.

Q.2. In a certain code '256' mean 'you are good', '637' means 'we are bad' and '358' means 'good and bad'. Which of the following represents 'and' in that code?

- (a) 2 (b) 5 (c) 8 (d) 3

[May 2018]

Solution :

(c)
256 means 'Your are good'
637 means 'We are Bad'
358 means 'Good and Bad'

Here, word "good" is common in 1st & 3rd sentence and 5 is common in 1st & 3rd. So, Code of good is 5. BAD is common in 2nd & 3rd. Hence Code of 'bad' is 3. So, Code of "and" is 8

Q.3. If LOSE is coded as 1357 and GAIN is coded as 2468, what do figure 82146 for?

- (a) NGLAI (b) NGLIA (c) GNLIA (d) GNLA

[May 2018]

Solution :

(a)	L O S E	G A I N	8 2 1 4 6
	↓ ↓ ↓ ↓	↓ ↓ ↓ ↓	Hence ↓ ↓ ↓ ↓ ↓
	1 3 5 7	2 4 6 8	N G L A I

Code for 82146 is NGLAI

Q.4. If PLAY is coded as 8123 and RHYME is coded as 49367. What will be code of MALE?

- (a) 6217 (b) 6198 (c) 6395 (d) 6285

[Nov. 2018]

Solution :

	P L A Y	R H Y M E
(a)	↓ ↓ ↓ ↓	↓ ↓ ↓ ↓
If	8 1 2 3	4 9 3 6 7
		M A L E
		↓ ↓ ↓ ↓
		6 2 1 7

Hence Code for word "MALE" IS

Q.5. Find out the next number in the following series 7, 11, 13, 17, 19, 23, 25, 29?

- (a) 30 (b) 31 (c) 32 (d) 33

[Nov. 2018]

Solution :

(b) Given series

7,	11,	13,	17,	19,	23,	25,	29,	31
↓	↓	↓	↓	↓	↓	↓	↓	↓
+4=	+2=	+4=	+2=	+4=	+2=	+4=	+2=	

Q.6. If HONEY is coded as JQPGA, which word is code as VCTIGVU?

- (a) CARPETS (b) TRAPETS (c) TARGETS (d) UMBRELU

[Nov. 2018]

Solution : (c)

H	O	N	E	Y
+2↓	+2↓	+2↓	+2↓	+2↓
J	Q	P	G	A
then				
V	C	T	I	G
-2↓	-2↓	-2↓	-2↓	-2↓
U	A	R	G	E

Q.7. Find odd man out of the following series 15, 21, 63, 81, 69

- (a) 15 (b) 21 (c) 63 (d) 81

[Nov. 2018]

Solution :

(d) 15, 21, 63, 81, 69

In this series only 81 is a Perfect square.

Q.8. Find odd man out of the following series 7, 9, 13, 17, 19

- (a) 7 (b) 9 (c) 19 (d) 13

[Nov. 2018]

Solution :

(b) 7, 9, 13, 17, 19

Since only 9 is a perfect square and not prime No. So, 9 is the odd man out.

OR, $9 - 7 = 2$	$(11) - 7 = 4$
$13 - 9 = 4$	$13 - 11 = 2$
$17 - 13 = 4$	$17 - 13 = 4$
$19 - 17 = 2$	$19 - 17 = 2$

Note :- If 11 is used at the place of 9, we get a perfect series.

Q.9. 7, 23, 47, 119, 167

- (a) 211 (b) 223 (c) 287 (d) 319

[June 2019]

Solution : (c)

7, 23, 47, 119, 167, 287

$3^2 - 2 = 7$

$5^2 - 2 = 23$

$7^2 - 2 = 47$

$11^2 - 2 = 119$

$13^2 - 2 = 167$

$17^2 - 2 = 287$

Q.10. Which of the following is odd one 4, 12, 44, 176, 890?

- (a) 4 (b) 12 (c) 44 (d) 176

[June 2019]

Solution : (c)

4, 12, 44, 176, 890,

$4 \times 2 + 4 = 12$

$12 \times 3 + 6 = 42$

$42 \times 4 + 8 = 176$

$176 \times 5 + 10 = 890$

Q.11. If in a certain language, MADRAS is coded as NBESBT. How is BOMBAY coded in that language?

- (a) CPNCBX (b) CPNCBZ (c) CPOCBZ (d) CQOCBZ

[June 2019]

Solution : (b)

M	A	D	R	A	S	B	O	M	B	A	Y
+1↓	+1↓	+1↓	+1↓	+1↓	+1↓	+1↓	+1↓	+1↓	+1↓	+1↓	+1↓
N	B	E	S	B	T	C	P	N	C	B	Z

Q.12. Which of the following is odd one?

- (a) CEHL (b) KMPT (c) OQTX (d) NPSV

[June 2019]

Solution: (d)

(a)	(b)	(c)	(d)
C E H L	K M P T	O Q T X	N P S V
3 5 8 12	11 13 16 20	15 17 20 24	14 16 19 22
+2 +3 +4	+2 +3 +4	+2 +3 +4	+2 +3 +3

So NPSV is odd one.

Q.13. Find odd one out; 1, 5, 14, 30, 51, 55, 91,

- (a) 14 (b) 55 (c) 51 (d) 91

[Dec. 2019]

Solution: (c)

1	5	14	30	51	55	91
+4	+9	+16	+25	+36		

Clearly 51 is odd one out.

Q.14. Find odd one out; 5, 10, 17, 27, 37, 50, 65 ?

- (a) 17 (b) 27 (c) 37 (d) 65

[Dec. 2019]

Solution: (b)

5	10	17	27	37	50	65
+5	+7	+9	+11	+13	+15	

Clearly (b) 27 is odd one out. 26 should be there.

Q.15. Find the missing figures; 4, 16, 36, 64, 100, ?

- (a) 92 (b) 121 (c) 144 (d) 169

[Dec. 2019]

Solution: (c)

4; 16; 36; 64; 100; ?

 $\Rightarrow 2^2; 4^2; 6^2; 8^2; 10^2; 12^2 = 144$

Q.16. If "SYSTEM" be coded 131625; then "TERMS" may be coded as :-

- (a) 62251 (b) 62451 (c) 64951 (d) 62415

[Dec. 2019]

Solution: (b)

S	Y	S	T	E	M
↓	↓	↓	↓	↓	↓
1	3	1	6	2	5

In word "TERM" "R" is different. Code of R should be different out of 1, 2, 3, 5, 6.
Hence code of R may be 0; 4, 7, 8, 9.

That is code for "TERMS" may be 62051; 62451; 62751; 62851; 62951.

Clearly (b) 62451 is present in the option.

So; (b) is correct.

Q.17. If "MADRAS" written as "NBESBT"; then "DELHI" may be coded as:-

- (a) EMTIF (b) EFMIJ (c) JEMFT (d) EEMJI

[Dec. 2019]

Solution: (b)

M	A	D	R	A	S
+1	↓	↓	↓	↓	↓
N	B	E	S	B	T

Q.18. Find the missing value in the series 0, 2, 3, 6, 10, 17, 28, ? 75

- (a) 58 (b) 46 (c) 48 (d) 54

[Dec. 2020]

Solution: 0, 2, 3, 6, 10, 17, 28, ? 75

Rule: sum of two terms + 1 = Next term

$(0 + 2) + 1 = 3$

$(2 + 3) + 1 = 6$

$(3 + 6) + 1 = 10$

$(6 + 10) + 1 = 17$

$(10 + 17) + 1 = 28$

$(17 + 28) + 1 = 46$

$(28 + 46) + 1 = 75$

 \therefore (b) is correct.Q.19. $\frac{3}{8}, \frac{8}{19}, \frac{18}{41}, \frac{?}{173}$

- (a) $\frac{38}{85}$ (b) $\frac{83}{38}$ (c) $\frac{31}{38}$ (d) None

[Dec. 2020]

Solution: $\frac{3}{8}, \frac{8}{19}, \frac{18}{41}, \frac{?}{173}$

Series of Numerators.

$3 + 5 = 8$

$8 + 10 = 18$

$18 + 20 = 38$

$38 + 40 = 78$

Series of Denominators.

$8 + 11 = 19$

$19 + 22 = 41$

$41 + 44 = 85$

$85 + 88 = 173$

$\text{Hence } ? = \frac{38}{85}$

 \therefore (a) is correct

Q.20. Find Odd man out of the following 6, 9, 12, 18, 21, 26, 30

- (a) 24 (b) 30 (c) 26 (d) 9

[Dec. 2020]

Solution: In 6, 9, 12, 18, 21, 26, 30

All terms are divisible by 3 except 26.

 \therefore 26 is odd man out

(c) is correct.

Q.21. If in a certain language HEALTH is coded as IFBMUI then what is the code for NORTH

- (a) OPSUI (b) OPUSI (c) OUSPI (d) OIPSU

[Dec. 2020]

Solution:

H	E	A	L	T	H
+1↓	+1↓	+1↓	+1↓	+1↓	+1↓
I	F	B	M	U	I

 \therefore (a) is correct.Q.22. $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16} = ?$

- (a) $\frac{9}{32}$ (b) $\frac{10}{17}$ (c) $\frac{11}{34}$ (d) $\frac{12}{35}$

[Jan. 2021]

Solution: (a) is correct

+2	+2	+2	+2
$\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{7}{16}$
$\times 2$	$\times 2$	$\times 2$	$\times 2$

Q.23. Find the missing term

P3C; R5F; T8I; V12L; _____?

- (a) Y17O (b) X17M (c) X17O (d) X16O

[Jan. 2021]

Solution: (c) is correct

	+ 2	+ 3	+ 4	+ 5	
	P3C,	R5F,	T8I,	V12L,	X17
16	↑	↑	↑	↑	↑
	3	6	9	12	15
	18	20	22	24	

Q.24. Find out the odd man out in the Sequence 8, 27, 64, 125, 216.

- (a) 27 (b) 64 (c) 125 (d) 216

[Jan. 2021]

Solution: (a) is correct

$8 = 2^3$

$27 = 3^3$

$64 = 4^3$

$125 = 5^3$

$216 = 6^3$

Bases are in A.P. and Powers on bases are equal. Only in 3^3 base and power are equal but in all, base and Power are different.

Q.25. In a certain Code Language BEAT is written as YVZG, then what will be Code for MILD?

- (a) ONRW (b) NOWR (c) ONWR (d) NROW

[Jan. 2021]

Solution : (d)

From left numberings					From left			
2	5	1	20		13	9	12	4
B	E	A	T		M	I	L	D
				⇒				
Y	V	Z	G		N	R	O	W
2	5	1	20		13	9	12	4

From right (end) numberings

Clearly option (d) is correct.

Q.26. In a certain code RIPPLE is written as 613382, and LIFE is written as 8192. How will RFFLE be written in that code?

- (a) 618892 (b) 689912 (c) 619982 (d) 629981

[Jan. 2021]

Solution : (c) is correct

R	I	P	P	L	E		L	I	F	E		R	I	F	F	L	E
6	1	3	3	8	2		8	1	9	2		6	1	9	9	8	2

Q.27. Choose the missing term in the series.... 1, 1, 8, 4, 27, _____ 64, 16

- (a) 27 (b) 11 (c) 9 (d) 125

[July 2021]

Solution : (c) is correct

1,	1 ¹ ,	8,	4 ² ,	27,	3 ³ ,	64,	16 ⁴
↑ 1 ³		↑ 2 ³		↑ 3 ³		↑ 4 ³	

Hence option (c) is correct

Q.28. The wrong term in the series.... 225, 196, 169, 144, 121, 100, 77, 64, is

- (a) 121 (b) 77 (c) 100 (d) 169

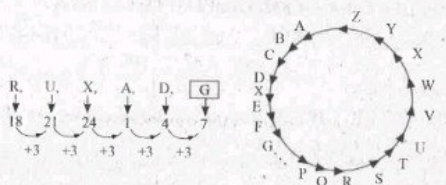
[July 2021]

Q.33. What comes at the last place in R, U, X, A, D, _____?

- (a) E (b) F (c) G (d) H

[Dec. 2021]

Solution : (c)



Q.34. The missing term of the series 4, 13, _____, 49, 76 is

- (a) 26 (b) 28 (c) 30 (d) 32

[Dec. 2021]

Solution : (b)

4,	13,	28,	49,	76
↑	↑	↑	↑	↑
9	+15	+21	+27	

Q.35. Find the odd one from the following :

- (a) Zebra (b) Giraffe (c) Horse (d) Tiger

[Dec. 2021]

Solution : (d)

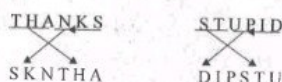
Tiger is a Meat eating animal But rest are grass eating animal.

