

J.K. SHAH[®]
CLASSES
a Veranda Enterprise

Foundation → Intermediate → Final CA ↗

CA
FOUNDATION

LOGICAL REASONING

Head Office

Shraddha, 4th Floor, Old Nagardas Road,
Near Chinai College, Andheri (E), Mumbai - 400 069.

 +91 - 73044 54689

  /officialjksc  jkshahclasses.com

CA FOUNDATION LOGICAL REASONING

INDEX

01 | NUMBER SERIES, CODING AND DECODING AND
ODD MAN OUT | 1 - 33

02 | DIRECTION TESTS | 34-69

03 | SEATING ARRANGEMENT | 70-90

04 | BLOOD RELATION | 91-121

05 | LOGARITHM TABLES | 122-129

1

NUMBER SERIES, CODING AND
DECODING AND ODD MAN OUT

- Series is a sequential order of numbers, letters or both arranged in some specific rules.
- These Rules can be based on mathematical operations, place of letters in alphabetical order etc.

Different types of Series

1. Number Series
2. Letter Series
3. Alpha-Numeric Series
4. Continuous pattern Series

NUMBER SERIES

Number series is a logical sequence of more than one elements made of arithmetical digits.

Some Types of number series:

1. Same numbers addition or subtraction series.
2. Increasing order addition or subtraction series.
3. Same number multiplication or division series
4. Increasing order multiplication or division series
5. Same number multiplication and addition or subtraction series

6. Same number multiplication and addition or subtraction in increasing order series
7. Increasing order multiplication and same number addition or subtraction series.
8. Increasing order multiplication and increasing order addition or subtraction series
9. Multiplication and division series.
10. Square series
11. Cube series
12. Square addition series
13. Prime number series
14. Digital operation of number series
15. Mixed combination series

CLASS WORK SECTION

In the following series replace the question (?) with the suitable option.

1. 6,9,12, 15, 18,?
a) 21 b)20 c) 19 d) 22
2. 7, 12, 19, 28, 39,?
a) 52 b) 50 c) 51 d) 48
3. 36, 28, 24, 22,?
a) 18 b) 19 c) 21 d) 22
4. 7, 11, 13, 17, 19, 23, 25, 29.? (Nov-2018)
a) 30 b) 31 c) 32 d) 33
5. 7, 9, 13, 21, 37,?
a) 58 b) 63 c) 69 d) 72
6. 27, 32, 30, 35, 33, ?
a) 28 b) 31 c) 36 d) 38
7. 71, 59, 48, 38, 29, ?
a) 18 b) 21 c) 20 d) 12
8. 2, 5, 10, ?, 26
a) 19 b) 21 c) 17 d) 25
9. 1, 6, 15, ? , 45, 66, 91
a) 25 b) 26 c) 27 d) 28
10. 97, 86, 99, 88, 101, ?, ?
a) 88,99 b) 90, 103 c) 121, 108, d) 114, 103

11. 107, 97, 82, 62, ?

- a) 52 b) 42 c) 47 d) 37

12. 2, 6, 12, ?, 30

- a) 18 b) 24 c) 20 d) 26

13. 24, 60, 120, 210, ?

- a) 300 b) 336 c) 420 d) 525

14. 8, 16, 28, 44, ?

- a) 60 b) 64 c) 62 d) 66

15. 1, 4, 9, 25, ?

- a) 49 b) 60 c) 30 d) 36

16. 198, 194, 185, 169, ?

- a) 92 b) 136 c) 144 d) 112

17. 1, 2, 5, 26, _____

- a) 620 b) 650 c) 677 d) 687

18. 7, 23, 47, 119, 167, ? (J-2019)

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

19. 0, 6, 24, 60, 120, 210, ?

- a) 290 b) 240 c) 336 d) 504

20. 3, 15, 35, 63, ?, 143

- a) 120 b) 110 c) 99 d) 91

21. 17, 36, 74, 150, ?, 606

- a) 250 b) 303 c) 300 d) 302

22. 2, 1, 4, 3, 6, 5, 8, ?

- a) 9 b) 10 c) 7 d) 8

23. 3, 128, 6, 64, 9, ?, 12, 16, 15, 8

- a) 32 b) 12 c) 108 d) 72

24. 6, 13, 38, ?, 532, 2675

- a) 129 b) 123 c) 172 d) 164

25. 45, 46, 70, 141, ?, 1061.5

- a) 353 b) 353.5 c) 352.5 d) 352

ODD MAN OUT

Find the odd out of the following

1. Fish, Starfish, Crocodile, Hen

- a) Fish b) Hen c) Starfish d) Crocodile

2. 15, 21, 63, 81, 69 (N-2018)

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

3. 4, 12, 44, 176, 890 (J-2019)

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

4. 3, 12, 36, 144, 431, 1728, 5184

- a) 144 b) 431 c) 36 d) 5184

5. 56, 72, 90, 110, 132, 150

- a) 72 b) 90 c) 110 d) 150

6. 9, 14, 19, 25, 32, 40

- a) 14 b) 25 c) 32 d) 9

7. 20, 40, 200, 400, 2000, 4000, 8000

- a) 200 b) 40 c) 8000 d) 4000

8. 4, 5, 12, 38, 160, 805, 4836

- a) 12, b) 160 c) 38 d) 805

9. 7, 4, 5, 9, 20, 51, 160.5

- a) 4 b) 51 c) 9 d) 20

10. 1788, 892, 444, 220, 112, 52, 24

- a) 52 b) 112 c) 220 d) 444

LETTER SERIES, ALPHA NUMERIC AND CONTINUOUS PATTERN SERIES

Letter series is a sequence of letters taken from English alphabet and such sequence follows a certain logical pattern

1. B, D, F, I, L, P, ?

- a) U b) R c) S d) T

2. W, U, S, P, M, I, ?

- a) E b) A c) H d) F

3. ACE, BDF, CEG, ?

- a) DFE b) DEF c) DFH d) DEH

4. PMK, MPK, MKP, KMP, ?

- a) PMK b) KMP c) MPK d) KPM

5. PBA, QDC, RFE, ?

- a) SHG b) OAB c) TJI d) ULK

6. XWA, VTC, SPF, OKJ, ?

- a) JDN b) JEO c) LPN d) JDP

7. OTE, PUF, QVG, RWH, ?

- a) SYJ b) TXI c) SXJ d) SXI

8. BFG, HLM, NRS, ?

- a) TWX b) RVW c) TYZ d) TXY

9. P3, M8, ?, G24, D35

- a) K15 b) J13 c) I13 d) J15

10. A1, C3, F6, J10, O15,?

- a) U21 b) V21 c) T20 d) U20

11. Which of the following is odd one: (J-2019)

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

12. ac_ga_eg_ce_

- a) dbag b) ecag c) deag d) ebdg

13. ba_b_aab_a_b

- a) abaa b) abba c) baab d) babb

14. _sr_tr_srs_r_srst_

- a) ttssrr b) tsrtsr c) strtrs d) tstttr

15. ab_cabb_caa_bccab_cab_cc

- a) abbcc b) baabc c) bcbbb d) bcaac

CODING AND DECODING

Coding-Decoding is process of transmitting an information from one place to other using some suitable codes, so that it might reach to other person safely.

Different Types of coding and decoding:

1. Coding based on Rearrangement of Letters
2. Coding based on replacement of letters
3. Opposite letter coding
4. Coding of Letters by their Left and Right Letters
5. Number coding
6. Symbol coding based on Similarity
7. Coding by substitution or word replacement
8. Fictitious Language Coding
9. Coding by Comparison

CLASS WORK SECTION

1. HONEY is coded as JQPGA, which word is code as VCTIGVU? (N-2018)
a) CARPETS b) TRAPETS c) TARGETS d) UMBRELU
2. In a certain language, MADRAS is coded as NBESBT, How is BOMBAY coded in that language? (J-19)
a) CPNCBX b) CPNCBZ c) CPOCBZ d) CQOCBZ
3. In a certain code language, COMPUTRONE is written as PMOCTUENOR. How is ADVANTAGES written in that same code?
a) ADVANSEGAS b) ADTANSEAG c) AVDANTAGES d) AVDATNSEGA
4. In a certain code language EARTH is written as JVTCG, then how will GLOBE be written in that language?
a) GDQNI b) GDQIN c) GDNIQ d) GDIQN
5. In a certain language FAME is written as LGGY then how will LION be coded in that language?
a) RHIO b) ROIH c) RHOI d) RIOH
6. In a code language APPLE is written as PQQRS, RIS is written as ABC and MANGO is written as TPXYZ. How will ROSE written in that language?
a) ABCS b) ACBS c) AZSC d) AZCS
7. If in a certain code language SIMILAR is written as IZORNRH, how will NATURAL be written in that language?
a) OZIFGZM b) OZIFGMZ c) OZIFZMG d) OZIFMZG
8. If in a certain code language GO is written as FHNP, then how will SUN be written in that language?
a) RTTOMV b) RTTOVM c) RTTVOM d) RTTVMO

9. If in a certain code RAMAN is coded as 18113114, then how will KAPILA be coded in that language?
a) 111196112 b) 111169112 c) 111169121 d) 116119121
10. In a certain code RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code? (M-2018)
a) 318826 b) 318286 c) 618826 d) 338816
11. If PLAY is coded as 8123 and RHYME is coded as 49367. What will be code of MALE? (N-18)
a) 6217 b) 6198 c) 6395 d) 6285
12. If LOSE is coded as 1357 and GAIN coded as 2468, what do figure 82146 for? (M-2018)
a) NGLAI b) NGLIA c) GNLIA d) GNLA
13. In a certain code language, DOME is written as 8943 and MEAL is written as 4321. What group of letters can be formed for the code 38249?
a) EOADM b) MEDOA c) EMDAO d) EDAMO
14. In a certain language 'DEW' written as 1625529 'GET' is written as 4925400, then how will TWO be written in that language?
a) 400529522 b) 400529225 c) 400925225 d) 400225925
15. If A = 1 and LOT = 47 then MAT = ?
a) 40 b) 66 c) 34 d) 51
16. If P = 16 and PUT = 6720 then PICK?
a) 4137 b) 4590 c) 4032 d) 4752
17. In certain code language STAR is written as 5 \$ * 2, TORE is written as \$ 3 2 @ then how will OATS be written in that language?
a) 3 * 5 \$ b) 3 * \$ 5 c) 3 \$ * 5 d) 3 5 * \$

18. If GREEN is called BLACK, BLACK is called BLUE, BLUE is called RED, RED is called WHITE and WHITE is called ORANGE, then what is the colour of BLOOD?

- a) RED b) BLACK c) GREEN d) WHITE

19. If LION is called FISH, FISH is called PARROT, PARROT is called RAT, RAT is called CAT, CAT is called TIGER, then which of the following is a bird?

- a) FISH b) PARROT c) RAT d) TIGER

Directions (Q. no. 20 to 23)

In a certain code language 461 means 'where are you', 169 means 'you are good' and 8652 means 'flowers are not bad'.

20. What is the code for 'not'?

- a) 6 b) 8 c) 2 d) 8 or 5 or 2

21. What is the code for 'good'?

- a) 4 b) 9 c) 6 d) 6 or 1

22. How will 'where not are good flowers' be written in coded language?

- a) 68954 b) 46598 c) 45698 d) Data inadequate

23. How will 'are you where' be written in the code?

- a) 614 b) 163 c) 618 d) 168

24. In a certain code 256 means 'you are good' 637 means 'we are bad' and 358 means 'good and bad'. Which of the following represents 'and' in that code? (M-2018)

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

25. If in a certain code language 'Sachin is great' is written as 'ga ma ra'. 'is he poor' is written as 'ta saga', then find the code for 'is'.

- a) ta b) ma c) ga d) ra

HOMEWORK SECTION

1. 6, 11, 21, 36, 56 ?
(a) 42 (b) 51 (c) 81 (d) 91
2. 10, 100, 200, 310 ?
(a) 400 (b) 410 (c) 420 (d) 430
3. 11, 13, 17, 19, 23, 25 ?
(a) 33 (b) 27 (c) 29 (d) 49
4. 6, 12, 21, 33 ?
(a) 33 (b) 38 (c) 40 (d) 48
5. 2, 5, 9, 14, ?, 27
(a) 20 (b) 16 (c) 18 (d) 24
6. 6, 11, 21, ?, 56, 81
(a) 42 (b) 36 (c) 91 (d) 51
7. 10, 18, 28, 40, 54, ?, 88
(a) 70 (b) 86 (c) 87 (d) 98
8. 120, 99, ?, 63, 48, 35
(a) 80 (b) 36 (c) 45 (d) 40
9. 22, 24, 28, 36, ?, 84
(a) 44 (b) 52 (c) 38 (d) 54
10. 4832, 5840, 6848, 7856 ?
(a) 8864 (b) 8815 (c) 8846 (d) 8887
11. 10, 100, 200, 310, 430 ?
(a) 560 (b) 540 (c) 550 (d) 590

12. 28, 33, 31, 36, 34 ?

- (a) 38 (b) 39 (c) 40 (d) 42

13. 120, 80, 40, 45, ?, 5

- (a) 15 (b) 20 (c) 25 (d) 30

14. 2, 15, 41, 80, 132 ?

- (a) 184 (b) 144 (c) 186 (d) 197

15. 6, 17, 39, ?, 116

- (a) 72 (b) 75 (c) 85 (d) 80

16. 1, 4, 10, 22, ?, 94

- (a) 46 (b) 48 (c) 49 (d) 47

17. 4, 9, 25, 49, ? , 169, 289, 361

- (a) 120 (b) 121 (c) 122 (d) 164

18. 4, 12, 36, ? , 324

- (a) 107 (b) 109 (c) 108 (d) 110

19. 1, 1, 4, 8 , 9, ? , 16, 64

- (a) 27 (b) 28 (c) 32 (d) 40

20. 5760, 960, 192, ? 16, 8

- (a) 47 (b) 48 (c) 52 (d) 50

21. 1, 2, 6, 7, 21, 22, 66, ? , 201

- (a) 69 (b) 68 (c) 67 (d) 69

22. 48, 24, 96 , ? 192

- (a) 48 (b) 47 (c) 44 (d) 54

23. 165, 195, 255, 285, ? , 435

- (a) 345 (b) 390 (c) 335 (d) 395

24. 2, 3, 3, 5, 10, 13, 39, ?, 172, 177

- (a) 42 (b) 44 (c) 43 (d) 40

25. 7, 26, 63, 124, 215, ?, 511

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

26. 3, 7, 15, 31, ? 127

- (a) 62 (b) 63 (c) 64 (d) 65

27. 8, 28, 116, 584, ?

- (a) 1752 (b) 3502 (c) 3504 (d) 3508

28. 6, 13, 28, 59, ?

- (a) 122 (b) 114 (c) 113 (d) 112

29. 2, 7, 27, 107, 427, ?

- (a) 1707 (b) 4027 (c) 4207 (d) 1207

30. 5, 2, 7, 9, 16, 25, 41?

- (a) 65 (b) 66 (c) 67 (d) 68

31. In a certain language, MADRAS is coded NBESBT, how DELHI is coded in that code?

- (a) EMMJI (b) EFMIJ (c) EMFIJ (d) JIFEM

32. If RAMAN is written as 12325 and DINESH as 675489 how HAMAM is written?

- (a) 92323 (b) 92233 (c) 93233 (d) 93292

33. If RED is coded as 6720 then GREEN would be coded as

- (a) 9207716 (b) 167129 (c) 1677209 (d) 1672091

34. If A = 1, FAT = 27, FAITH = ?

- (a) 44 (b) 45 (c) 46 (d) 36

35. If BROTHER is coded as 2456784, SISTER is coded as 919684, what is the code for BORBEES?

- (a) 2542889 (b) 2542898 (c) 2454889 (d) 2524889

36. If DELHI is coded 73541 and CALCUTTA as 82589662, How can CALICUT be coded?
(a) 5279431 (b) 5978213 (c) 8251896 (d) 8543962
37. If CLOCK is coded 34235 and TIME is 8679, what will be code of MOTEL?
(a) 72894 (b) 77684 (c) 72964 (d) 27894
38. If PALE is coded as 2134 and EARTH is coded as 41590, how is PERAL coded?
(a) 29530 (b) 24153 (c) 25430 (d) 254313
39. If LOSE is coded as 1357 and GAIN is coded as 2468, what do figure 82146 stands for?
(a) NGLAI (b) NGLIA (c) GNLIA (d) GNLIA
40. If MEKLF is coded as 91782 and LLLJK as 88867, how can IHJED is coded?
(a) 97854 (b) 64512 (c) 54610 (d) 75632
41. If in a certain code language NAME is written as 4258 then what is coded as MEAN ?
(a) 2458 (b) 5842 (c) 8524 (d) 5824
42. If GOLD is written as IQNF, how WIND can be written in that code?
(a) YKPF (b) VHCM (c) XJOE (d) DNIW
43. If ROSE is written as TQUG, how BISCUIT can be written in that code?
(a) DKUEWKV (b) CJTDVJU
(c) DKVEWKV (d) DKUEWKY

LETTER: C Z N V R S W F D CODE

DIGIT: 8 6 4 7 2 9 3 5 1 (Q. no. 44 to 46)

In each of the following questions find out the correctly coded alternative from amongst the given four alternatives (a), (b), (c), (d).

44. ZDRCVF
(a) 612875 (b) 619875 (c) 612845 (d) 612835

45. WNCSZV

- (a) 348267 (b) 318267 (c) 348957 (d) 348967

46. RDNFVS

- (a) 21679 (b) 216549 (c) 214579 (d) 218579

47. If DELHI is coded as CCIDD, how would you encode BOMBAY?

- (a) AJMTVT (b) AMJXVS (c) MJXVSU (d) WXYZAX

48. 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

49. If PALAM could be given the code number 43, what code number can be given to SANTACRUZ?

- (a) 123 (b) 85 (c) 120 (d) 125

Directions: The number in each question below is to be codified in the following code:

Digit	7	2	1	5	3	9	8	6	4
Letter	W	L	M	S	I	N	D	J	B

50. 184632

- (a) MDJBSI (b) MDJBIL (c) MDJBWL (d) MDBJIL

51. In a certain code '256' means '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

Directions: Find odd man out of the following (52 - 61):

52. 3, 5, 7, 15, 17, 19

- (a) 15 (b) 17 (c) 19 (d) 7

53. 10, 14, 16, 18, 23, 24, 26

- (a) 26 (b) 23 (c) 24 (d) 18

54. 1, 4, 9, 16, 24, 25, 36

- (a) 9 (b) 24 (c) 25 (d) 36

55. 41, 43, 47, 53, 61, 71, 73, 75

- (a) 75 (b) 73 (c) 71 (d) 53

56. 16, 25, 36, 73, 144, 196, 225

- (a) 36 (b) 73 (c) 196 (d) 225

57. 1, 4, 9, 16, 19, 36, 49

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

58. 1, 5, 14, 30, 49, 55, 91

- (a) 49 (b) 30 (c) 55 (d) 91

59. 835, 734, 642, 751, 853, 981, 532

- (a) 751 (b) 853 (c) 981 (d) 532

60. 4, 5, 7, 10, 14, 18, 25, 32

- (a) 7 (b) 14 (c) 18 (d) 33

61. 52, 51, 48, 43, 34, 27, 16

- (a) 27 (b) 34 (c) 43 (d) 48

HOMWORK SOLUTIONS

1. 6, 11, 21, 36, 56,

— — — — —
5 10 15 20 25

∴ $56 + 25 = 81$
option C

2. 10, 100, 200, 310,

— — — — —
90 100 110 120

∴ $310 + 120 = 430$
option D

3. 11, 13, 17, 19, 23, 25,

— — — — —
2 4 2 4 2 4

∴ $25 + 4 = 29$
option C

4. 6, 12, 21, 33,

— — — — —
6 9 12 15

∴ $33 + 15 = 48$
option D

5. 2, 5, 9, 14,, 27

— — — — —
3 4 5 6 7

∴ $14 + 6 = 20$
option A

6. 6, 11, 21,, 56, 81

— — — — —
5 10 15 20 25

∴ $21 + 15 = 36$
option B

7. 10, 18, 28, 40, 54, 88



$\therefore 54 + 16 = 70$
option A

8. 120, 99,, 63, 48, 35



$\therefore 99 - 19 = 80$
option A

9. 22, 24, 28, 36,, 84,



$\therefore 36 + 16 = 52$
option B

10. 4832, 5840, 6848, 7856,



$\therefore 7856 + 1088 = 8864$
option A

11. 10, 100, 200, 310, 430,



$\therefore 430 + 130 = 560$
option A

12. 28, 33, 31, 36, 34,



$\therefore 34 + 5 = 39$
option B

13. 120, 80, 40, 45,, 5



option C

14. 2, 15, 41, 80, 132,



$\therefore 132 + 65 = 197$
option D

15. 6, 17, 39,, 116



$\therefore 39 + 33 = 72$
option A

16. 1, 4, 10, 22,, 34

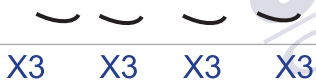


$\therefore 22 + 24 = 46$ [Ⓜ]
option A

17. 4, 9, 25, 49,, 169, 289, 361 / $11^2 = 121$
 2^2 3^2 5^2 7^2 11^2 13^2 17^2 19^2 option B

Square of Prime Numbers

18. 4, 12, 36,, 324,



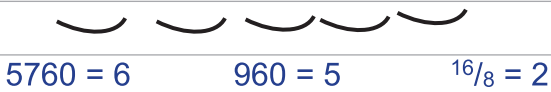
$\therefore 36 \times 3 = 108$
option C

19. 1, 1, 4, 8, 9,, 16, 64



$(3^3) = 27$
option A

20. 5760, 960, 192, -----, 16, 8



$5760/960 = 6$ $960/192 = 5$ $192/4 = 48$ Option B

21. 1, 2, 6, 7, 21, 22, 66, -----, 201

OR $22 + 45 = 67$
Option C

22. 48, 24, 96, -----, 192

$24 \times 2 = 48$ Option A

23. 165, 195, 255, 285, -----, 435

$15 \times 23 = 345$ Option A
15 x Prime No.