Q.36. If in a certain code "THANKS" is written as "SKNTHA", then how is "STUPID" written?

- (a) DIPUTS (b) DISPUT (c) DIPUST (d) DIPSTU

[Dec. 2021]

Solution : (d)



First three letters at the end and last three letters at first place in reverse order.

Solution : (b) is correct

$$225; 196; 169; 144; 121; 100; \boxed{77}; 64$$

$$= 15^2 = 14^2 = 13^2 = 12^2 = 11^2 = 10^2 = 9^2 = 8^2$$

Hence "77" is wrong term

Q.29. If DELHI is coded as EFMIJ then JAIPUR is coded as

- (a) JQVSBK (b) QVSKBJ (c) BJQVSK (d) KBQVVS

[July 2021]

Solution : (d) is correct

D	E	L	H	I	J	A	I	P	U	R
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
+1					+1					
E	F	M	I	J	K	B	J	Q	V	S

Q.30. If FRAME is coded as 0618011305 then ARISE is coded as

- (a) 0118091905 (b) 0119091805
(c) 0118190905 (d) 0118091805

[July 2021]

Solution : (a) is correct

F	R	A	M	E		A	R	I	S	E
↓	↓	↓	↓	↓		↓	↓	↓	↓	↓
06	18	01	13	05		01	18	09	19	05

Q.31. If CLOCK is coded as 34235 and TIME as 8679, then MOTEL is coded as

- (a) 27894 (b) 72964 (c) 72894 (d) 77684

[July 2021]

Solution : (c) is correct

C	L	O	C	K		T	I	M	E		M	O	T	E	L
↓	↓	↓	↓	↓		↓	↓	↓	↓		↓	↓	↓	↓	↓
3	4	2	3	5		8	6	7	9		7	2	8	9	4

Q.32. If MOUSE is coded as 34651 and KEY is coded as 217, then how will YES be coded?

- (a) 715 (b) 517 (c) 175 (d) 571

[Dec. 2021]

Solution : (a)

M	O	U	S	E		K	E	Y
↓	↓	↓	↓	↓		↓	↓	↓
3	4	6	5	1		2	1	7

Y	E	S
↓	↓	↓
7	1	5

Q.37. 9, 27, 31, 155, 161, 1127, ?- Find missing number?

- (a) 1316 (b) 1135 (c) 1288 (d) 2254

[June 2022]

Solution :

9	27	31	155	161	1127	?
×	×	×	×	×	×	×
3	4	5	6	7	8	

(b) is correct.

Q.38. What is the missing number in the sequence given below?

12, 9, 13.50, 30.375, ?, 341.71875

- (a) 91.125 (b) 89.145 (c) 90.475 (d) 92.485

[June 2022]

Solution :

12,	9,	13.50	30.375;	91.125,	341.71875
×	×	×	×	×	×
0.75	1.5	2.25	3	3.75	

∴ (a) is correct.

Q.39. 7, 26, 63, 124, 215, 342 ?- Find the missing number.

- (a) 391 (b) 421 (c) 481 (d) 511

[June 2022]

Solution :

7;	26;	63;	124;	215;	342;	511
↓	↓	↓	↓	↓	↓	↓
2 ³ -1	3 ³ -1	4 ³ -1	5 ³ -1	6 ³ -1	7 ³ -1	8 ³ -1 = 511

(d) is correct.

Q.40. In a certain code 'TELEPHONE' is written as ENOHPLEET. Then ALIGATOR is written as

- (a) ROTAGILA (b) ROTAGAIL (c) ROTAGILE (d) TOTAGILA

[June 2022]

Solution : TELEPHONE → ENOHPLEET

Reversing its order

ALIGATOR → ROTAGILA

Reversing its order

∴ (a) is correct

Q.41. In a coded language, if 'EARTH' is written as 34215 and 'VENUS' is written as 73089. What is the code for "SATURN"?

- (a) 941012 (b) 941820 (c) 914281 (d) 912418

[June 2022]

Solution :

E	A	R	T	H	V	E	N	U	S
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
3	4	2	1	5	7	3	0	8	9
S	A	T	U	R	N	(Copying Codes of letters)			
↓	↓	↓	↓	↓	↓				
9	4	1	8	2	0				

∴ (b) is correct

Q.42. If 'FROZEN' is decoded as 'OFAPSG'. Tick the right option that depicts 'MOLTEN' written in this way?

- (a) OFPOMN (b) OFSMPN (c) OFUMPN (d) OFUNPN

[Dec. 2022]

Solution :

FROZEN	Reversing Order	N	E	Z	O	R	F
		↓	↓	↓	↓	↓	↓
		O	F	A	P	S	G
MOLTEN	Reversing Order	N	E	T	L	O	M
		↓	↓	↓	↓	↓	↓
		O	F	U	M	P	N

∴ (c) is correct.

Q.43. Find the odd man out:

34, 105, 424, 2123, 12756

- (a) 12756 (b) 2123 (c) 424 (d) 34

[Dec. 2022]

Solution: Only 2123 is divisible by 11.

∴ (b) is correct

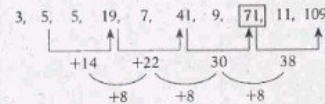
Q.44. Find the missing in the following series?

3, 5, 5, 19, 7, 41, 9, ?, 11, 109

- (a) 71 (b) 61 (c) 69 (d) 79

[Dec. 2022]

Solution:



i.e. $5 + 14 = 19$

$19 + 22 = 41$

$41 + 30 = 71$ Ans.

$71 + 38 = 109$

Q.45. In certain code language, if TOUR is written as 1234, CLEAR is written 5678 and SPARE is written as 90847, find the code for CARE?

- (a) 1247 (b) 4847 (c) 5247 (d) 5847

[Dec. 2022]

Solution:

T	O	U	R	C	L	E	A	R
↓	↓	↓	↓	↓	↓	↓	↓	↓*
1	2	3	4	5	6	7	8	4
				S	P	A	R	E
				↓	↓	↓	↓	↓
				9	0	8	4	7

[*Missing in Qts.]

∴ C A R E
↓ ↓ ↓ ↓
5 8 4 7

∴ (d) is correct

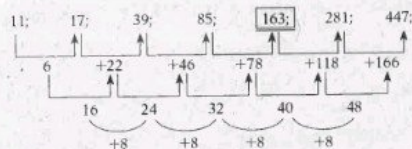
Q.46. Find the next number in the given sequence?

11, 17, 39, 85, ?, 281, 447

- (a) 133 (b) 143 (c) 153 (d) 163

[Dec. 2022]

Solution:



∴ (d) is correct

Q.47. If ROSE is coded as 6821, CHAIR is coded as 73456 and PREACH is coded as 961473, what will be the code for SEARCH?

- (a) 246173 (b) 214673 (c) 216473 (d) 214763

[Dec. 2022]

Solution:

R	O	S	E	C	H	A	I	R	P	R	E	A	C	H
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
6	8	2	1	7	3	4	5	6	9	6	1	4	7	3
				S	E	A	R	C	H					
				↓	↓	↓	↓	↓	↓					
				2	1	4	6	7	3					

∴ (b) is correct

Q.48. The number in place of question mark in: 7, 26, 63, 124, 215, ?, 511 is:

- (a) 342 (b) 343 (c) 441 (d) 421

[June 2023]

Solution:

$7 = 2^3 - 1$

$26 = 3^3 - 1$

$63 = 4^3 - 1$

$124 = 5^3 - 1$

$215 = 6^3 - 1$

$342 = 7^3 - 1$

$511 = 8^3 - 1$

(a) is correct.

Q.49. In a certain code, MENTION is written as LNEITNO. How is PRESENT written in that code?

- (a) QFSFTUM (b) ONESERP
(c) QRESTNO (d) OERESTN

[June 2023]

Solution:

MENTION
↓ ↓ ↓ ↓ ↓ ↓ ↓
L N E I T N O
PRESENT
↓ ↓ ↓ ↓ ↓ ↓ ↓
O E R E S T N

(d) is correct.

Q.50. Out of following 41, 43, 47, 53, 61, 71, 83, 95 the odd man out shall be:

- (a) 95 (b) 81 (c) 71 (d) 53

[June 2023]

Solution:

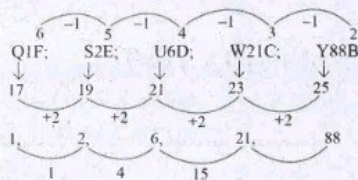
(a) All are Prime Numbers Except "95".

Q.51. Find the next number in the series: Q1F, S2E, U6D, W21C,.....?

- (a) Y66B (b) Y44B (c) Y88B (d) Z66B

[June 2023]

Solution:



$$1 \times 1 + 1 = 2$$

$$2 \times 2 + 2 = 6$$

$$6 \times 3 + 3 = 21$$

$$21 \times 4 + 4 = 88$$

∴ (c) is correct.

Q.52. Find the odd man out in the following series: 190, 145, 136, 352, 460, 324, 631, 244.

- (a) 136 (b) 244 (c) 460 (d) 324

[June 2023]

Solution:

190, 145, 136, 352, 460, 324, 631, 244.

No. 324 is odd man out because sum of all digits of each No. is equal to 10 except 324.

∴ (d) is correct.

17

CHAPTER

DIRECTION TESTS

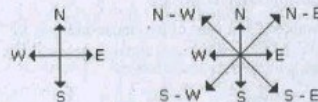
Direction and Distance topic is one of the easiest topic in the reasoning section and we can score full marks with great accuracy if we learn the nuances of this topic.

In this topic, we are going to discuss how to solve direction sense questions along with the shortcut tricks to solve the question within a minute. First make a sketch of the data that is provided to solve the direction test.

Directions questions asked in the exam are based on two principles-

- (i) Distance (ii) Direction

There are four main directions - East, West, North & South and four cardinal directions - North-East (N-E), North-West (N-W), South-East (S-E), and South-West (S-W) as shown below:



The first point you need to remember is that each main direction change undergoes a 90° change in direction e.g. from North to West / East it will be 90° change. But the change between North and North-East is only 45°.

Important Points To Keep In Mind In Left Right Movement:

1. Always mark the starting point and end-point different from the other points.
2. Always be attentive while taking right and/or left turns.
3. Mark distances with a scale (if your rough diagrams confuse you).
4. A person facing east, on taking left will face towards north and on taking the right turn towards south.

17.1

17.2

DIRECTION TESTS

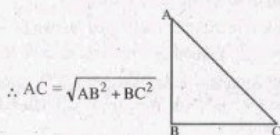
5. A person facing north, on taking left will face towards west and on taking the right turn towards east.
6. A person facing west, on taking left will face towards south and on taking right turn towards north.
7. A person facing south, on taking left will face towards east and on taking the right turn towards west.

Note: When a question says moved towards left or right side, we assume that the movement is at an angle of 90 degrees.

Keep in mind that when a person moves to his left side, he will move towards anti-clockwise direction and when a person moves to his right side, he will move towards clockwise direction.

8. One should be aware of basic geometric rule, such as Pythagoras Theorem.

Pythagoras Theorem $\Rightarrow AC^2 = AB^2 + BC^2$



$$\therefore AC = \sqrt{AB^2 + BC^2}$$

Now, consider the following examples:

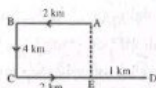
Example 1: Neha walked 2 km west of her house and then turned south covering 4 km. Finally, she moved 3 km towards east and then again 1 km west. How far is she from her initial position?

- (a) 7 km (b) 3 km (c) 4 km (d) 12 km

Solution :- (c) is correct.

Neha starts from her house at A, moves 2 km west upto B, then 4 km to the south upto C, 3 km east upto D and finally 1 km west upto E. Thus, her distance from the initial position A = AE = BC = 4 km.

Hence, the answer is (c).



Example 2: Shweta moved a distance of 75 metres towards the north. She then turned to the left and walking for about 25 metres, turned left again and walked

DIRECTION TESTS

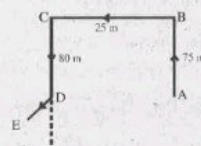
17.3

80 metres. Finally, she turned to the right at an angle of 45°. In which direction was she moving finally?

- (a) South (b) South-West (c) North-East (d) North-West

Solution :- (b) is correct.

Shweta started moving from A, moved 75 m upto B, turned left and walked 25 m upto C. She then turned left again and moved 80 m upto D. She turned to the right at an angle of 45° & finally moved in the direction DE i.e., South-West. Hence, the answer is (b).



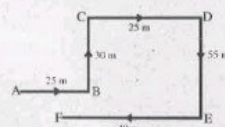
Example 3: Varun faces towards north. Turning to his right, he walks 25 metres. He then turns to his left and walks 30 metres. Next, he moves 25 metres to his right. He then turns to his right again and walks 55 metres. Finally he turns to the right and moves 40 metres. In which direction is he now from his starting point?