24. 2, 3, 3, 5, 10, 13, 39, -----, 172, 177

$39 + 4 = 43$
Option C

25. 7, 26, 63, 124, 215, -----, 511

$7^3 - 1 = 342$
Option A

26. 3, 7, 15, 31, -----, 127

$2(31) + 1 = 63$ Option B
($2n+1 \Rightarrow$ Potion)

27. 8, 28, 116, 584, -----

Option D

28. 6, 13, 28, 59,

\downarrow \downarrow \downarrow \downarrow
 $2n+1$ $2n+2$ $2n+3$ $2n+4$

Option A

29. 2, 7, 27, 107, 427,

5	20	80	320	1280		427 + 1280
					=	1707
$\times 4$	$\times 4$	$\times 4$	$\times 4$			Option A

30. 5, 2, 7, 9, 16, 25, 41,

\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow
 $5+2$ $2+7$ $7+9$ $9+16$ $16+25$ $25+41$
= 66

Option B

31. Word \Rightarrow M A D R A S D E L H I

$+1$ \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow $+1$ \downarrow \downarrow \downarrow \downarrow \downarrow

Code \Rightarrow N B E S B T E F M I J

Option B

32. R A M A N D I N E S H

\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow

1 2 3 2 5 6 7 5 4 8 9

H A M A M

\downarrow \downarrow \downarrow \downarrow \downarrow

9 2 3 2 3

Option A

39.	L O S E	G A I N	8 2 1 4 6
	↓ ↓ ↓ ↓	↓ ↓ ↓ ↓	↓ ↓ ↓ ↓ ↓
	1 3 5 7	2 4 6 8	N G L A I

Option A

40.	M E K L E	L L L J K	I H J E D
	↓ ↓ ↓ ↓ ↓	↓ ↓ ↓ ↓ ↓	↓ ↓ ↓ ↓ ↓
	9 1 7 8 2	8 8 8 6 7	5 4 6 1 0

Positional Value - 4

Option C

41.	N A M E	M E A N
	↓ ↓ ↓ ↓	↓ ↓ ↓ ↓
	4 2 5 8	5 8 2 4

Option C

42.	G O L D	W I N D
	↓ ↓ ↓ ↓	↓ ↓ ↓ ↓
	I Q N F	y k P F

Option A

43.	R O S E	B I S C U I T
	↓ ↓ ↓ ↓	↓ ↓ ↓ ↓ ↓ ↓ ↓
	T Q U G	D K U E W K V

Option A

44. Q. 44. to Q. 46.

LETTER ⇒ C Z N V R S W F D

CASE ⇒ 8 6 4 7 2 9 3 5 1

44. Z D R C V F

6 1 2 8 7 5 Option A

45. W N C S Z V

3 4 8 9 6 7 Option D

46. R D N F V S
 2 1 4 5 7 9 Option C

47. D E L H I | B O M B A Y
 ↓ ↓ ↓ ↓ ↓ | ↓ ↓ ↓ ↓ ↓ ↓
 C C I D D | -1 -2 -3 -4 -5 -6 Option B
 A M J X V S

48. R I P P L E L I F E
 ↓ ↓ ↓ ↓ ↓ ↓ | ↓ ↓ ↓ ↓
 6 1 3 3 8 2 | 8 1 9 2
 P I L L E R
 ↓ ↓ ↓ ↓ ↓ ↓
 3 1 8 8 2 6 Option A

49. P A L A M = 16 + 1 + 12 + 1 + 13
 = 43

SANTACRUZ = 19 + 1 + 14 + 20 + 1 + 3 + 18 + 21 + 26
 = 123
 Option A

50. 1 8 4 6 3 2
 ↓ ↓ ↓ ↓ ↓ ↓ From Table Given
 M D B J I L
 Option D

51. 2 5 6 \Rightarrow You are Good

6 3 7 \Rightarrow We are Bad

From observation 6 are

3 5 8 \Rightarrow Good and Bad

5 \Rightarrow Good

3 \Rightarrow Bad

\therefore 8 represents 'and' Option C

52. 3, 5, 7, 15, 17, 19

Not Prime No.

Option A

53. 10, 14, 16, 18, 23, 24, 26

Not Even No

Option B

54. 1, 4, 9, 16, 24, 25, 36

Option B Not Perfect Square

55. Except 75 remaining all are prime number

Option A

56. 16, 25, 36, 73, 144, 196, 225

Not Perfect Square

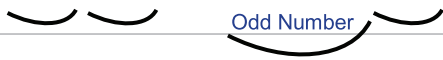
Option B

57. 1, 4, 9, 16, 19, 36, 49

Not Perfect Square

Option A

58. 1 5 14 30 49 55 91



4 9 16 25 36

Option A

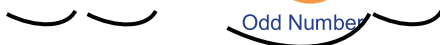
59. 835, 734, 642, 751, 853, 981, 532

Odd Number

8-3=5 7-3=4 6-4=2 8-5=3 9-8=1 5-3=2

Option A

60. 4 5 7 10 14 18 25 32



1 2 3 4 5 6 7

Option C

61. 52 51 48 43 34 27 16



-1 -3 -5 -7 -9 -11

Option B

J.K. SHAH[®]
CLASSES
a Veranda Enterprise

SELF ASSESSMENT

1. 10, 7, 12, 9, 14, 11, _____
a) 16 b) 15 c) 18 d) 17
2. 0, 1, -1, 0, -2, -1, _____
a) 3 b) -3 c) -2 d) -1
3. 1, 6, 16, 36, _____
a) 74 b) 76 c) 66 d) None of these
4. 3, 4, 7, 16, 43, _____
a) 120 b) 124 c) 126 d) 130
5. 1000, 100, 200, 20, 40, _____
a) 4 b) 400 c) 20 d) None of these
6. 2, 7, 17, 37, _____
a) 66 b) 75 c) 77 d) 80
7. BCB, DED, FGF, HIH, _____
a) HJH b) JKJ c) KJK d) HKH
8. D2E, H4J, L6O, P8T, _____
a) T10Y b) U5V c) L7O d) X10Y
9. In a certain code MONKEY is written as XDJMNL. How TIGER can be coded as?
a) QDFHS b) QDFSH c) QDHFS d) DQFSH
10. If DELHI coded as 73541 and CALCUTTA as 82589662, then CALICUT be coded?
a) 8251986 b) 2851896 c) 8251896 d) None of these

11. In a system 15789 is coded as EGKPT and 2346 is coded as ALUR. How 23549 can be coded?
a) ALGUT b) ALTUG c) LATUG d) LAUTG
12. In a certain code
“Pit dar na” means “You are good”
“Dar tok pa” means “good and bad”
“Tim na tok” means “they are bad”
Then “they stands for
a) Tim b) dar c) tok d) None of these
13. In a coding
“256” means “you are good”
“637” means “we are bad”
“358” means “good and bad”
Then and coded as
a) 6 b) 8 c) 7 d) 5
14. If LOSE is coded as 1357 and GAIN coded as 2468, what do figure 82146 coded for?
a) NGLAI b) NGLIA c) GNLIA d) GNLA
15. AB, BA, ABC, CBA, ABCD, _____
a) DCBA b) DCAB c) ABDC d) BACD
16. Odd man out 15, 21, 63, 81, 69
a) 15 b) 21 c) 63 d) 81
17. 1, 2, 6, 15, 31, 56, 91
a) 6 b) 31 c) 56 d) 91
18. 22, 33, 66, 77, 121, 279, 594
a) 22 b) 66 c) 121 d) 279
19. 2, 3, 7, 9, 11
a) 2 b) 7 c) 9 d) 11

20. 3, 6, 18, 39, 108, 216

a) 18

b) 216

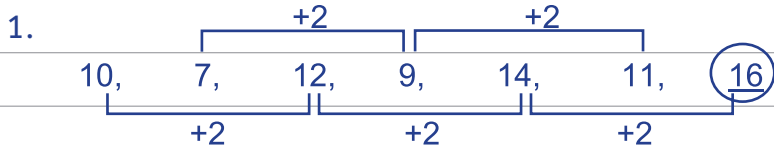
c) 39

d) 108

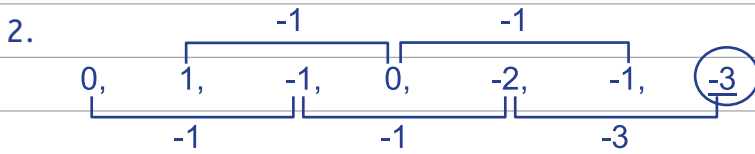
ANSWER

1.	A	2.	B
3.	B	4.	B
5.	A	6.	C
7.	B	8.	A
9.	A	10.	C
11.	A	12.	A
13.	B	14.	A
15.	A	16.	D
17.	D	18.	D
19.	C	20.	C

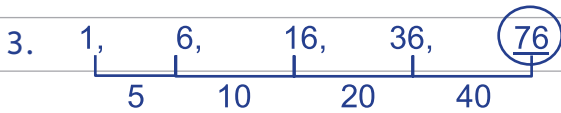
EXPLANATORY SOLUTION



Option A



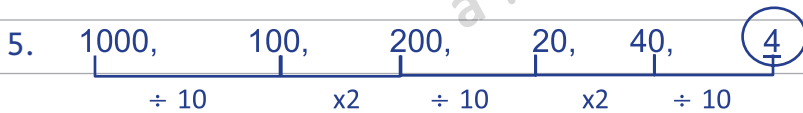
Option B[®]



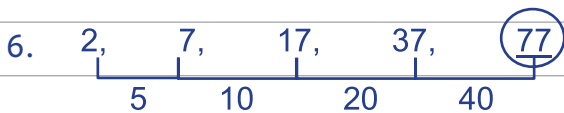
Option B



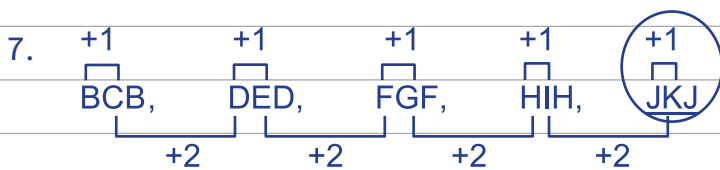
Option B



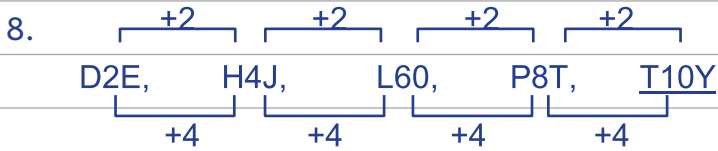
Option A



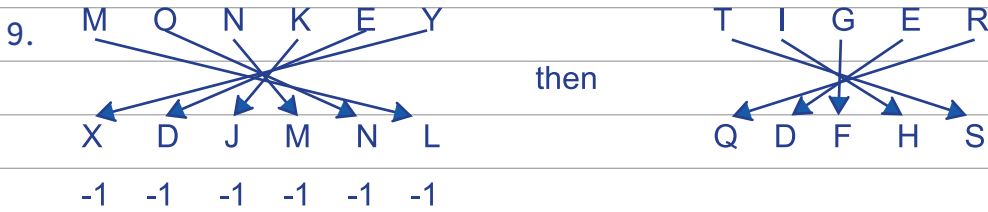
Option C



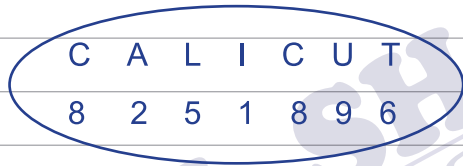
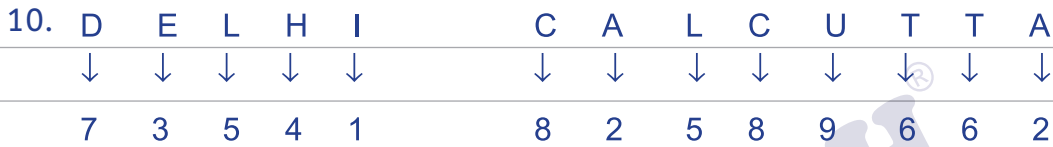
Option B



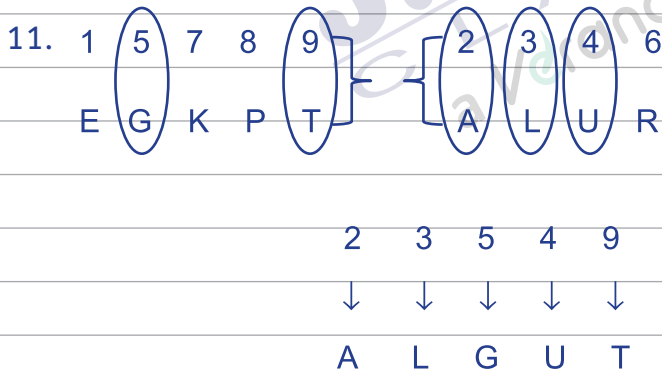
Option A



Option A



Option C



Option A

12.