- (a) South-East (b) South-West (c) South (d) North-West

Solution :- (a) is correct.

Varun face is towards north. He turns towards right from north direction & walks 25 m towards east upto B, turns left and moves 30 m upto C, turns right and goes 25 m upto D. At D, he turns to right towards the south and walks 55 m upto E. Next, he again turns to right and walks 40 m upto F, which is his final position. F is to the south-east of A. So, he is to the south-east from his starting point.

Hence, the answer is (a).

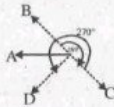


Example 4: Pankaj is facing west. He turns 45° in the clockwise direction and then again another turns with 180° in the same direction i.e. clockwise direction, after that he turns 270° in the anti-clockwise direction. Which direction is he facing now?

- (a) North-West (b) West (c) South-West (d) South

Solution :- (c) is correct.

Pankaj is facing towards west means initially facing in the direction OA. He turned with 45° in clockwise & faces in the direction OB. After that moving 180° clockwise, he faces in the direction OC. Finally, he turned with 270° anti-clockwise, he faces in the direction OD, which is South-West. Hence, the answer is (c).



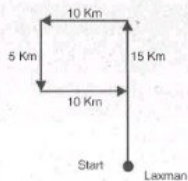
PAST EXAM QUESTIONS WITH SOLUTIONS (MEMORY BASED)

Q.1. Laxman went 15 Kms. to North then he turned West and covered 10 Kms. Then he turned South and covered 5 kms. finally turning to East he covered 10 Kms. In which direction is he moving now ?

- (a) East (b) West (c) North (d) South

[May 2018]

Solution : (a)



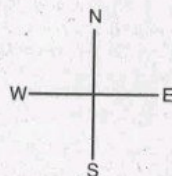
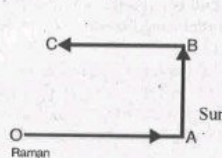
Laxman is moving towards East.

Q.2. A man is facing East, then he turns left and goes to 10 metres then turns right and goes 5 metres then goes 5 metres to the South and from there 5 metres to West. In which direction is he from his original place?

- (a) East (b) West (c) North (d) South

[May 2018]

Solution : (c)



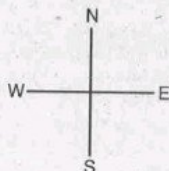
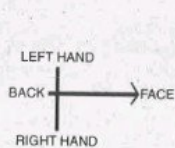
Now Raman is moving towards West.

Q.5. I stand with my right hand extended side-ways towards South. Towards which direction will my back be ?

- (a) East (b) South (c) North (d) West

[May 2018]

Solution : (d)



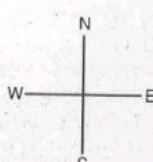
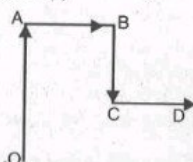
Clearly my right hand extended towards South side - means Left hand towards North. Face towards East & back will be towards West direction.

Q.6. You go towards North, after sometimes turn right, then right then go to the left. In which direction are you now moving ?

- (a) East (b) South (c) West (d) North

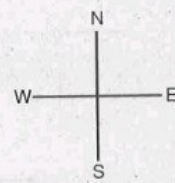
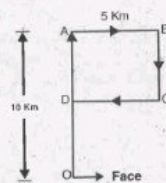
[May 2018]

Solution : (a)



Clearly in East direction.

Solution : (c)



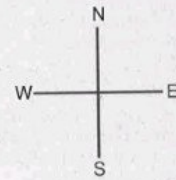
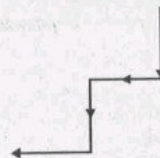
He is in North direction from his original place.

Q.3. X walks southwards and then turns right then left and then right. In which direction is he moving now ?

- (a) South (b) North (c) West (d) South-west

[May 2018]

Solution : (c)



Clearly Mr. X is moving in West direction.

Q.4. Mr. Raman starts walking in the morning facing the Sun. After sometimes, he turned to the left. After sometimes later again he turned to his left. In what direction is he moving now?

- (a) East (b) North (c) West (d) South

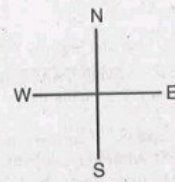
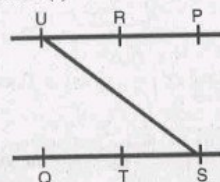
[May 2018]

Q.7. Six flats on a floor in two rows facing North and South are allotted to P, Q, R, S, T and U. If Q gets a North facing flat and is not next to S, S and U get diagonally opposite flat. R next to U gets a South facing flat and T gets a North facing flat. Whose flat is between Q and S ?

- (a) T (b) U (c) R (d) P

[Nov. 2018]

Solution : (a)



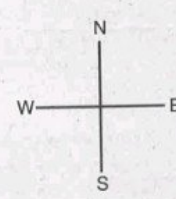
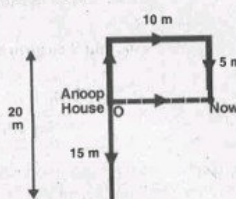
Clearly Flat 'T' is lying between Q & S.

Q.8. Anoop Starts walking towards South. After walking 15 metres he turns towards North. After walking 20 metres he turns towards East and walks 10 metres. He then turns towards South and walks 5 metres. In which direction is he from the original position ?

- (a) North (b) South (c) East (d) West

[Nov. 2018]

Solution : (c)



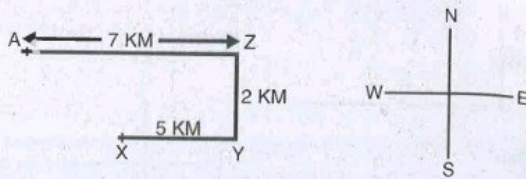
Now Anoop is in 'East direction' with respect to his original Position O.

Q.9. Rahim started from point X and walked straight 5 km. East, then turned left and walked straight 2 km. and again turned left and walked straight 7 km. In which direction is he from the point X ?

- (a) North-East (b) South-West (c) South-East (d) North-West

[Nov. 2018]

Solution : (d)

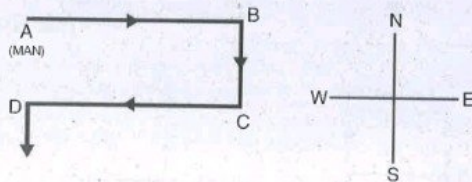


Q.10. A man started walking towards East. After moving a certain distance, he turns to his right. After moving some distance, he turns to his right again. After moving a little he turns now to his left currently, he is going in _____ direction.

- (a) East (b) West (c) South (d) North

[Nov. 2018]

Solution : (c)



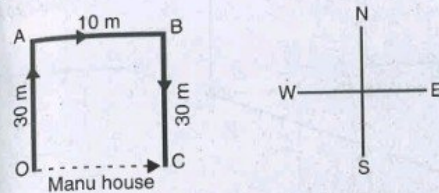
The man is going towards South.

Q.11. Manu wants to go to the market. He starts walking from his house towards North reaches at a crossing after 30 m. He turns towards East, goes 10m till the second crossing and turns again, moves towards South straight for 30 m where marketing complex exists. In which direction is the market from his house ?

- (a) North (b) South (c) East (d) West

[Nov. 2018]

Solution : (c)



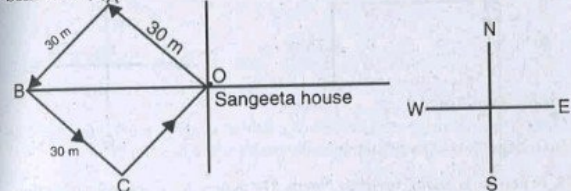
Clearly the Market exists towards East from his house.

Q.12. Sangeeta leaves from her home. She first walk 30 metres in North-West direction, and then 30m in South West direction, next she walks 30 metres in South-East direction. Finally she turns towards her house. In which direction is she moving?

- (a) North-West (b) North-East (c) South-East (d) South-West

[June 2019]

Solution : (b)

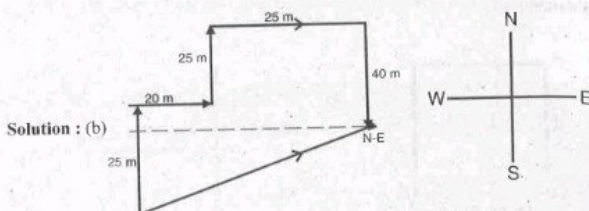


Finally Sangeeta is moving towards North-East direction.

Q.13. When a person faces north and walk 25m and he turn right and walk 20m and again turns left and walk 25m, and turns right 25 m and turns right and walks 40m. In which direction is he now from his starting point?

- (a) North-West (b) North-East (c) South-East (d) South-West

[June 2019]

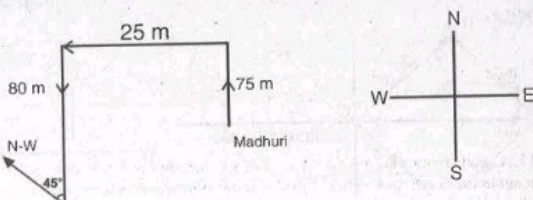


Q.14. Madhuri moved a distance of 75 metres towards North. She then turned to her left and walked about 25m, turned left again and walked 80m. Finally she turned to the right at an angle of 45° . In which direction was she moving finally?

- (a) South-East (b) South-West (c) North-West (d) North-East

[June 2019]

Solution : (c)

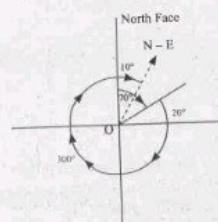


Q.15. A person is facing towards North. He moves 70° clock-wise direction. Again he is moving 300° clock-wise direction. Now, in which direction is he presently facing ?

- (a) North-West (b) South-East (c) North-East (d) South-West

[June 2019]

Solution : (c)

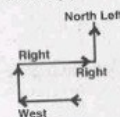


Q.16. A man started walking West. He turned right. Then again right and finally turned left. Towards which direction was he walking now?

- (a) North (b) South (c) West (d) East

[Dec. 2019]

Solution : (a)

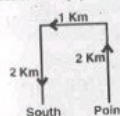


Q.17. A starts from a point and walk 2 km north, then turns left and walk 1 km, then again turns left and walks 2 km. Point out the direction in which he is going now?

- (a) East (b) West (c) North (d) South

[Dec. 2019]

Solution : (d)

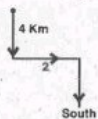


Q.18. A man is moving on cycle and move 4 km South then turns left and move 2 km and turns again to the right to move to go more. In which direction is he moving?

- (a) North (b) West (c) East (d) South

[Dec. 2019]

Solution : (d)

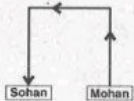


Q.19. If Mohan travels towards north from his house then turn to left, then to south covering equal distance. In each direction to reach Sohan's house. In which direction Mohan's house is from Sohan's house now?

- (a) East (b) South (c) North (d) West

[Dec. 2019]

Solution : (a)

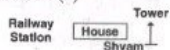


Q.20. If Shyam sees the rising sun behind the tower and setting sun behind the Railway station from his house. What is the direction of tower from the Railway station?

- (a) South (b) North (c) West (d) East

[Dec. 2019]

Solution : (d)



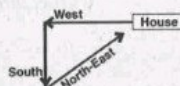
Clearly Tower is in East with respect to Railway Station.

Q.21. A man takes his dog for a walk whose house is facing East. He walks first towards west and then walks towards south. In which direction he has to walk now to reach home?

- (a) North East (b) West (c) South (d) North West

[Dec. 2019]

Solution : (a)

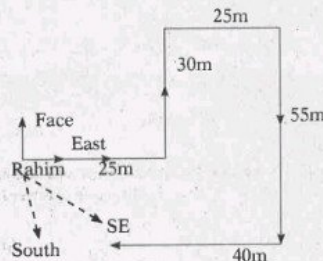


Q.22. Rahim faces towards north turning to his right he walks 25 mtrs. He then turns to his left and walks 30 mtrs. Next he moves 25 mtrs. To his right he then turns to his right again and walks 55 mtrs. Finally he turns to the right and moves 40 mtrs. In which direction is he now from the starting point?

- (a) South - West (b) South (c) North - West (d) South - East

[Dec. 2020]

Solution :



Clearly now he is in South - East direction from starting point.

(d) is correct.

Q.23. A man can walk by having long, medium and short steps. He can cover 60 meters by 100 long steps, 100 meters by 200 medium steps and 80 meters by 200 short steps. He starts walking by 5,000 long steps, then he turns left and walk by taking 6,000 medium steps. He then turns right and walk by taking 2,500 short steps. How far (in meters) is he away from his starting point?

- (a) 5,000m (b) 4,000m (c) 6,000m (d) 7,000m

[Dec. 2020]

Solution :

(a) is correct.

Let L = Long step ; M = Medium step
and S = Short step.

$$100L = 60m. \Rightarrow L = 0.6m$$

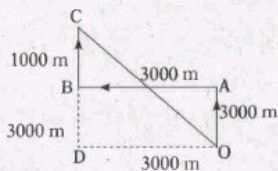
$$200M = 100m. \Rightarrow M = \frac{100}{200} = 0.5m.$$

$$200S = 80m \Rightarrow S = \frac{80}{200} = 0.4m.$$

$$\therefore 5000 \text{ Long steps} = 5000 \times 0.6 = 3000m.$$

$$6000 \text{ Medium steps} = 6000 \times 0.5 = 3000m.$$

$$\text{and } 2500 \text{ short steps} = 2500 \times 0.4 = 1000m.$$



$$\therefore AB = OD = 3000m$$

$$CD = BC + BD$$

$$= BC + OA$$

$$= 1000 + 3000$$

$$= 4000m.$$

$$\therefore OC = \sqrt{OD^2 + CD^2} = \sqrt{3000^2 + 4000^2} = 5000m.$$

(a) is correct.

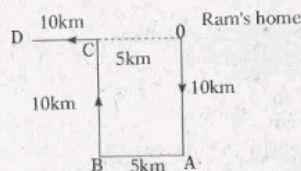
Q.24. One day, Ram left home and cycled 10km southwards, then he turns right and cycled 5km, then he turns right and cycled 10km and then he turns left and cycled 10 km. How many kilometers will he have to cycle to reach his home straight?

- (a) 15km (b) 10km (c) 20km (d) 25km

[Dec. 2020]

Solution :

(a) is correct.



Clearly Ram is at D at the end.

He has to reach his home "O".

Distance covered to reach his home straight = DC + CO

$$= 10 + 5 = 15 \text{ km}$$

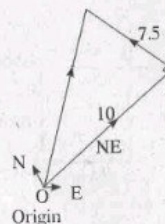
\therefore (a) is correct.

Q.25. You are facing North-east and moved forward 10cms and turned left for 7.5 cm what is your position?

- (a) North from initial (b) South from initial
(c) East from initial (d) None

[Dec. 2020]

Solution :



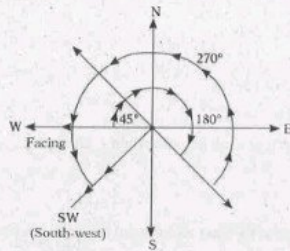
Clearly (d) is correct.

Q.26. A man is facing west. He turns 45° in the clockwise direction and then another 180° in the same direction and then 270° in the anti-clockwise direction. He is the facing now?

- (a) South-West (b) North-West (c) West (d) South

[Jan. 2021]

Solution : (a) is correct

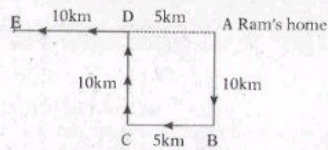


Q.27. One day Ram left home and bi-Cycled 10 km southwards, turned right and travelled 5 km and turned right and went 10 km he turned left and went 10 km how many kilometers he has to cycle to reach his home straight?

- (a) 10 (b) 15 (c) 20 (d) 25

[Jan. 2021]

Solution : (b)



clearly $BC = AD = 5\text{ km}$

Distance to bicycle from E to house A = $ED + DA$

$$= 10 + 5 = 15\text{ km}$$

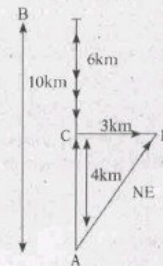
\therefore (b) is correct

Q.28. Ms. N walks 10 km towards North from there she walks 6 km towards South. Then she walks 3 km towards East. How far and in which direction is she with reference to her starting point?

- (a) 4 km West (b) 6 km West
(c) 3 km East (d) 5 km North-East

[Jan. 2021]

Solution : (d) is correct



Here $AC = 10 - 6 = 4\text{ km}$

Here ACD is a right-angled triangle

$$AD^2 = AC^2 + CD^2$$

$$= 4^2 + 3^2 = 16 + 9 = 25$$

$$\therefore AD = \sqrt{25} = 5\text{ km}$$

Direction from A to D is North-East

\therefore (d) is correct

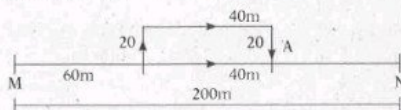
Q.29. A and B start moving towards each other from two places 200 m apart. After walking 60 m, B turns left and goes 20 m, then he turns right and goes 40 m. He then turns right again and comes back to the road on which he had started walking. If A and B walk with the same speed, what is the distance between them now?

- (a) 80 m (b) 70 m (c) 40 m (d) 60 m

[July 2021]

Solution : (c) is correct

Speed of both A & B is equal.



Let distance between M and N = 200m. A starts from M and B from N Walking towards each other.

Distance covered by A = Distance covered by B = $60 + 20 + 40 + 20 = 140\text{ m}$.

B is 140m away from N but A is only $60 + 40 = 100\text{ m}$ away from M.

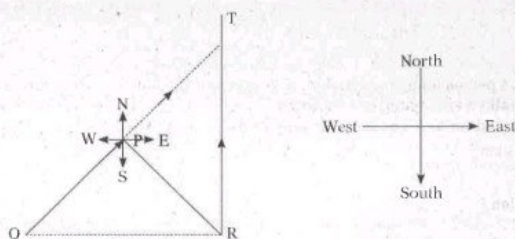
Hence distance between A and B = $140 - 100 = 40\text{ m}$

Q.30. There are four towns P, Q, R and T. Q is to the south-west of P, R is to the east of Q and south east of P, and T is to the north of R in line with QP. In which direction of P is T located?

- (a) North (b) North-East (c) East (d) South-East

[July 2021]

Solution : (b) is correct



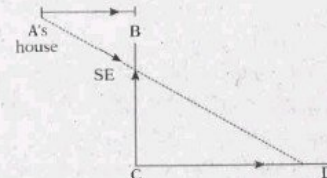
Clear T is Located in North-East direction with respect to P.

Q.31. Five friends A, B, C, D and E are staying in the same locality. B's house is to the east of A's house and to the north of C's house C's house is to the west of D's house. D's house is in which direction with respect to A's house?

- (a) North-East (b) South-East
(c) North-West (d) South-West

[July 2021]

Solution : (b) is correct

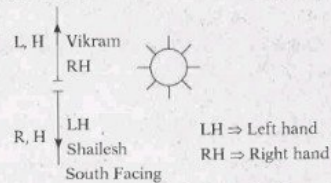


Q.32. One morning, after sunrise, Vikram and Shailesh were standing in a lawn with their backs towards each other. Vikram's shadow fell exactly towards left hand side. Which direction was Shailesh facing?

- (a) South-West (b) West (c) South (d) East-South

[July 2021]

Solution : (c) is correct

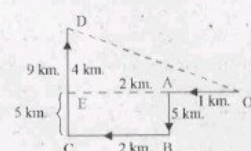


Q.33. A person walks 1 km (kilometer) towards West and then he turns to South and walks 5 km. Again, he turns to West and walks 2 km. After this he turns to North and walks 9 km. How far is he from his starting point?

- (a) 3 km (b) 4 km (c) 5 km. (d) 7 km.

[Dec. 2021]

Solution : (c)



Here,

$$OE = 1 + 2 = 3 \text{ Km.}$$

$$DE = CD - CE$$

$$= 9 - AB$$

$$= 9 - 5 = 4 \text{ Km.}$$

$$OD = \sqrt{ED^2 + OE^2}$$

$$= \sqrt{4^2 + 3^2} = \sqrt{16 + 9}$$

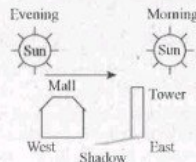
$$= \sqrt{25} = 5 \text{ Km.}$$

Q.34. Daily in the morning the shadow of a Clock Tower installed on Railway Station falls on high rise Mall and in the evening the shadow of the same Mall falls on the Clock Tower installed on Railway Station exactly. So in which direction is Clock Tower to Mall?

- (a) Eastern side (b) Western side
(c) Northern side (d) Southern side

[Dec. 2021]

Solution : (a)

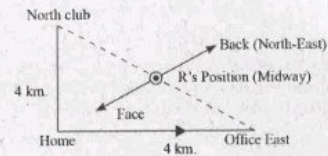


Q.35. R's office is 4 km. in East direction from his home and club is 4 km. in North direction from his home. On midway from office to club R starts moving towards his home. In which direction is he facing his back?

- (a) South-East (b) North-West (c) North-East (d) South-West

[Dec. 2021]

Solution : (c)

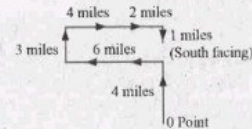


Q.36. A man starts from a point walks 4 miles towards North and turn left and walks 6 miles, turns right and walks for 3 miles and again turns right and walks 4 miles and takes rest for 30 minutes. He gets up and walks straight 2 miles in the same direction and turns right and walks one mile. What is the direction he is facing?

- (a) North (b) South (c) South-East (d) West

[Dec. 2021]

Solution : (b)

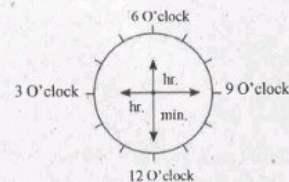


Q.37. The hour hand of a clock is in west direction when time is 3'O clock. What is the direction of minutes hand when time is 6:45?

- (a) East (b) West (c) North (d) South

[Dec. 2021]

Solution : (a)



6.45 hrs means minute hand at point

9 (i.e. $9 \times 5 = 45$ Minutes)

\therefore Minute hand in eastern direction

Q.38. If $P \times Q$ means P is to the south of Q; $P + Q$ means P is to the north of Q; $P \% Q$ means P is to the east of Q; $P - Q$ means P is to the west of Q; then in case of $A \% B + C - D$, D is in which direction with respect to B?

- (a) North-west (b) South-east (c) North-east (d) South-east

[June 2022]

Solution : A $\% B + C - D$



Clearly D is in South-East with respect to B.

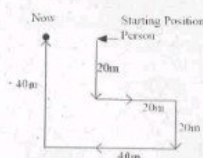
\therefore (b) is correct

Q.39. I am facing west, turning to the left I go 20 m, then turning to the left I go 20m and turning to the right I go 20m, 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

[June 2022]

Solution :



\therefore (b) is correct

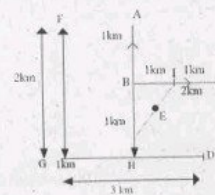
Q.40. A, B, C, D, E, F, G, H, and I are nine poles. C is 2 km east of B. A is 1 km north of B and H is 2 km south of A. G is 1 km west of H while D is 3 km East

of G and F is 2 km north of G. I is situated right in the middle of B and C while E is just in the middle of H and I. The Distance between B and I is

- (a) 1 km (b) 1.41 km (c) 2 km (d) 3 km

[June 2022]

Solution :



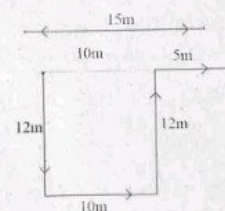
\therefore (a) is correct

Q.41. Starting from a point, Rani walked 12m South, she turned left and walked 10m, she again turned left and walked 12m, then she turned right and walked 5m. how far is she now and in which direction from the starting point?

- (a) 27 m towards East (b) 5 m towards East
(c) 10 m towards West (d) 15 m towards East

[June 2022]

Solution :



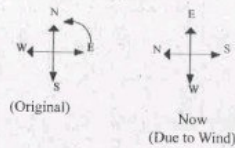
\therefore (d) is correct

Q.42. Puru was driving his car and at a circle there was direction pole, which was showing all the four correct directions. But due to the wind, it turns in such a manner that now North pointer is showing West. Puru went in the wrong direction thinking that he was travelling East. In what direction he was actually travelling?

- (a) West (b) East (c) North (d) South

Solution :

[June 2022]



∴ (c) is correct

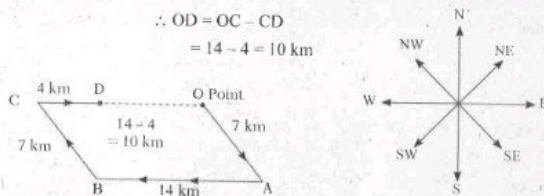
Q.43. Radha moves towards South-East a distance of 7 km, then she moves towards West and travels a distance of 14 km. From here she moves towards North. West a distance of 7 km and finally she moves a distance of 4 km towards east. How far is she now from the starting point?