Pit (dar) [Na] → you [are] (good)
 (Dar) (tok) pa → (good) and (bad)
 Dar → good
 Tim [Na] (Tok) → they [are] (bad)
 Na → are
 tak → bad
 ∴ Tim → They

Option A

13.

2 (5) 6 → you (are) (good)
 (6) 3 7 → we (are) bad
 6 → are
 3 → bad
 5 → good
 8 → good and bad
 ∴ 8 → and

Option B

14. L O S E } [G A I N
 1 3 5 7 } [2 4 6 8
 8 2 1 4 6
 ↓ ↓ ↓ ↓ ↓
 N G L A I

Option A

15. AB BA ABC CBA ABCD DCBA
 Reverse Reverse Reverse

Option A

16. 15, 21, 63, (81), 69
 81 is the perfect square

Option D

17. 1, 2, 6, 15, 31, 56, (91) it should be 92
1 4 9 16 25 36

Option D

18. 22, 33, 66, 77, 121, (279), 594
Other all are multiple of 11

Option D

19. 2, 3, 7, (9), 11
All other are Prime Number

Option C

20. 3, 6, 18, (39), 108, 216
6 6
6 6

∴ Odd man out is number 39

Option C

J.K. SHAH[®]
CLASSES
a Veranda Enterprise

2

DIRECTION TESTS

Direction is a measurement of position of one thing with respect to another thing or a reference point.

Types :

1. Finding direction only
2. Find the distance only
3. Finding both the distance and direction.

J.K. SHAH[®]
CLASSES
a Veranda Enterprise

CLASS WORK SECTION

1. A girl is going towards West, then she turned left, then turned 90 degree in clockwise direction. In which direction is she going now?
a) East b) West c) North d) None of these
2. If south west becomes North, then what will North-East be?
a) North b) South-East c) South d) East
3. At sunrise, Amit and Deepak are having conversation standing in front of each other. The shadow of Deepak is formed towards the right hand of Amit. What direction is Deepak facing?
a) North-East b) South c) East d) North
4. One evening before sun set, two friends Raman and Arjun were talking to each other face to face. If Raman's shadow was exactly to his left side, which direction was Arjun facing?
a) West b) East c) North d) South
5. The time on the watch is 9.15 and the hour hand points towards West. The direction of the minute hand is towards.
a) North b) South c) East d) West
6. A clock is so place that at 12 noon its minute hand points towards North East. In which direction does its hour hand point at 1.30 pm.
a) North b) South c) East d) West
7. Samar wants to go college which is situated in a direction opposite to that of a mall. He starts from his house, which is in the east and comes at four-way place. His left side road goes to the mall and straight in front is the railway station. In which direction is the college located?
a) North b) North-East c) South d) East

8. Ram walks 10m South from his house, turns left and walks 25m, again turns left and walks 40m, then turns right and walks 5m to reach the school. In which direction is the school from his house?
a) North b) South-West c) North-East d) East
9. Rashmi goes towards East from a point P then turns left. She walks some distance and turns to her right. Which direction is she facing now?
a) North b) East c) West d) South
10. A man goes 5 km east, then he turns right and goes 4km, then he turns left and goes 5 km. Which direction is he facing now?
a) North b) East c) West d) South
11. Laxman went 15kms 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 he is now moving? (M-2018)
a) East b) West c) North d) South
12. A man is facing East, then he turns left and goes to 10 meter then turns right and goes 5 meter then goes 5meter to the south and from their 5meter to West. In which direction is he from his original place? (M-2018)
a) East b) West c) North d) South
13. Raman starts from his house and goes towards 15m North, then he turns to his right and walks 30 m before taking right turn and moving again upto 30 m to reach temple. In which direction is the temple with respect to Raman's house?
a) North-West b) South c) South-East d) West
14. X walks southwards and turns right then left and then right. In which direction is he moving now? (M-18)
a) South b) North c) West d) South – west
15. You go north, turn right, then right then go to the left. In which direction are you now?
a) South b) East c) West d) North

16. Surbhi is facing east, she turns 100 degree in the clockwise direction and then 145 degree in the anti-clockwise direction. Which direction is she facing now?
a) West b) North-East c) North d) South-West
17. The time in a clock is quarter past twelve. If the hour hand points to the East, which is the direction opposite to the minute hand?
a) South-West b) South c) West d) North
18. A train runs 120km in West direction, then 30km in South direction and then 80 km in East direction before reaching the station. In which direction is the station from the train's starting point?
a) South-West b) North-West c) South-East d) South
19. If X stands on his head with his face towards South, to which direction will his left hand point?
a) East b) West c) South d) North
20. A and B start walking in opposite direction. A covers 3 km and B covers 4 km then A turns right and walks 4 km while B turns left and walks 3 km. How far is A from the starting point?
a) 10km b) 8 km c) 5 km d) 4 km
21. Shreya started from point P and walked 2m towards West. She, then took a right turn and walked 3m before taking a left turn and walking 5m. She finally took a left turn, walked 3m and stopped at appoint Q. How far is point Q from point P?
a) 2m b) 6m c) 7m d) 8m
22. Vinod Starts from his house and travels 4km in East direction, after that he turns towards left and moves 4km. Finally, he turns towards left and moves 4km. At what distance and in which direction he finally stands from his starting point?
a) North, 4km b) North-East 4km
c) South 12km d) West 4km

23. Two buses start from the opposite points of a main road, 150km apart. The first bus runs for 25km and takes a right turn and then runs for 15km. It then turns left and runs for another 25km and takes the direction back to reach the main road. In the meantime, due to the minor break down the other bus has run only 35km along the main road. What would be the distance between the two buses at this point?
- a) 65km b) 80km c) 75km d) 85km
24. A man started to walk 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) West b) East c) North d) South
25. Raghu is at point A. He walks 3km to the North and then turns to his left. He walks, 4km in this direction. He turns left again and walks 6 km. If he wishes to reach point A again, in which direction should he be walking and what distance will he have to cover?
- a) South-East, 5km b) South-East, 4 km
c) North-East, 5 km d) North-East, 4 km.

HOMEWORK SECTION

- Mohan starts from point A and walks 1 km towards south, turns left and walks 1km. Then he turns left again and walks 1 km. Now he is facing.
(a) East (b) West (c) North (d) South-west
- Suresh starts from a point, walks 2 miles towards south, turns right and walks $1\frac{1}{2}$ miles, turns left and walks $\frac{1}{2}$ miles and then he turns back. What is the direction he is facing now?
(a) East (b) West (c) South (d) North
- A man starts from a point, walks 4 miles towards north and turns 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
- Arun started from point A and walked 10 km East to point B, then turned to North and walked 3 km to point C and then turned West and walked 12 kms to point D, then again turned South and walked 3 kms to point E. In which direction is he from his starting point?
(a) East (b) South (c) West (d) North
- A starts from a point and walks 5 kms north, then turns left and walks 3 kms. Then again turns left and walks 5 km. Point out the direction in which he is going now.
(a) North (b) South (c) East (d) West
- A rat run 20 towards East and turns to right runs 10 and turns to right runs 9 and again turns to left runs 5 and then turns to left runs 12 and finally turns to left and rusn 6. Now what direction is the rat facing?
(a) East (b) North (c) West (d) South

7. A driver left his village and drove North for 20 km, after which he stopped for breakfast. Then he turned left and drove another 30 km, when he stopped for lunch. After some rest, he again turned left and drove 20 kms before stopping for evening tea. Once more he turned left and drove 30 kms to reach the town where he had supper. After evening tea in which direction did he drive?
(a) West (b) East (c) North (d) South
8. A man is facing East, then he turns left and goes 10 m, then turns right and goes 5 m then goes 5 m to the South and from there 5 m to West. In which direction is he from his original place?
(a) East (b) West (c) North (d) South
9. From her home Purna wishes to go to school. From home she goes towards North and then turns left and then turns right, and finally she turns left and reaches school. In which direction her school is situated with respect to her home?
(a) North-East (b) North-West (c) South-East (d) South-West
10. A child walks 25 feet towards North, turns right and walks 40 feet, turns right again and walks 45 feet. He then turns left and walks 20 feet. He turns left again walks 20 feet. Finally, he turns to his left to walk another 20 feet. In which direction is the child from his starting point?
(a) North (b) South (c) West (d) East
11. Raju facing North and moves 20 km, then he turned to his right and moves 20 km and then he moves 10 km in North-East, then he turned to his right and moves 20 km and then he turned to his right and moves 20 km and again he turned to his left and moves 20 km. Now in which direction Raju is facing?
(a) South-East (b) North-East (c) South-West (d) North-West
12. K is a place which is located 2 km away in the north-west direction from the capital P. R is another place that is located 2 km away in the south-west direction from K. M is another place and that is located 2 km away in the north-west direction from R. T is yet another place that is located 2 km away in the south-west direction from M. In which direction is T located in relation to P?
(a) South-west (b) North-west (c) West (d) North

13. Babu is Rahim's neighbour and his house is 200 meters away in the north-west direction. Joseph is Rahim's neighbour and his house is located 200 meter away in the south-west direction. Gopal is Joseph's neighbour and he stays 200 meters away in the south-east direction. Roy is Gopal's neighbour and his house is located 200 meters away in the north-east direction. Then where is the position of Roys' house in relation to Babu's?
- (a) South-east (b) south-west (c) North (d) North-east
14. A tourist drives 10 km towards west and turns to left and takes a drive of another 4 km. He then drives towards east another 4 km and then turns to his right and drives 5 km. Afterwards he turns to his left and travels 6 km. In which direction is he from the starting point?
- (a) North (b) East (c) West (d) South
15. A man started walking West. He turned right, then right again and finally turned left. Towards which direction was he walking now?
- (a) North (b) South (c) West (d) East
16. One evening, Raja started to walk toward the Sun. After walking a while, he turned to his right and again to his right. After walking a while, he again turned right. In which direction is he facing?
- (a) South (b) East (c) West (d) North
17. Five boys A, B, C, D, E, are sitting in a park in a circle. A is facing South-West, D is facing South-East, B and E are right opposite A and D respectively and C is equidistant between D and B. Which direction is C facing?
- (a) West (b) South (c) North (d) East
18. If a man on a moped starts from a point and rides 4 km South then turns left and rides 2 km and turn again to the right. Which direction is he moving ?
- (a) North (b) West (c) East (d) South