- (a) 3 km (b) 4 km (c) 10 km (d) 11 km

[Dec. 2022]

Solution:

$$\therefore OD = OC - CD \\ = 14 - 4 = 10 \text{ km}$$



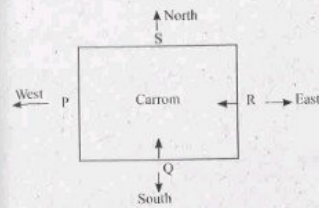
∴ (c) is correct

Q.44. P, Q, R and S are playing a game of carrom. P, R and S, Q are partners. 'S' is to the right of 'R'. If 'R' is facing West, then 'Q' is facing which direction?

- (a) South (b) North (c) East (d) West

[Dec. 2022]

Solution:



Clearly Q is facing North

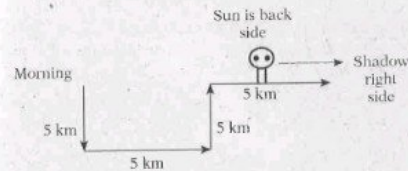
∴ (b) is correct

Q.45. One morning a boy starts walking in a particular direction for 5 km and then takes a left turn and walks another 5 km thereafter he again takes left turn and walks another 5 km and at last he takes right turn walks 5 km. Now he sees his shadow in front of him. What direction he did start initially?

- (a) South (b) North (c) West (d) East

[Dec. 2022]

Solution :



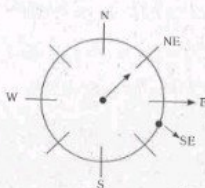
∴ (a) is correct.

Q.46. It is 3'o clock in a watch. If the minute hand points towards the North, East then the hour hand will point towards the

- (a) South (b) South-West (c) North-West (d) South-East

[Dec. 2022]

Solution :



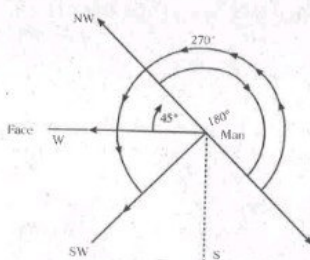
∴ (d) is correct

Q.47. A man is facing west. He turns 45 degree in the clock-wise direction and then another 180 degree in the same direction and then 270 degree in the anticlock-wise direction. Find which direction he is facing now?

- (a) South-East (b) West (c) South (d) South-West

[Dec. 2022]

Solution:

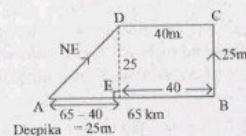


Q.48. Deepika starts walking straight towards east. After walking 65m, she turns to the left and walks 25m straight. Again she turns to be left and walks a distance of 40m. At what distance and in which direction currently she is from the initial point?

- (a) 35.35m in North-East (b) 35.35m in South-West
(c) 25m in North (d) 25m in West

[June 2023]

Solution:



$$AE = 65 - 40 = 25\text{m.}$$

In right angle $\triangle AED$.

$$AD = \sqrt{AE^2 + DE^2}$$

$$= \sqrt{25^2 + 25^2}$$

$$= \sqrt{2 \times 25^2}$$

$$= 25\sqrt{2} = 25 \times 1.414$$

$$= 35.35\text{m}$$

North-East.

(a) is correct.

Q.49. Mr. Kartik puts his time piece on the table in such a way that at 6:00 PM, hours hand points to north. In which direction the minute hand will point at 9:15 PM?

- (a) South-East (b) East (c) West (d) South-West

[June 2023]

Solution:

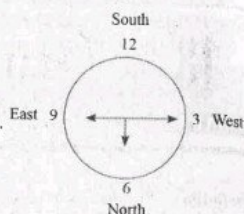
Clearly

Minute hand will show west

\therefore North South just opposite.

Hence, East & West will be just opposite.

So (c) is correct.



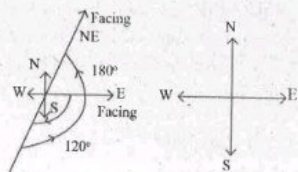
Q.50. Shrikant is facing East and turns 120° in the clockwise direction and then turns 180° in the anticlockwise direction. Which direction is Shrikant facing now?

- (a) East
(c) North

- (b) North-East
(d) South-West

[June 2023]

Solution:



(b) is correct.

Definition : The process of making an arrangement of a group of persons to sit according to a prefixed (pre-planned) manner is called Seating Arrangement. In seating arrangement Questions, some conditions are given & on the basis of those conditions, students are required to arrange those things.

Pattern or Types of Seating Arrangements:-

(i) Linear Arrangement ; (ii) Circular Arrangement ; (iii) Polygon Arrangement.

Some General instructions to solve seating arrangement questions:

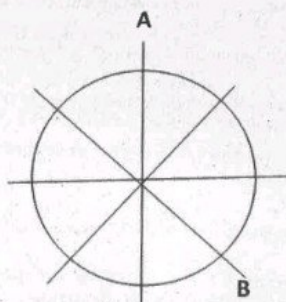
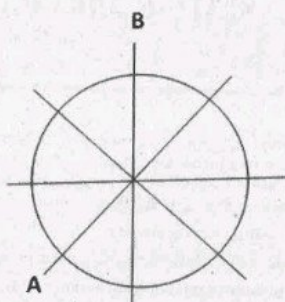
- Review all informations given in the question.
- Recognise 'definite information'; 'comparative information' and 'negative information'.
 - "Person A is sitting on the left end of the bench" is a definite information.
 - "Person B is sitting immediate right to C" is an example of Comparative information.
 - "Person C is not sitting on the immediate right of D" is an example of negative information.
- A negative information does not tell us anything definitely but gives an idea to eliminate a possibility.

Golden Rules

Rule 1: Always start the arrangement with 100% fixed i.e. confirmed i.e. definite information.

Example: There are 8 persons A, B, C, D, E, F, G, H are sitting around a round table. A is sitting 3rd to the right of B, C is sitting opposite to D who is 3rd left to the person opposite to A

... so on. If the question is like this then students should start with A is sitting 3rd to the right of B. Because this is only the definite or confirmed information.



Note: If nothing is mentioned in the question regarding the direction i.e. they are facing towards centre or facing away from centre then by default we should take it as facing towards centre.

Rule 2: For a closed figure (circle, square, rectangle, octagon etc...) arrangement, Only persons sit opposite to each other when there are even number of members.

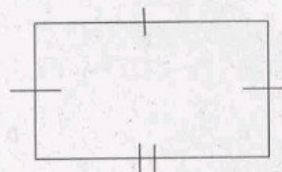


Fig. (i)

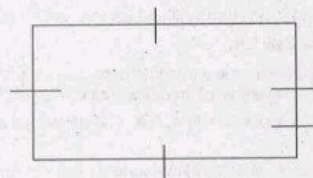
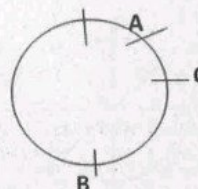


Fig. (ii)

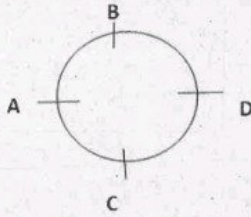
In a given arrangement if four persons are given as in first diagram then two persons can be accommodated exactly opposite to each other but not in case of figure (ii)

Rule 3: "And" verses "Who"

In a given question if it is given as "In a circular arrangement, there are four persons A, B, C, D sitting in the following way. A is right of B who is left of C"



In this case **Who** refers to B: Thus A is placed right to B and B is placed left to C. In a circular arrangement, there are four persons A, B, C, D sits in the following way. A is right of B and is left of C.



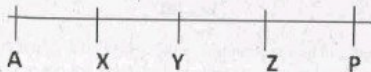
In this case **And** refers to A: Thus A is placed left to C as well as right to B.

Rule 4: Left vs Immediate left

Either in circular arrangement or in linear arrangement unless it is mentioned in the question we cannot assume left or an immediate left.

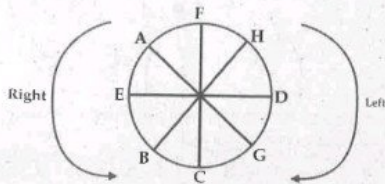
Example: There are 5 persons namely A, P, X, Y, Z standing in a row. No one sits left to the vowel.

Only 3 persons are to the right of X. X sits immediate left of Y and left to Z. Z does not sit at extreme ends.



In the Above arrangement, X is immediate left to Y, whereas X is left to Z. No matter how many places far from Z but it is left to Z.

Rule 5: Identifying the left and right in a given arrangement
For Circular/closed figure:



* Whenever it is given towards right go for anti-clockwise direction.

* Whenever it is given towards left go for clockwise rotation.

These are the important rules, a student should be aware of while solving seating arrangement problems. **In a competitive exam speed is required, but should not be hurry.**

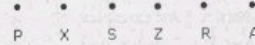
Example 1: A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends.

R is sitting to the left of A. Who is to the right of P?

- (a) A (b) X (c) S (d) Z

Solution: Option (b)

The seating arrangement is as follows:

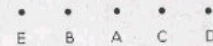


Therefore, right of P is X.

Example 2: A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting with E who is on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. In which position A is sitting?

- (a) Between B and D (b) Between B and C
(c) Between E and D (d) Between C and E

Solution: Option (b)



Therefore, A is sitting in between B and C

Example 3: There are four children P, Q, R, S sitting in a row. P occupies seat next to Q but not next to R. If R is not sitting next to S? Who is occupying seat next to adjacent to S.

- (a) Q (b) P (c) P and Q (d) None

Solution: (b) is correct.

Two possible arrangements can be: R, Q, P, S or S, P, Q, R

Clearly, only P is sitting adjacent to S.

Example 4: 8 leaders P, Q, R, S, T, U, V and W are sitting on a bench facing towards North.

- (i) T is fourth to the left of P
(ii) S is fourth to the right of W
(iii) U and R are not sitting at the ends, but they are neighbours of T and Q respectively.
(iv) P is next to the right of W and but left of Q.

Who are sitting at the extreme ends?

- (a) T & S (b) P & Q
(c) U & R (d) None

Solution: (a) is correct.

(i) T is fourth to the left of P $\Rightarrow T***P$

(ii) S is fourth to the right of W $\Rightarrow W***S$

(iii) U and R are neighbours of T and Q respectively $\Rightarrow UT$ or TU & RQ or QR

(iv) P is next to the right of W and but left of Q $\Rightarrow WPQ$

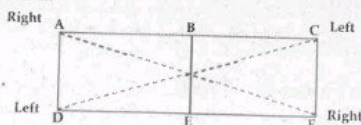
Combining (i), (ii), (iv) & (iii); we get $UT**WPQRS$ or $TU*WPQRS$

Since, U and R are not sitting at the ends $\Rightarrow TU*WPQRS$ is right.

Rest person is V. So V will sit at rest place. Hence, the arrangement is $TUVWPQRS$. Hence, T and S are sitting at the extreme ends.

Two Rows Sequence or Parallel Seating Arrangement

Let A, B, C, D, E, F are 6 students seating in two rows for Group Discussion just opposite to each other.



In the above diagram, it is clear that:

1. A & D are opposite to each other.
2. Also B & E are opposite to each other.
3. C & F are also sitting opposite to each other.
4. A and F are sitting diagonally opposite to each other.
5. C and D are also sitting diagonally opposite to each other.
6. Students A, B, C are sitting Southward while D, E, F Northward.
7. Toward North facing yours right is right side & yours left is left side in the diagram. Toward South facing, it is just opposite as seen in the diagram.

Example 5: Directions: Read the following informations carefully to answer these questions:

[MAT 2005]

- (i) Six flats on a floor in two rows facing North and South are allotted to P, Q, R, S, T and U.
(ii) Q gets a North facing flat and is not next to S.
(iii) S and U get diagonally opposite flats.
(iv) R, next to U, gets a South facing flat and T gets a North facing flat.

Q1. The flats of which of the other pairs than SU, are diagonally opposite to each other?

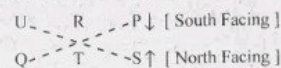
- (a) QP (b) PT (c) QR (d) TS

Q2. Which of the following combinations gets South facing flats?

- (a) UPT (b) URP (c) QTS (d) Data inadequate

Solution:

From Question, the arrangement should be :-



Ans. Q 1. (a) is correct.

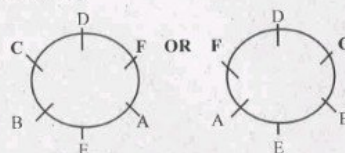
Q 2. (b) is correct.

Example 6: A, B, C, D, E and F are sitting around a round table. A is between E and F, E is opposite to D, and C is not in either of the neighbouring seats of E. Who is opposite to B?

- (a) C (b) D
(c) F (d) None of these

[MAT 2003]

Solution: (c)

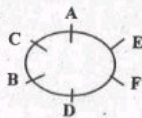


In each arrangement F is opposite to B.

Example 7: Six persons A, B, C, D, E and F are standing in a circle. B is between D and between E and C. F is to the right of D. Who is between A and F?

- (a) B (b) C (c) D (d) E

Solution : (d)

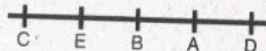


PAST EXAM QUESTIONS WITH SOLUTIONS (MEMORY BASED)

Q.1. Five boys A, B, C, D and E are sitting in a row. A is to the right of B, and E is to the left of B but to the right of C. A is to the left of D. Who is second from the left end?

- (a) D (b) A (c) E (d) B

Solution : (c)

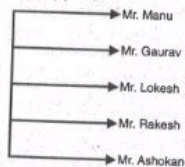


Clearly E is the second from the left end.

Q.2. Five senior citizens are living in a Multi-Storeyed building. Mr. Manu lives in a flat above Mr. Ashokan, Mr. Lokesh in a flat below Mr. Gaurav, Mr. Ashokan lives in a flat below Mr. Gaurav and Mr. Rakesh lives in a flat below Mr. Lokesh. Who lives in the top most flat?

- (a) Mr. Lokesh (b) Mr. Gaurav (c) Mr. Manu (d) Mr. Rakesh

Solution : (c)



Clearly Mr. Manu lives in the top most flat.

[May 2018]

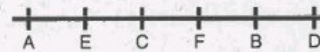
[May 2018]

Q.3. Six children A, B, C, D, E and F are standing in a row. B is between F and D, E is between A and C. A does not stand next to F or D. C does not stand next to D. F is between which of the following pairs of children?

- (a) B and E (b) B and C (c) B and D (d) B and A

[May 2018]

Solution : (b)



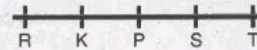
F is between B & C.

Q.4. Five children are sitting in a row. S is sitting next to P but not T. K is sitting next to R who is sitting on the extreme left and T is not sitting next to K. Who is/are adjacent to S.

- (a) K + P (b) R + P (c) Only P (d) P and T

[May 2018]

Solution : (d)

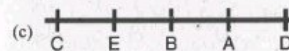


Q.5. Five boys A, B, C, D and E are sitting in a row. A is to the right of B and E is to the left of B but to the right of C. A is to the left of D. Who is second from the left end?

- (a) D (b) A (c) E (d) B

[May 2018]

Solution :



Clearly E is second from the left end.

Q.6. Eight persons A, B, C, D, E, F, G and H are sitting in a line. E sits second right to D. H sits fourth left to D. C and F are immediate neighbours, but C is not immediate neighbour of A. G is not neighbour of E. Only two persons sit between A and E. The persons on left end and right end respectively are:

- (a) G and E (b) B and E (c) H and E (d) G and B

[Nov. 2018]

Solution : (a); (i) D * E (ii) H *** D (iii) A * CF or FC * A (iv) G * E or E * G (v) A ** E or E ** A

So, G H C F A D B E

Clearly G is on the left end & E on the right end.

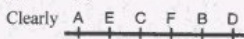
Q.7. Six children A, B, C, D, E and F are sitting in a row. B is between F and D, E between A and C. However, A does not sit next to F or D. C does not sit next to D. Then, F is sitting between ... & ...?

- (a) B and C (b) E and C (c) B and D (d) None

[Nov. 2018]

Solution : (a)

(i) FBD (ii) AEC



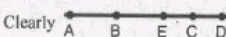
Clearly F is sitting between B and C.

Q.8. Five students A, B, C, D and E are standing in a row. D is on the right of E, B is on the left of E but on the right of A. D is next to C on his left. The student in middle is.....

- (a) B (b) E (c) C (d) A

[Nov. 2018]

Solution : (b)



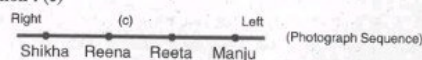
Hence student E is in the middle of these arrangement.

Q.9. Four girls are seated for a photograph. Shikha is left of Reena. Manju is to the right of Reena. Reeta is between Reena and Manju. Who is the second from left in photograph?

- (a) Reena (b) Manju (c) Reeta (d) Shikha

[June 2019]

Solution : (c)



The second from left in photograph is Reena.

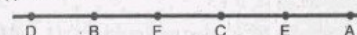
Q.10. In a straight line there are six persons sitting in a row. B is between F and D. E is between A and C. A does not stand next to F or D, C does not stand next to D. F is between which of the following persons?

- (a) B and E (b) B and C (c) B and D (d) B and A

[June 2019]

Solution : (b)

- (i) FBD or DBF (ii) AEC or CEA



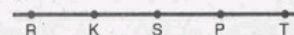
Q.11. 5 Children are sitting in a row. S is sitting next to P but not T. K is sitting next to R. K is not sitting on extreme end. T is not sitting next to K. Who are sitting adjacent S.

- (a) K & P (b) R & P (c) Only P (d) P & T

[June 2019]

Solution : (a)

- (i) T*SP or PS*T (ii) RK (iii) T*K or K*T



Q.12. Five boys A, B, C, D, E are sitting in a row. A is to the right of B and E is to the left of B but to the right of C. A is to the left of D. Who is second from the left end?

- (a) D (b) A (c) E (d) B

[June 2019]

Solution : (c)

- (i) CEBAD



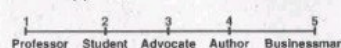
Clearly, E is second from the left end.

Q.13. 5 persons are standing in a line. One of the 2 persons at the extreme ends is a professor and the other a business man. An advocate is standing to the right of student. An author is to the left of the business man. The student is standing between the professor and advocate. Counting from the left, the author is at which place?

- (a) 2nd (b) 3rd (c) 4th (d) None of these

[Dec. 2019]

Solution : (c)

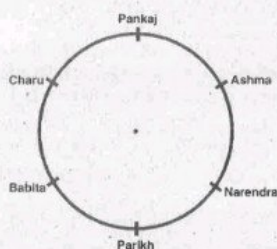


Q.14. Parikh is sitting between Narendra and Babita, Charu is to the left of Babita, Pankaj is sitting between Charu and Ashma, they all sitting around a circle facing the center then who is sitting to the right of Babita?

- (a) Parikh (b) Ashma (c) Charu (d) Narendra

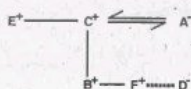
[Dec. 2019]

Solution : (d)



Q.15-18. Read the following information carefully to answer the give questions. Six members of a family namely A, B, C, D, E and F are travelling together. B is the son of C but C is not the mother of B. A and C are married couple. E is the brother of C. D is the daughter of A. F is the brother of B.

Solution :



Q.15. How many male members are there in the family?

- (a) 3 (b) 2 (c) 4 (d) 1

[Dec. 2019]

Solution : (c)

Q.16. How many children does A have

- (a) 1 (b) 2 (c) 3 (d) 4

[Dec. 2019]

Solution : (c)

Q.17. What is the relation of E to D

- (a) Uncle (b) Brother (c) Father (d) None of these

[Dec. 2019]

Solution : (a)

Q.18. Who is the mother of B?

- (a) C (b) D (c) F (d) A

[Dec. 2019]

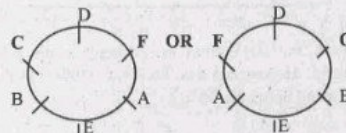
Solution : (d)

Q.19. A, B, C, D, E and F are sitting around a round table. A is between E and F, E is opposite to D, and C is not in either of the neighbouring seats of E. Who is opposite to B?

- (a) C (b) D (c) F (d) None of these

[Dec. 2020]

Solution : (c)



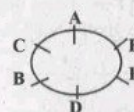
In each arrangement F is opposite to B.

Q.20. Six persons A, B, C, D, E and F are standing in a circle. B is between C and D and A is between E and C. F is to the right of D. Who is between A and F?

- (a) B (b) C (c) D (d) E

[Dec. 2020]

Solution : (d)

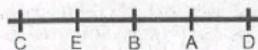


Q.21. Five boys A, B, C, D and E are sitting in a row. A is to the right of B and E is to the left of B but to the right of C. A is to the left of D. Who is second from the left end?

- (a) D (b) A (c) E (d) B

[Dec. 2020]

Solution : (c)



Clearly E is second from the left end.

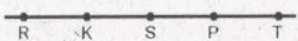
Q.22. 5 Children are sitting in a row. S is sitting next to P but not T. K is sitting next to R. K is not sitting on extreme end. T is not sitting next to K. Who are sitting adjacent S.

- (a) K & P (b) R & P (c) Only P (d) P & T

[Dec. 2020]

Solution : (a)

- (i) T*SP or PS*T (ii) RK (iii) T*K or K*T



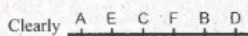
Q.23. Six children A, B, C, D, E and F are sitting in a row. B is between F and D. E between A and C. However, A does not sit next to F or D. C does not sit next to D. Then, F is sitting between ...& ...?

- (a) B and C (b) E and C (c) B and D (d) None

[Dec. 2020]

Solution : (a)

- (i) FBD (ii) AEC



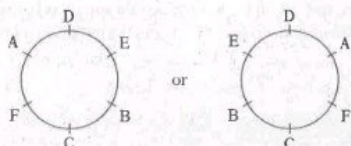
Clearly F is sitting between B and C.

Q.24. A is seated between D and F at a round table. C is seated opposite to D. E is round adjust to D. Who sit opposite to B?

- (a) A (b) D (c) C (d) F

[Jan. 2021]

Solution :



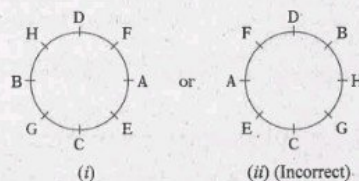
Q.25. Four Indian, A, B, C and D and four Chinese E, F, G and H are sitting in a circle around a table facing the each other in a conference. No two Indians or Chinese are sitting side by side, C who is sitting between G and E is being D, F is between D and A and facing G, H is to the left of B. Who is sitting left of A?

- (a) E (b) F (c) G (d) H

Clearly A sits opposite to B.

[Jan. 2021]

Solution :



(ii) is false because two Indians B & D are sitting side by side which is against direction.

So (i) is correct.

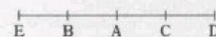
Hence (a) is correct.

Q.26. Five friends A, B, C, D and E are sitting on a bench. A is sitting next to B; C is sitting next to D, D is not sitting with E; E is at the left end of bench. C is on second position from the right; A is on the right side of B who is the right side of E. A and C are sitting together. What is the position of B?

- (a) Second from right (b) Centre
(c) Extreme left (d) Second from left

[Jan. 2021]

Solution : (d) is correct



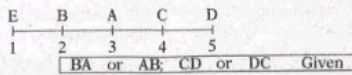
B is second from left.

Q.27. A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting with E who is on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. In which position A is sitting between?

- (a) C and D (b) D and E (c) B and C (d) B and D

[Jan. 2021]

Solution : (c) is correct

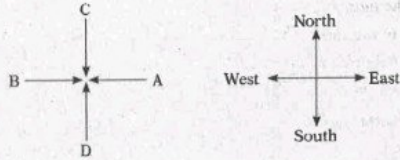


Q.28. A, B, C and D are playing cards, A and B are partners. D faces towards North. If A faces West, then who faces south?

- (a) C (b) B
(c) D (d) Data is inadequate

[Jan. 2021]

Solution : (a) is Correct



Given that A and B are partners. A faces west hence B will face East. D faces North hence rest person 'C' will face South C & D are Partners.

Clearly C is facing South.

(a) is correct.

Q.29. Five girls are sitting on a bench to be photographed. Seema is to the left of Rani and to the right of Bindu. Mary is to the right of Rani. Reeta is between Rani and Mary. Who is sitting immediate right to Reeta?

- (a) Seema (b) Rani (c) Bindu (d) Mary

[July 2021]

Solution : (d) is correct

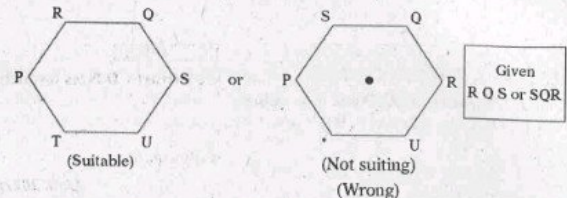
Bindu, Seema, Rani, Reeta, Mary

Q.30. Six friends P, Q, R, S, T and U are sitting around the hexagonal table each at one corner and are facing the centre of the hexagonal. P is second to the left of U. Q is neighbour of R and S. T is second to the left of S. Which one is sitting opposite to S?