19. A man starts from a point, walk 8 km towards North, turns right and walks 12 km, turns left and walks 7 km turns and walks 20 km towards South, turns right and walks 12 km. In which direction is he from the starting point?
(a) North (b) South (c) West (d) East
20. Daily in the morning the shadow of Gol Gumbaz falls on Bara Kaman and in the evening the shadow of Bara Kaman falls on Gol Gumbaz exactly. So in which direction is Gol Gumbaz to Bara Kaman?
(a) Easter side (b) Western side (c) Northern side (d) Southern side
21. Ashok went 8 km South and turned West and walked 3 km again he turned North and walked 5 kms. He took a final turn to East and walked 3 kms . In which direction was Ashok from the starting point?
(a) East (b) North (c) West (d) South
22. If X stands on his head with his face towards south, to which direction will his left hand point ?
(a) East (b) West (c) North (d) South
23. I drove East for 5 miles then drove North 3 miles, then turned to my left and drove for 2 miles and again turned to my left. Which direction am I going now?
(a) South (b) North (c) West (d) North-west
24. If A stands on his head with his face towards north. In which direction will his left hand point?
(a) North-East (b) North (c) East (d) North-West
25. A car travelling from south covers a distance of 8 km, then turns right and runs another 9 kms and again turns to the right and was stopped. Which direction does it face now?
(a) South (b) North (c) West (d) East

26. A taxi driver commenced his journey from a point and drove 10 km toward north and turned to his left and drove another 5 km. After waiting to meet a friend here, he turned to his right and continued to drive another 10 km. He has covered a distance of 25 km so far, but in which direction would he be now?
- (a) South (b) North (c) East (d) South-east
27. A walks 3 kms northward and then he turns left and goes 2 km. He again turns left and goes 3 km. He turns right and walks straight. In which direction is he walking now?
- (a) East (b) West (c) North (d) South
28. A walks southwards, then turns right, then left and then right. In which direction is he from the starting point?
- (a) Southwest (b) East (c) West (d) North
29. A man starts from a point, walks 15 metres towards East, turns left and walks 10 metres, turns right again and walks. Towards which direction is he now waking?
- (a) North (b) East (c) West (d) South
30. A boy starts walking towards West, he turns right and again he turns right and then turns left at last. Towards which direction is he walking now?
- (a) West (b) North (c) South (d) East
31. I stand with my right hand extended side-ways towards South. Towards which direction will my back be ?
- (a) North (b) West (c) East (d) South
32. If a person moves 4 km towards west, then turns right and moves 3 km and then turns right and moves 6 km, which is the directions in which he is now moving?
- (a) East (b) West (c) North (d) South
33. If Mohan sees the rising sun behind the temple and the setting sun behind the railway station from his house, what is the direction of the temple from the railway station?
- (a) South (b) North (c) East (d) West

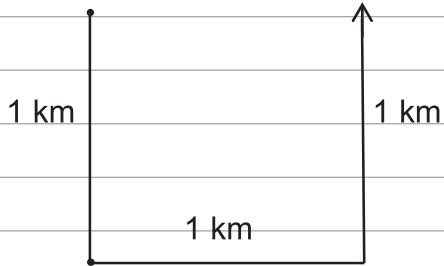
34. Laxman went 15 km to North then he turned West and covered 10 kms. Then he turned south and covered 5 kms. Finally turning to East he covered 10 kms. In which direction he is from his house?
- (a) East (b) West (c) North (d) South
35. A man starts from a point, walks 4 miles North, turns to his right and walks 2 miles, again turns to his right and walks 2 miles, again turns to his right and walks 2 miles. In which direction would he be now from his starting point?
- (a) North (b) South (c) East (d) West
36. I started walking down a road in the morning facing the Sun. After walking for some time I turned to my left. Then I turned to my right. In which direction was I going then ?
- (a) East (b) West (c) North (d) South
37. Lakshmi walked 2 furlongs north from her house and took a turn to left and continued to walk another one kilometre and finally she turned left and reached the school. Which direction is she facing now?
- (a) West (b) North (c) South (d) North
38. You are going straight, first eastwards, then turn to the right, then right again, then left. In which direction would you be going now?
- (a) East (b) West (c) South (d) East
39. If Ahmed travels towards North from his house, then to left, then to South covering equal distances in each direction to reach Sohan's house, in which direction is Ahmed's house now?
- (a) East (b) South (c) North (d) West
40. You go North, turn right, then right again and then go to the left. In which direction are you now?
- (a) South (b) East (c) West (d) North
41. Roopa starts from a point and walks 15 metre towards west, turns left and walks 12 metre, turns right again and walks. What is the direction she is now facing?
- (a) South (b) West (c) East (d) North

42. A man starts his journey facing the sun early morning. He then turns right and walks 2 km. He then walks 3 km after turning right again. Which is the direction he is facing now?
(a) North-East (b) North (c) West (d) South
43. Roy walks 2 km to East, then turns North-West and walks 3 km. Then he turns South and walks 5 km. Then again he turns West and walks 2 km. Finally he turns North and walks 6 km. In which direction, is he from the starting point?
(a) South-West (b) South-East (c) North-West (d) North-East
44. Seeta starts from a point, walks 2 km towards north, turns towards her right and walks 2 km, turns right again and walks. What is the direction she is facing now?
(a) East (b) West (c) South (d) North
45. Shyam was facing East. He walked 5 km forward and then after turning to his right walked 3 km. Again he turned to his right and walked 4 km. After this he turned back. Which direction was he facing at that time?
(a) East (b) West (c) North (d) South
46. Raju is standing facing north. He goes 30 metres ahead and turns left and goes for 15 metres. Now he turns right and goes for 50 metres and finally turns to his right and walks. In which direction is he heading?
(a) North (b) East (c) South (d) West
47. Sanmitra starts from his house and walks 3 km towards north. Then he turns right and walks 2 km and then turns right and walks 5 km, then turns right and walks 2 km and then again turns right and walks 2 km. Which direction is he facing now?
(a) North (b) South (c) West (d) East
48. Raju is Ramu's neighbour and he stays 100 metres away towards southeast. Venu is Raju's neighbour and he stays 100 metres away towards southwest. Khader is Venu's neighbour and he stays 100 metres away towards, north-west. Then where is the position of Khader's home in relation to Ramu's?
(a) South-East (b) South-West (c) North-West (d) East

49. Ramesh walked 3 km, towards West and turned to his left and walked 2 km. He, then turned to his right and walked 3 km. Finally, he turned to his right again and walked another 2 km. In which direction is Ramesh from his starting point now?
(a) East (b) West (c) North (d) South
50. Deepa starts walking towards north and after a while she turns to her right. After walking some distance, she turns to her left and walks a distance of 1 km. She then turns to her left again. In which direction she moving now?
(a) North (b) West (c) East (d) South
51. Raman starts walking in the morning facing the Sun. After sometime, he turned to the left later again he turned to his left. At what direction is Raman moving now?
(a) East (b) West (c) South (d) North
52. A starts walking towards North turns left, again turns left, turns right, again turns right once again turns left. In which direction is A walking now?
(a) East (b) South (c) West (d) South-East
53. 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
54. A man started to walk East. After moving a distance, he turned to his right. After moving a distance, he turned to his right again. After moving a little he turned in the end to his left. In which direction was he going now.?
(a) North (b) South (c) East (d) West