- (a) R (b) P (c) Q (d) T

[July 2021]

Solution : (b) is correct



Q.31. A, B, C, D, E, F and G are sitting in a row facing North :

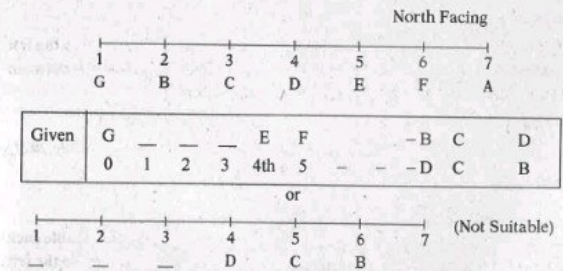
1. F is to the immediate right of E
2. E is 4th to the right of G
3. C is the neighbour of B and D
4. Person who is third to the left of D is at one of ends.

Who are to the right of D?

- (a) E and F only (b) G, B and C
(c) E, F and A (d) G and B only

[July 2021]

Solution : (c) is correct



Q.32. Six children, named as P, Q, R, S, T and U, are sitting in a row, Q is between U and S; T is between P and R; P does not sit next to either U or S; B does not sit next to S. So, U is sitting between the pairs of children.

- (a) Q and T (b) Q and R (c) Q and S (d) Q and P

[Dec. 2021]

Solution : (b)

SQURTP

UQS or SQU
PTR or RTP

Q.33. Five persons A, B, C, D and E are sitting in a row. A sit S left to C and C sit S left to B. E sits rights to B, D sits in between E and B. Who is sitting in the middle?

- (a) B (b) C (c) E (d) D

[Dec. 2021]

Solution : (a)

ACBDE

Q.34. Four Ladies A, B, C and D and four Gentlemen E, F, G and H are sitting in a circle around a table facing each other.

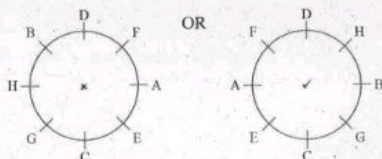
- No two Ladies or gentlemen are sitting side by side.
- C, who is sitting between G and E, facing D.
- F is between D and A and facing G.
- H is to the right of B.

Who is immediate neighbour of B?

- (a) G and H (b) E and F (c) E and G (d) A and B

[Dec. 2021]

Solution : (a)



[Because two ladies B & D are side by side]

Q.35. Persons M, N, O, P, Q, R, S and T are sitting on a compound wall facing North, O sits fourth left of S; P sits second to the right of S; only two people sit between P and M; N and R are immediate neighbours of each other. N is not an immediate neighbour of M; T is not a neighbour of P. How many persons are seated between M and Q?

- (a) one (b) two (c) three (d) four

[Dec. 2021]

Solution : (a)

TONRMSQP

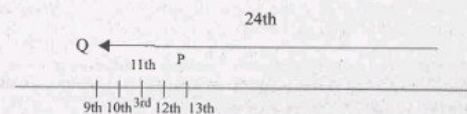
NR or RN

Q.36. In a line, P is sitting 13th from left. Q is sitting 24th from the right and 3rd left from P. How many people are sitting in the line?

- (a) 34 (b) 31 (c) 32 (d) 33

[Dec. 2021]

Solution : (d)



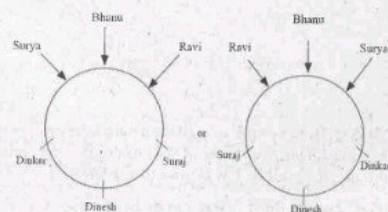
Total No. of People = 9 + 24
= 33

Q.37. Six friends Surya, Bhanu, Dinkar, Ravi, Suraj and Dinesh are sitting in a circle and are facing the centre of the circle, Dinesh is between Dinkar and Suraj. Bhanu is between Ravi and Surya. Dinkar and Ravi are opposite to each other. Who are the immediate neighbours of Ravi?

- (a) Suraj and Dinesh (b) Dinkar and Bhanu
(c) Surya and Dinesh (d) Bhanu and Suraj

[June 2022]

Solution :



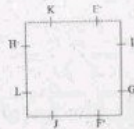
∴ (d) is correct

Q.38. Eight persons E, F, G, H, I, J, K and L are seated around a square table, facing table - two on each side. J is between L and F; G is between I and F; H a lady member is second to the left of J; F a male member is seated opposite to E, a lady member. There is a lady member between F and I. Who among the following is to the immediate left of F?

- (a) G (b) I (c) J (d) H

[June 2022]

Solution :



- (i) LJF or FJL (iii) H—J
(ii) IGF or FGI (iv) F—E

- (v) F Lady I or I Lady F

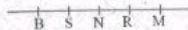
∴ (c) is correct

Q.39. Five persons are sitting on a bench to be photographed, S is to the left of N and to the right of B. M is to the right of N. R is between N and M. Who is sitting immediate right to R?

- (a) B (b) N (c) M (d) S

[June 2022]

Solution :



∴ (c) is correct

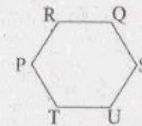
Q.40. Six friends P, Q, R, S, T and U are sitting around the hexagonal table each at one corner and are facing the center of the hexagonal. P is second to the left of U. Q is neighbour of R and S. T is second to the left of S.

Which one is sitting opposite to P?

- (a) R (b) Q (c) T (d) S

[June 2022]

Solution :



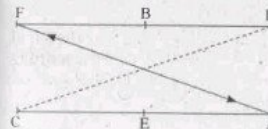
∴ (d) is correct

Q.41. Six persons A, B, C, D, E and F are sitting in two rows with three persons in each row. Both rows are in front of each other. E is not at the end of the any row and D is second left to the F. C is neighbour of E and diagonally opposite to (d) If B is neighbour of F who is in front of C then who is sitting diagonally to F?

- (a) C (b) E (c) A (d) D

[Dec. 2022]

Solution:



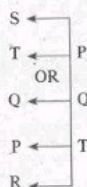
∴ (c) is correct

Q.42. P, Q, R, S and T are sitting in a line facing West. P and Q are sitting together. R is sitting at south end and S is sitting at North end. T is neighbour of Q and R. Who is sitting the middle?

- (a) P (b) Q (c) R (d) S

[Dec. 2022]

Solution: (b)



∴ Q is in middle

∴ (d) is correct

Q.43. Seven friends A, B, C, D, E, F, & G are watching movie sitting in a row. E is sitting at one extreme end. C is sitting second to E. B is sitting between A & C. G is not sitting at any extreme end. A is not at any extreme end. D is sitting immediate on F, who is sitting in the middle?

- (a) G (b) D (c) C (d) B

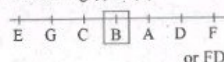
[June 2023]

Solution:

Given

- (i) DF or FD
(ii) ABC — E or
E — CBA

Combining (i) & (ii)



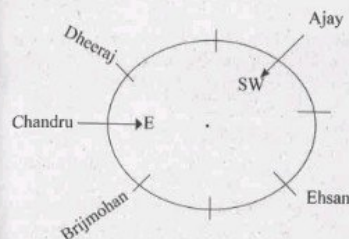
(d) is correct.

Q.44. Five boys Ajay, Brijmohan, Chandru, Dheeraj and Ehsan are sitting in a park in a circle facing the centre. Ajay is facing South-West, Dheeraj is facing South-East, Brijmohan and Ehsan are right opposite Ajay and Dheeraj, respectively and Chandru is equidistant between Dheeraj and Brijmohan. Which direction is Chandru facing?

- (a) West (b) South (c) North (d) East

[June 2023]

Solution:



Clearly, Chandru is facing East.

(d) is correct.

Q.45. Pran, Qomal, Ravi, Shalu, Trilok, Urvi, Vasu and Walter are sitting in a row facing North:

- (i) Pran is fourth to the right of Trilok
(ii) Walter is fourth to the left of Shalu
(iii) Ravi and Urvi, which are not at the ends, are neighbours of Qomal and Trilok, respectively
(iv) Walter is immediate left of Pran and Pran is the neighbour of Qomal

Identify who are sitting at the extreme ends?

- (a) Pran and Walter (b) Trilok and Urvi
(c) Trilok and Shalu (d) Shalu and Pran

[June 2023]

Solution:

- (i) Trilok — — — Pran
(ii) Walter — — — Shalu
(iii) (a) Ravi Qomal OR Qomal Ravi
(b) Urvi Trilok OR Trilok Urvi
(iv) Walter Pran Qomal

Mixing these points; we get

Trilok Urvi Vasu Walter Pran Qomal Ravi Shalu

Clearly Trilok & Shalu are sitting at the extreme ends.

∴ (c) is correct.

Q.46. Six friends — A, B, C, D, E and F are sitting around a circular table facing towards the centre of the circle. E is not sitting between B and D. A sits to the left of F and C is fourth to the right of A. D is immediate right of E.

Who sits second to right to F?

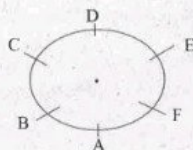
- (a) C (b) A (c) D (d) B

[June 2023]

Solution:

Clearly D is 2nd to the right of F.

∴ (c) is correct.



DEFINITION

Those persons who are related to another persons by birth rather than by marriage are called in Blood Relation.

Let's start right from basic and see what are the different blood relations in a family, which we should know to understand the logical reasoning in blood relation questions.

Remember the relations as given below:

- (i) Children of Same parents → Siblings
 - One's Husband or Wife → Spouse
 - Relatives on Mother's Side → Maternal
 - Relatives on Father's Side → Paternal
- (ii) Father's Father → Paternal Grandfather
 - Father's Mother → Paternal Grandmother
 - Mother's Father → Maternal Grandfather
 - Mother's Mother → Maternal Grandmother
 - Father's Brother → Paternal Uncle
 - Father's Sister → Paternal Aunt
 - Mother's Brother → Maternal Uncle
 - Mother's Sister → Maternal Aunt
 - Uncle or Aunt's Child → Cousin
 - Sibling's Son → Nephew
 - Sibling's Daughter → Niece
 - Son or Daughter's Child → Grandchild

19.1

(iii) Relations

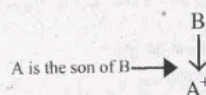
1. Grandfather's son → Father or Uncle
2. Grandmother's son → Father or Uncle
3. Grandfather's only son → Father
4. Grandmother's only son → Father
5. Mother's or father's mother → Grandmother
6. Son's Wife → Daughter-in-Law
7. Daughter's husband → Son-in-Law
8. Husband's or wife's sister → Sister-in-Law
9. Brother's son → Nephew
10. Brother's daughter → Niece
11. Uncle or aunt's son or daughter → Cousin
12. Sister's husband → Brother-in-Law
13. Brother's wife → Sister-in-Law
14. Grandson's or grand daughter's daughter → Great grand Daughter

Family Tree - Generally, the construction of the family tree is considered to be the most appropriate way of solving blood relation questions in Logical reasoning. So we start with representing each by gender by a particular sign. Keep these instructions in mind.

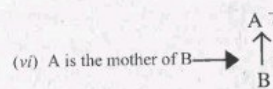
- (i) Use "+" sign for male & "-" sign for female. As A is male → A⁺; B is female → B⁻
- (ii) A is the brother of B → A⁺ ← bro. → B [Here gender of B is not given, So do not show gender of B]
- (iii) A is the sister of B → A⁻ ← Sis. → B [B may be male or female]
- (iv) A is the wife of B → A⁻ ⇌ B⁺

In this case we know the gender of both A and B. We are using a double-sided arrow here to show that the two individuals are married to each other.

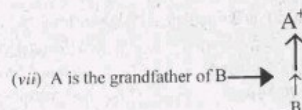
- (v) We start by plotting the tree on different levels, where each level represents a generation in blood relation questions.



[We cannot determine the gender of B since B can be either of the parent, mother or father]



[We cannot determine the gender of B since B can be either of the child, son or daughter]



[We cannot determine the gender of B since B can be either of the grandchild, grandson or granddaughter.]

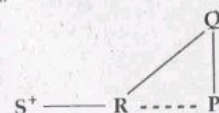
The 2 arrows represent that they are 2 generations away i.e. gap.

Let us try to understand through examples.

Example 1: P is Q's daughter, Q is R's mother. S is R's brother. How is S related to P?

- (a) Father (b) Grandfather
(c) Brother (d) Son

Solution: (c) is correct.



Clearly, S is brother of P.

Solution :

- (b) $C \leftrightarrow A \leftrightarrow E$
 $F \leftrightarrow B \leftrightarrow D$

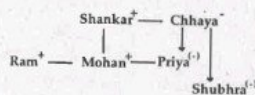
No. of female members = 2

Q.8. Ram and Mohan are brothers, Shankar is Mohan's father. Chhaya is Shankar's sister. Priya is Shankar's niece. Shubhra is Chhaya's grand daughter. Then Ram is Shubhra's.....