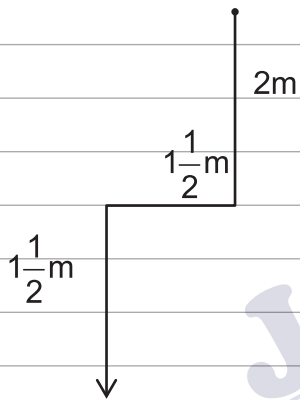
HOMEWORK SOLUTION

Q.1



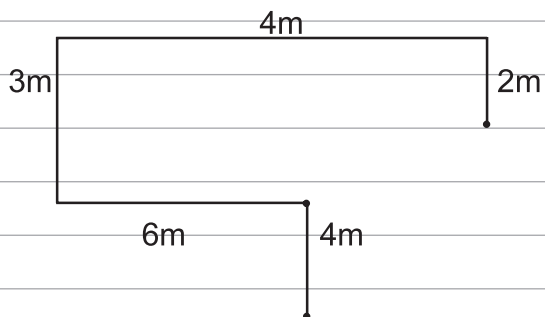
Option C

Q.2

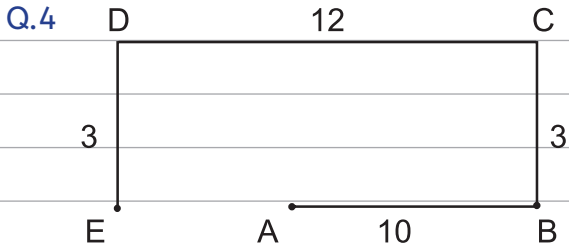


Option D

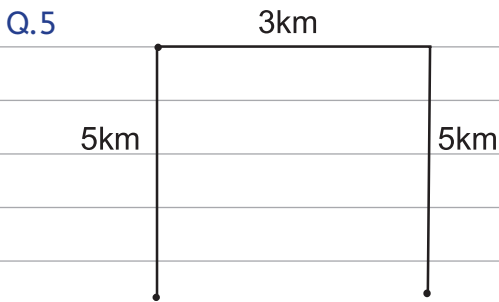
Q.3



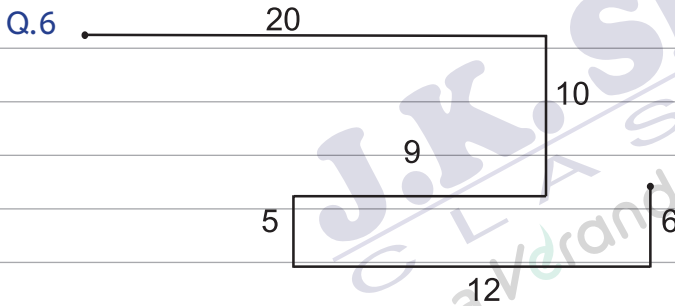
Option B



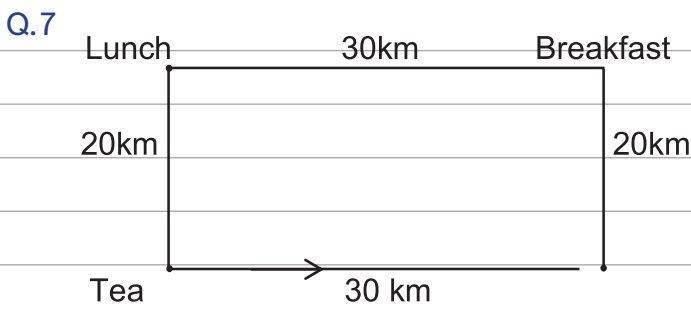
Option C



Option B

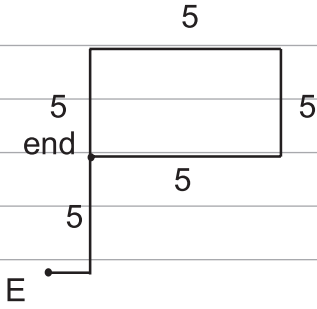


Option B



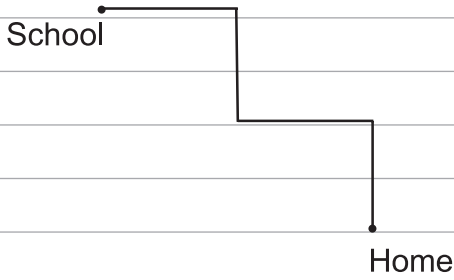
Option B

Q.8



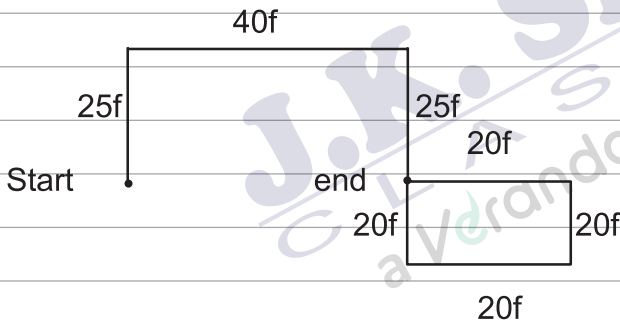
Option C

Q.9



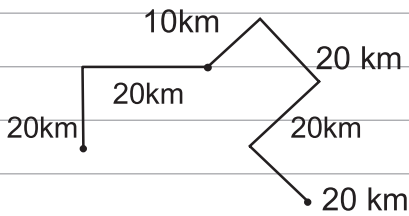
Option B

Q.10



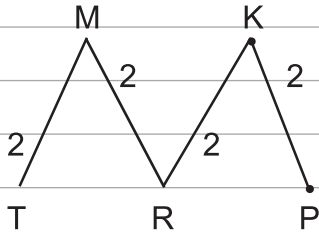
Option D

Q.11



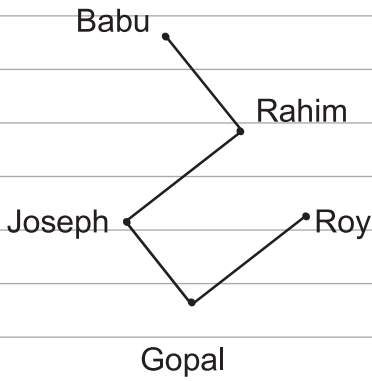
Option A

Q.12



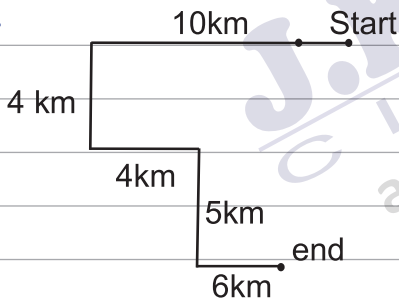
Option C

Q.13



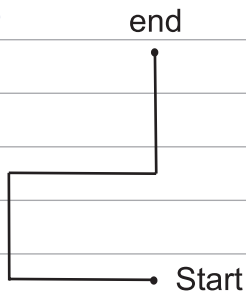
Option A

Q.14



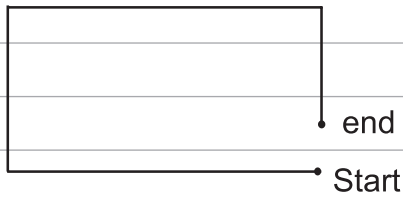
Option D

Q.15



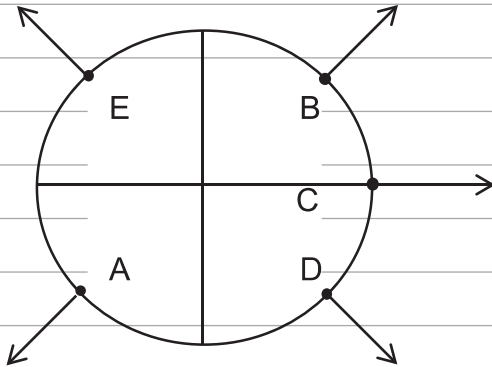
Option A

Q.16



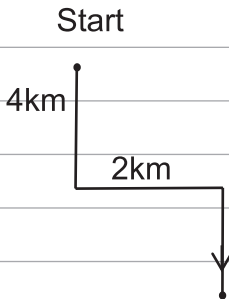
Option A

Q.17



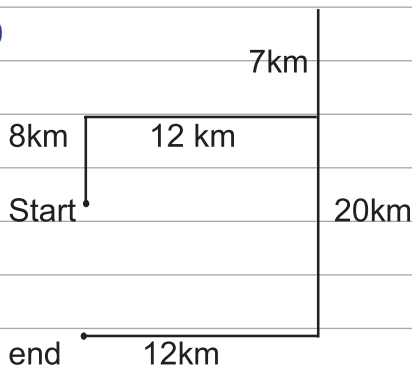
Option D

Q.18



Option D

Q.19



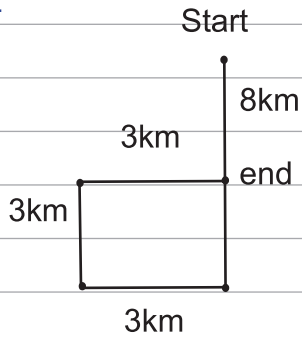
Option B

Q.20



Option A

Q.21



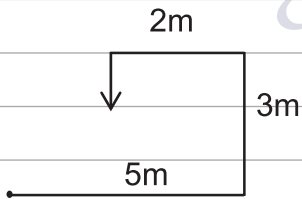
Option D

Q.22



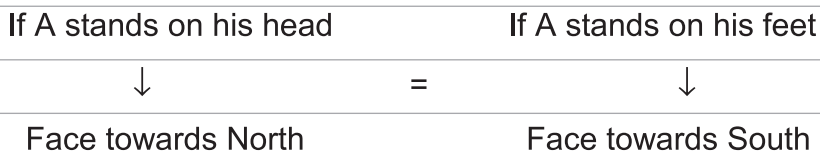
Option B

Q.23



Option A

Q.24



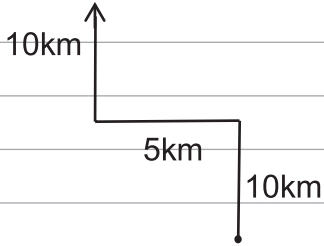
Option C

Q.25



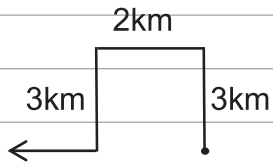
Option A

Q.26



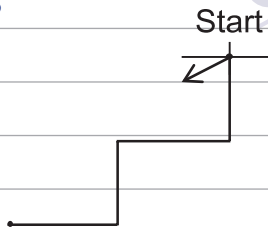
Option B

Q.27



Option B

Q.28

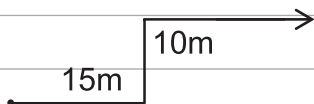


Option A



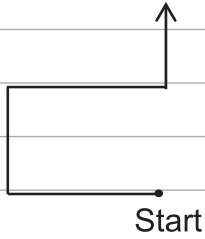
Correction answer should be
(South West)

Q.29



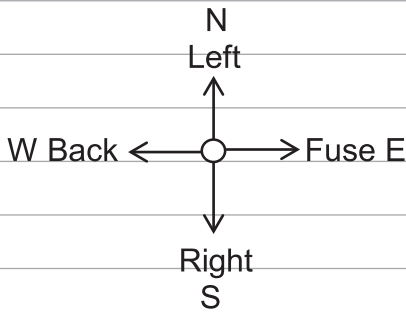
Option B

Q.30



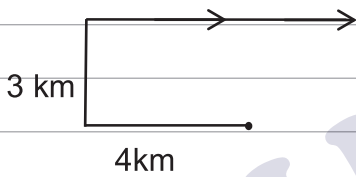
Option B

Q.31



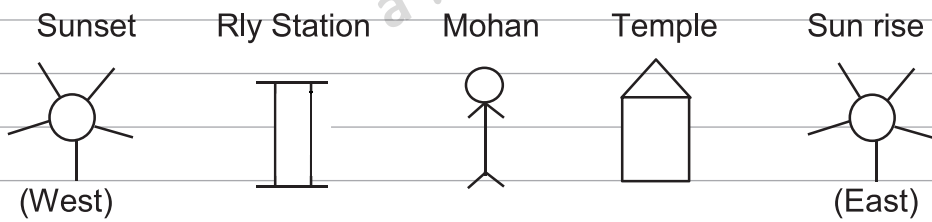
Option B

Q.32



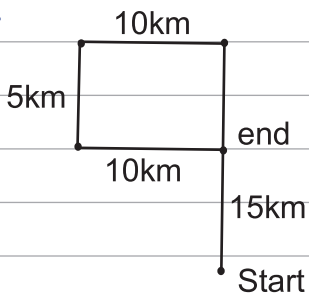
Option A

Q.33



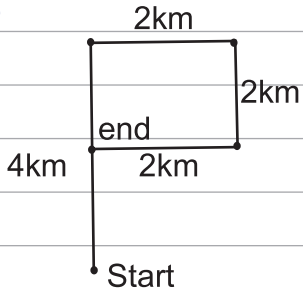
Option C

Q.34



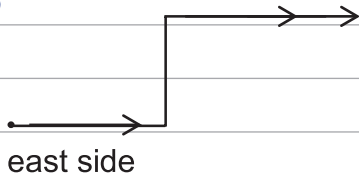
Option C

Q.35



Option A

Q.36



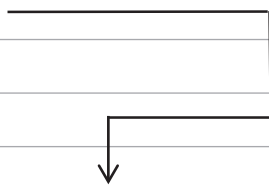
Option A

Q.37



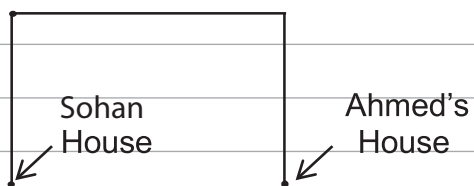
Option C

Q.38



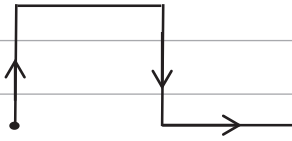
Option C

Q.39



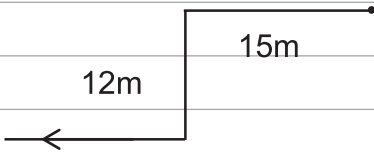
Option A

Q.40



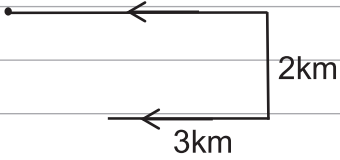
Option B

Q.41



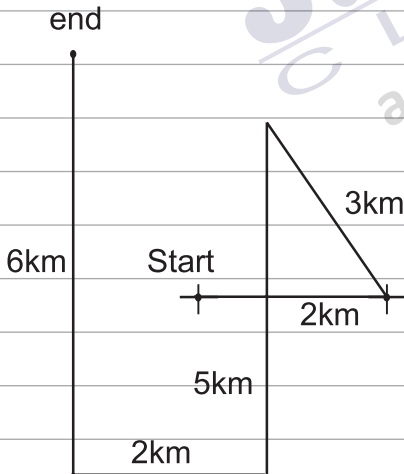
Option B

Q.42



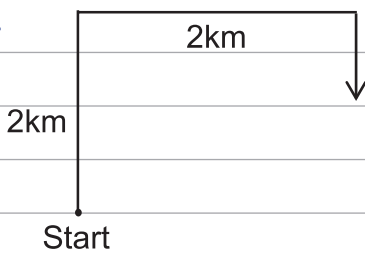
Option C

Q.43



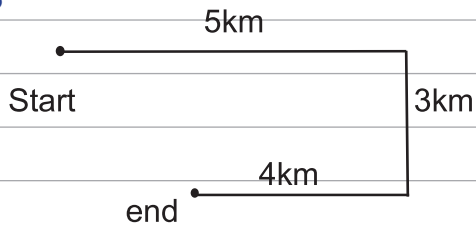
Option C

Q.44



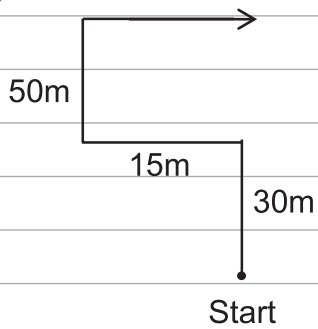
Option C

Q.45



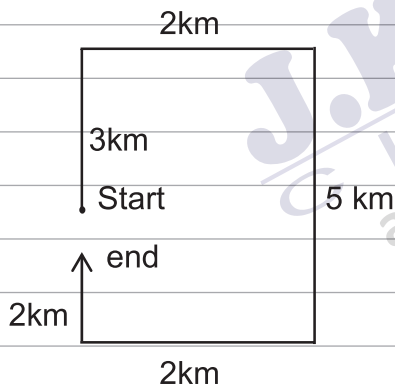
Option A

Q.46



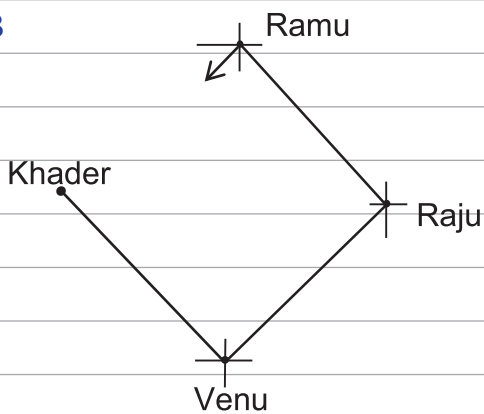
Option B

Q.47



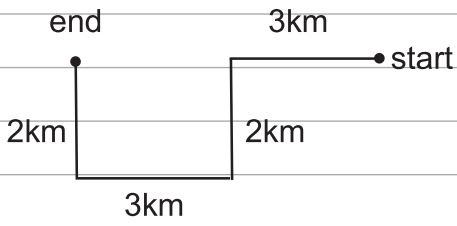
Option A

Q.48



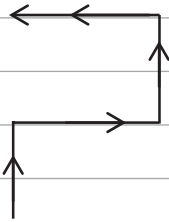
Option B

Q.49



Option B

Q.50



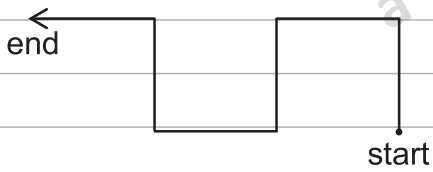
Option B

Q.51



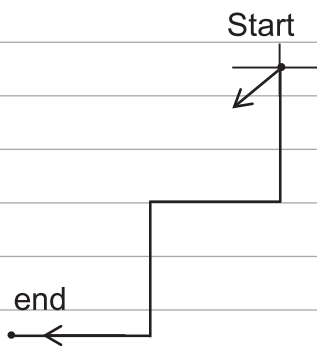
Option B

Q.52



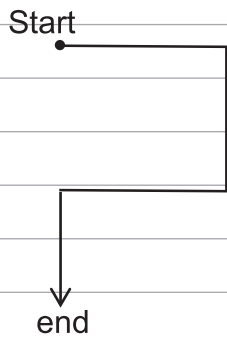
Option C

Q.53



Option C

Q.54



Option B

J.K. SHAH[®]
CLASSES
a Veranda Enterprise

SELF ASSESSMENT

- Aditya walked 20 m towards North. Then he turned right and walks 30 m. Then he turns right and walk 35 m. Then he turns left and walk 15 m. finally he turns left and walk 15 m. In which direction and how many meters is he from the starting point?
a) 15 m West b) 30 m East c) 30 m West d) 45 m East
- Jay (Starts from A) walked 5m towards West, then turned left and walked 5m. Again turned left and walked 5 m. again turned left and walked 6 m. How far he is from A.
a) 1m (b) 2 m c) 3 m d) 4 m
- Shivam started from his house towards West. After walking a distance of 15 km he turned to the right and walked 10 km. He again turned to the right and walked 5 km. After this he is to turn right at 135° and covered 10 km. In which direction should be go?
a) South b) S-W c) S-E d) North
- After walking 6 km, I turned to the right and then walked 2 km. After then I turned to the left and walked 10 km. In the end, I was moving towards the North. From which direction did I start my Journey?
a) North b) South c) East d) West
- Reena walked from A to B in the East 10 Feet. The she turned to the right and walked 3 Feet. Again she turned to the right and walked 14 Feet. How far is she from A?
a) 4 FT b) 5 FT c)12 FT d) 13 FT
- 'If $A \times B$ means A is to the South of B. $A + B$ means A is to the North of B, $A \% B$ means A is to East of B, $A - B$ means A is to the West of B, then in $P \% Q + R - S$, S is in which direction with respect to Q?
a) S-W b) S-E c) N-E d) N-W

7. Four friends A, B, C, D live in a same locality. The house of B is in the East of A's house but in the North of C's house. The house of C is in the West of D's house. D's house is in which direction of A's house?
- a) S-E b) N-E c) East d) North
8. Mohan starts from point A and walk 1 km towards South, turns left and walk 1 km. Then he turns left again and walk 1 km. Now he is facing.
- a) East b) West c) North d) South
9. Dev walks 20m towards North. He then turns left and walks 40 m. He again turns left and walks 20 m. Further, he moved 20 m after turning to the right. How far is he from his original position?
- a) 20 m b) 30 m c) 50 m d) 60 m
10. A walks Southwards, then turn right, then left and then right. In which direction is he from the starting point?
- a) South West b) West c) East d) North
11. A is located to the West of B, C is located at North in between A and B. D is exactly to the South of B and also in line with B. In which direction of C is D located?
- a) South b) S-E c) West d) S-W
12. A man is facing East, then he turns left and goes to 10 meter then turns right and goes 5 meter then goes 5 meter to the south and from their 5 meter to West. In which direction is he from his original place?
- a) East b) West c) North d) South
13. I stand with my right-hand extended side-ways towards South. Towards which direction will my back be?
- a) North b) West c) East d) South
14. Manu wants to go to the market. He starts from his house towards North reaches at a crossing after 30m. He turns towards East, goes 10m till the second crossing and turns again, moves towards South straight for 30m where marketing complex exits. In which direction is the market from his house?
- a) North b) East c) South d) West

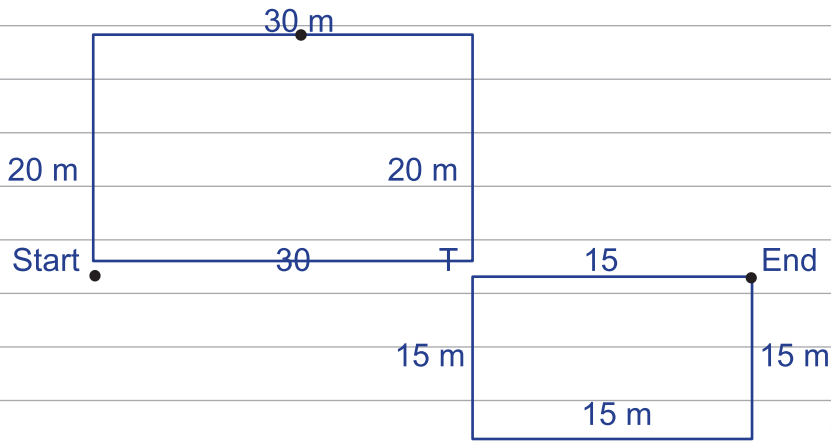
15. Madhuri moved a distance of 75 meters toward north. She then turned to the left and walking for about 25m, turned left again and walks 80m. Finally she turned to the right at an angle of 45° . In which direction was she moving finally?
- a) South – East b) South – West
c) North - West d) North – East
16. a man starts from a point, walk 3 km towards North, turns towards his right and walks 3 km, turns right again and walk. What is the direction nowhe is facing?
- a) South b) North c) West d) East
17. A person moves towards North up to n km, then walked towards East upto 10 km, then take right turn towards South and walked upto 10 km, again he moved towards West and reached at start point. What is the value of n.
- a) 10 km b) 20 km c) 1 km d) 2 km
18. One morning Sujata started to walk towards the sun. After covering some distance she turned to right then again to the right and after covering some distance she again turn to the right. Now in which direction is she facing.
- a) North b) South c) N-E d) S-W
19. Ramu is going towards North from his house. After covering a distance of 6 km he turned towards left and covered a distance of 8 km. What is the shortest distance now from his house?
- a) 15 km b) 10 km c) 25 km d) 20 km
20. You go North, turn right, then right again and then go to left. In which direction are you now?
- a) South b) East c) West d) North

ANSWER

1.	D	2.	A
3.	B	4.	B
5.	B	6.	B
7.	A	8.	C
9.	D	10.	A
11.	B	12.	C
13.	B	14.	B
15.	C	16.	A
17.	A	18.	A
19.	B	20	B

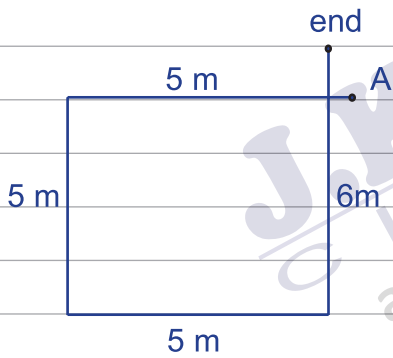
Explanatory solutions

Q.1



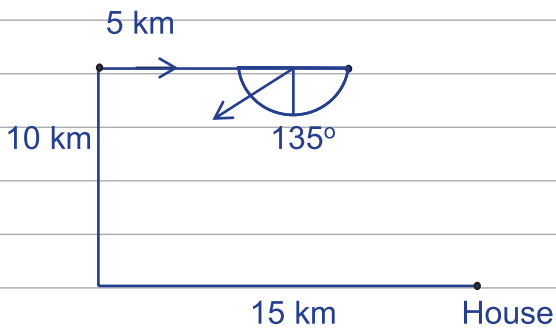
Option D

Q.2



Option A

Q.3



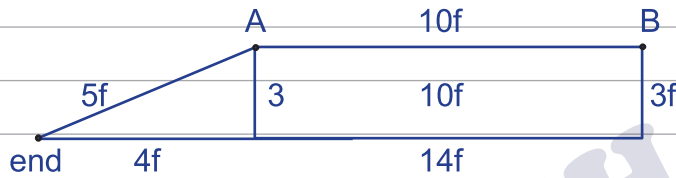
Option B

Q.4



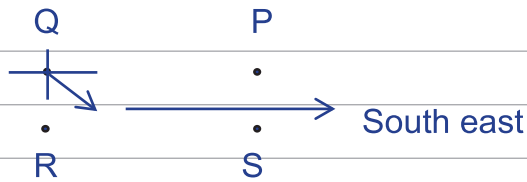
Option B

Q.5



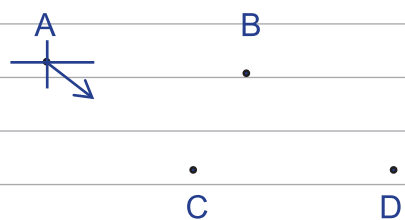
Option B

- Q.6 $A \times B \rightarrow A$ is to the south of B
 $A + B \rightarrow A$ is to the north of B
 $A \% B \rightarrow A$ is to the east of B
 $A - B \rightarrow A$ is to the west of B
 $P \% Q + R - S$