- (a) Brother (b) Uncle
 (c) Cousin (d) Nephew

[Nov. 2018]

Solution : (b)



Ram is the uncle of Shubhra.

Q.9. If $P + Q$ means P is the mother of Q. $P + Q$ means P is the father of Q. $P - Q$ means P is the sister of Q. Then which of the following relationship shows that M is the daughter of R ?

- (a) $R + M + N$
 (b) $R + N + M$
 (c) $R - M + N$
 (d) None of the above

[Nov. 2018]

Solution : (a)

Go by choices (GBC)



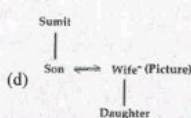
Clearly, M is the daughter of R.

Q.10. Pointing to a picture, Sumit said, she is the mother of my son's wife's daughter. How is lady related to the Sumit ?

- (a) Uncle (b) Cousin
 (c) Daughter (d) None

[June 2019]

Solution :



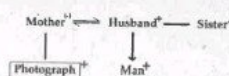
Clearly, the lady (in picture) is the daughter-in-law of Sumit.

Q.11. Pointing to a photograph, a man said "His mother husband's sister is my aunt". Then what is relation between a man and he ?

- (a) Son (b) Uncle
 (c) Nephew (d) Brother

[June 2019]

Solution : (d)



Clearly, the man and he (Photograph) are brothers.

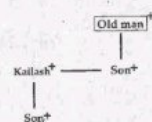
Q.12. Pointing the old man Kailash said "his son is my son's uncle". How is Kailash related to old man?

- (a) Brother
 (b) Either son or son-in-law

- (c) Father
 (d) Grand Father

[June 2019]

Solution : (b)



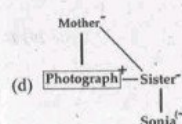
Clearly Kailash is either Son or Son-in-law.

Q.13. Pointing in a photograph, Sonia said, "His mother's only daughter is my mother". How is Sonia relates to that man?

- (a) Nephew (b) Sister
 (c) Wife (d) Niece

[June 2019]

Solution :



Clearly Sonia is Niece of Photograph.

Direction (Q.14 - Q.17) Read the following information carefully to answer the given questions.

Six members of a family namely A, B, C, D, E and F are travelling together. B is the son of C but C is not the mother of B.

A and C are married couple. E is the brother of C. D is the daughter of A. F is the brother of B.

Q.14. How many male members are there in the family ?

- (a) 3 (b) 2
 (c) 4 (d) 1

[Dec. 2019]

Solution : (c)

Q.15. How many children does A have

- (a) 1 (b) 2
 (c) 3 (d) 4

[Dec. 2019]

Solution : (c)

Q.16. What is the relation of E to D

- (a) Uncle (b) Brother
 (c) Father (d) None of these

[Dec. 2019]

Solution : (a)

Q.17. Who is the mother of B?

- (a) C (b) D
 (c) F (d) A

[Dec. 2019]

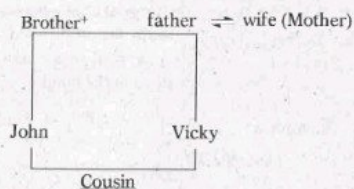
Solution : (d)

Q.18. Vicky introduces John as the son of the only brother of his father's wife. How is Vicky related to John?

- (a) Cousin (b) Son
 (c) Brother (d) Uncle

[Dec. 2020]

Solution : (a)

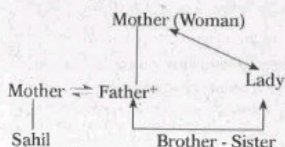


Q.19. Point out to a lady Sahil said she is the daughter of woman. Who is the mother of the husband of my mother. Who is the lady to Sahil?

- (a) Sister (b) Aunt
 (c) Daughter (d) Sister-in-law

[Dec. 2020]

Solution : (b)



∴ That Lady is aunt of Sahil.

Q.20. P is the brother of Q and R, S is the mother of R. T is the father of P. Which of the following statement can not be definitely true?

- (a) S is the mother of P
 (b) P is son of S
 (c) T is husband of S
 (d) Q is son of T

[Jan. 2021]

Solution : (d) is correct



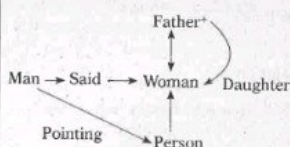
Here Gender of Q is not known.

Q.21. Pointing towards a person a man said to a woman. "His mother is the only daughter of your father". How is the woman related to that person?

- (a) daughter (b) mother
 (c) sister (d) wife

[Dec. 2020]

Solution : (b)



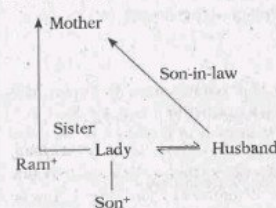
⇒ Your Father means woman's Father is the only daughter means that woman herself. Clearly that woman is mother of that person.

Q.22. Pointing to a lady in a photograph, Ram said "Her son's father is the son in law of my mother". How is Ram related to the lady?

- (a) Aunt (b) Cousin
 (c) Sister (d) Mother

[Jan. 2021]

Solution : (b) is correct



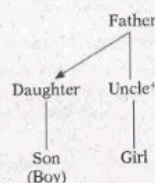
Clearly Ram is the brother of that Lady.

Q.23. A girl introduced, a boy as the son of the daughter of father of her uncle. The boy is girl's

- (a) Son (b) Brother
 (c) Son-in-Law (d) Uncle

[Jan. 2021]

Solution :



Clearly the boy is cousin brother.

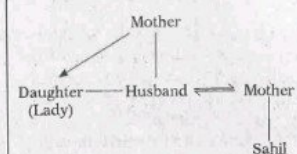
So (b) is correct.

Q.24. Pointing to a lady, Sahil said, "She is the daughter of the woman who is the mother of the husband of my mother". Who is the lady to Sahil?

- (a) Aunt (b) Sister
 (c) Daughter (d) Sister-in-Law

[Jan. 2021]

Solution :



Clearly Lady is the sister of Sahil's Father.

So the lady is Aunt of Sahil.

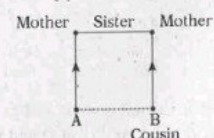
∴ (a) is correct.

Q.25. Pointing towards "A", "B", said "Your mother is the younger sister of my mother". "A" is related to "B" as

- (a) Uncle (b) Cousin
 (c) Nephew (d) Father

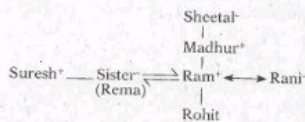
[July 2021]

Solution : (b) is correct



Q.26. Shyam's mother said to Shyam "my mother has a son whose son is Ram". Shyam is related to Ram as

Solution :



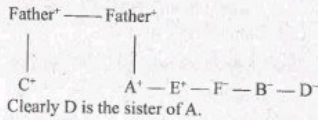
∴ (d) is correct

Q.40. There are six children playing football namely A, B, C, D, E and F. A & E are brothers. F is sister of E. C is the only son of A's uncle. B & D are daughters of the brother of C's father. How D is related to A?

- (a) Uncle (b) Cousin (c) Niece (d) Sister

[Dec. 2022]

Solution :



Clearly D is the sister of A.

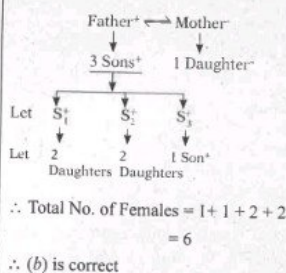
∴ (d) is correct

Q.41. In a joint family, there are father, mother, a married sons and one unmarried daughter. Out of the sons two have 2 daughters each and one has a son only. How many female members are there in the family?

- (a) 3 (b) 6
(c) 9 (d) 5

[Dec. 2022]

Solution:



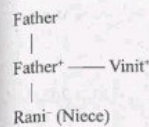
∴ (b) is correct

Q.42. When Rani was Vinit, she recollected that "He is the brother of my grandfather's son". How is Rani related to Vinit?

- (a) Aunt (b) Daughter
(c) Sister (d) Niece

[Dec. 2022]

Solution:



Rani (Niece)

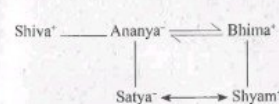
∴ (d) is correct.

Q.43. Annanya is mother of Satya and Shyam is the son of Bhima. Shiva is brother of Annanya. If Satya is sister of Shyam, how Bhima is related to Shiva?

- (a) Son
(b) Cousin
(c) Brother-in-law
(d) Son-in-law

[Dec. 2022]

Solution:



∴ (c) is correct.

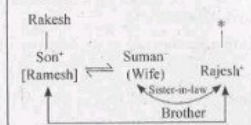
Q.44. Suman is daughter-in-law of Rakesh and sister-in-law of Rajesh. Ramesh is the son of Rakesh and only

brother of Rajesh. Find the relation of Suman with Ramesh.

- (a) Sister-in-law (b) Cousin
(c) Aunt (d) Wife

[Dec. 2022]

Solution:



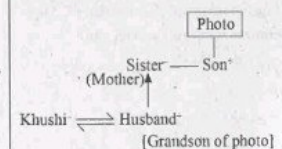
∴ (d) is correct.

Q.45. Pointing to a man in the photograph, Khushi says, "This man's son's sister is my mother-in-law." How is the Khushi's husband related to the man in the photograph?

- (a) Grandson (b) Son
(c) Son-in-law (d) Cousin

[Dec. 2022]

Solution:



∴ (a) is correct

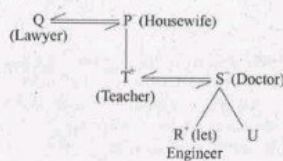
Q.46. P, Q, R, S, T and U are 6 members of a family in which there are two married couples. T, a teacher is married to a doctor, who is mother of R and U. Q, the lawyer is married to P. P has one son and one grandson. Of the two married ladies one is a housewife.

There is also one student and one male engineer in the family. Which of the following is true about the grandson of the family?

- (a) He is a lawyer
(b) He is an engineer
(c) He is a student
(d) He is a doctor

[June 2023]

Solution :



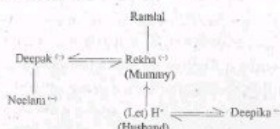
(b) is correct.

Q.47. Neelam, who is Deepak's daughter, says to Deepika "your mother-in-law. Rekha is younger daughter of Ramlal, who is my grandfather". How Neelam is related to Deepika?

- (a) Sister
(b) Niece
(c) Sister-in-law
(d) Aunt

[June 2023]

Solution :



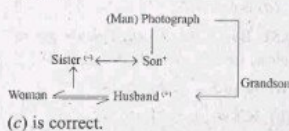
(c) is correct.

Q.48. Pointing on a photograph, a woman says "This man's son's sister is my mother-in-law". How is the women's husband related to the man in the photograph?

- (a) Son
(b) Son-in-law
(c) Grandson
(d) Nephew

[June 2023]

Solution :



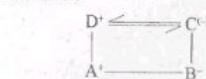
(c) is correct.

Q.49. If A is the brother of B, B is the daughter of C and D is the father of A, then how is C related to D?

- (a) Husband
(b) Wife
(c) Granddaughter
(d) Grandfather

[June 2023]

Solution :



(b) is correct.

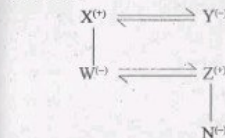
Q.50. X is the husband of Y. W is daughter of X. Z is husband of W. N is daughter of Z.

- (a) Cousin
(b) Niece

- (c) Daughter
(d) Grandmother

[June 2023]

Solution :



Y is Maternal Grandmother.

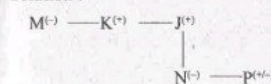
∴ (d) is correct.

Q.51. Based on the statements given below, find out who is the uncle of P?

- (i) K and J are brothers
(ii) K's sister is M
(iii) P and N are siblings
(iv) N is the daughter of J
(a) K
(b) J
(c) N
(d) M

[June 2023]

Solution :



Clearly K is uncle of "P".

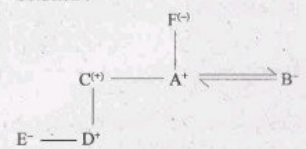
∴ (a) is correct.

Q.52. There are six persons A, B, C, D, E and F are a family. A and B are a married couple and A is a male member. D is the only son of C, who is the brother of A, E is the sister of D. B is the daughter-in-law of F whose husband has died.

- (a) A
(b) E
(c) D
(d) F

[June 2023]

Solution :



∴ F is the mother of C.

∴ (d) is correct.