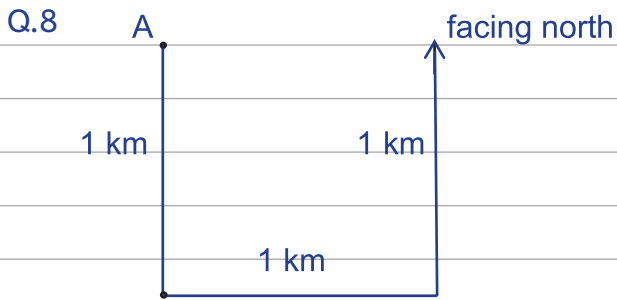


Option B

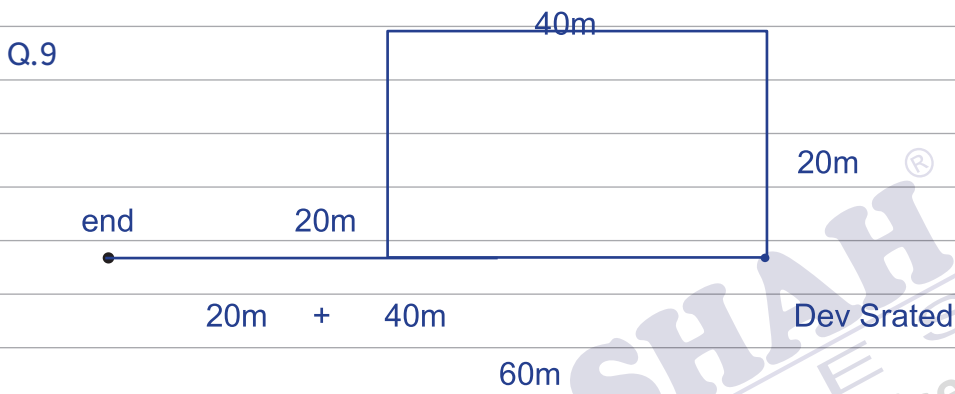
Q.7



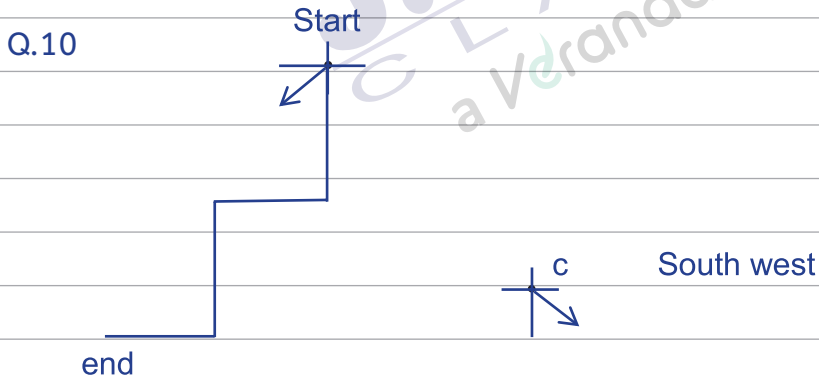
Option A



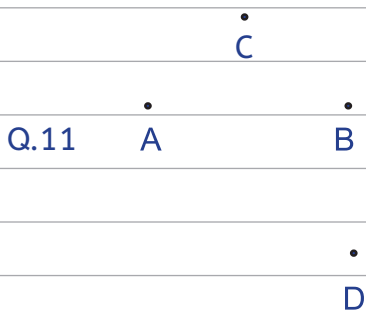
Option C



Option D

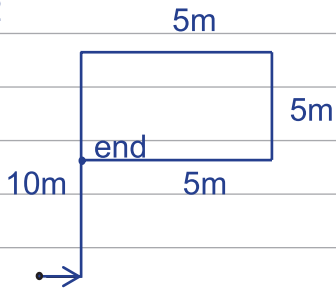


Option D



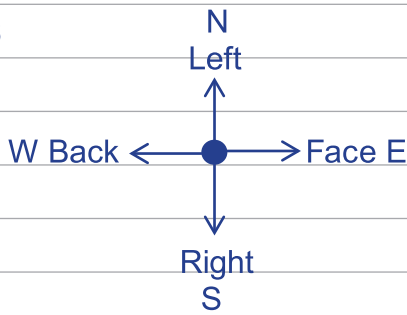
Option B

Q.12



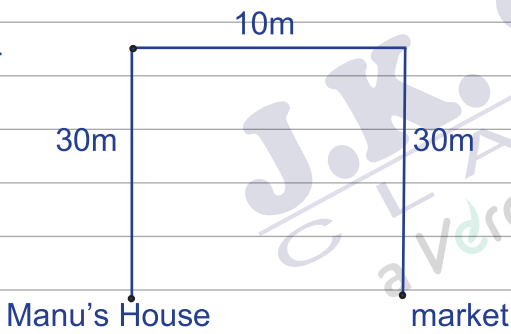
Option C

Q.13



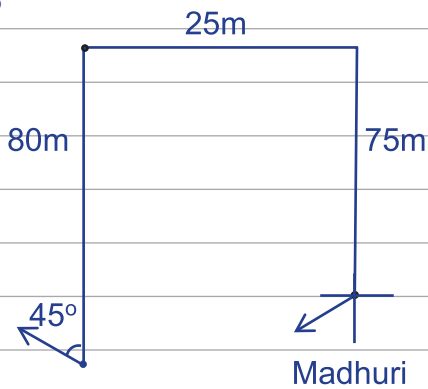
Option B

Q.14



Option B

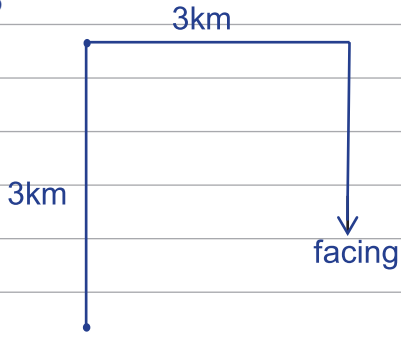
Q.15



Option C

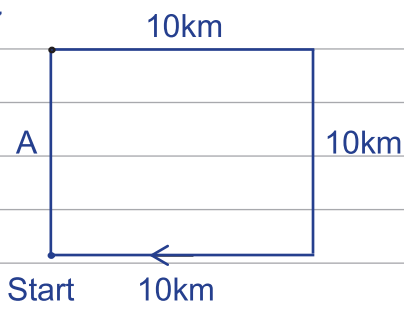
Northwest

Q.16



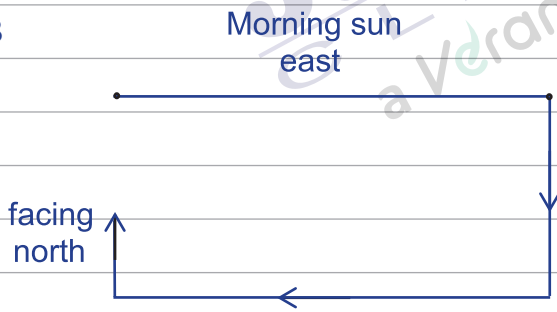
Option A

Q.17



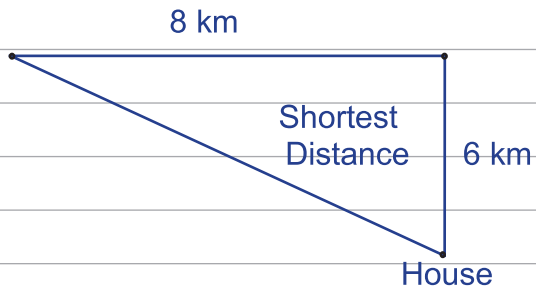
Option A

Q.18



Option A

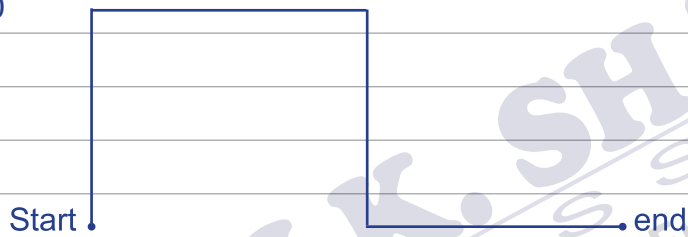
Q.19



$$\begin{aligned}\text{Distance} &= \sqrt{(6)^2 + (8)^2} \\ &= \sqrt{36 + 64} \\ &= \sqrt{100} \\ &= 10 \text{ km}\end{aligned}$$

Option B

Q.20



Option B

3

SEATING ARRANGEMENT

Sitting arrangement questions are based on the sitting sequence pattern, direction, facing outside or inside etc.

Different types of Questions covered.

1. Linear arrangement
2. Circular arrangement
3. Polygonal arrangement

J.K. SHAH[®]
CLASSES
a Veranda Enterprise

CLASS WORK SECTION

LINEAR ARRANGEMENT

- 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 left in photograph.
(J-2019)
a) Reena b) Manju c) Reeta d) Shikha
- 5 friends are sitting on a bench. A is to the left of B but on the right of C. D is to the right of B but on the left of E. Who are at the extremes?
a) A, B b) A, D c) B, D d) C, E
- 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
(N-2018)
a) B b) E c) C d) A
- 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? (M-2018)
a) K and P b) R and P c) only P d) P and T.
- Five boys are standing in a row facing East, Pavan is to the left of Tavan, Vipin, Chavan. Tavan, Vipin and Chavan are to the left of Nakul. Chavan is between Tavan and Vipin. If Vipin is fourth from the left, then how far is Tavan from the right?
a) First b) Second c) Third d) Fourth
- Five senior citizens are living in a multistoried building Mr. Muan lives in a flat above Mr. Ashokan, Mr. Lokesh lives in a flat below Mr. Gaurav, Mr. Ashokan lives in a flat above Mr. Gaurav and Mr. Rakesh lives in a flat below Mr. Lokesh. Who lives in the topmost flat? (M-2018)
a) Mr. Lokesh b) Mr. Gaurav c) Mr. Muan d) Mr. Rakesh

7. Five boys A, B, C, D and E are sitting on a stair in the following way
E is above A
D is under B
B is under A
D is between B and C
Who is at the lowest position of the stair?
a) A b) C c) E d) B
8. 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? (M-2018)
a) B and E b) B and C c) B and D d) B and A
9. Eight persons A, B, C, D, E, F, G and H are sitting in a line.
E is second right to D.
H sits fourth left to D.
C and F are immediate neighbors, but C is not immediate neighbor of A.
G is not neighbor of E
Only two person 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
10. There are eight books kept one over the other. Two books are on Organisational Behaviour, two books on TQM, three books on Industrial Relations and one book is on Economics, counting from the top, the second, fifth and sixth books are on Industrial Relations. Two books on Industrial Relations are between two books on TQM. One book of Industrial Relations is between two books on Organisational Behaviour while the book above the book of Economics is book of TQM. Which book is the last book from the top?
a) Economics b) TQM
c) Industrial Relations d) Organisational Behaviour

Directions: (Q. no. 11 to 15)

Read the following information carefully to answer the given questions.

A, B, C, D, E, F, G and H are seated in straight line facing North.

C sits fourth to left of G.

D sits second to right of G.

Only two people sit between D and A.

B and F are immediate neighbors of each other.

B is not an immediate neighbour of A.

H is not an immediate neighbour of D.

11. Who amongst the following sits exactly in the middle of the persons who sit fifth from the left and the person who sits sixth from the right?
- a) C b) H c) E d) F
12. Who amongst the following sits third to the right of C?
- a) B b) F c) A d) E
13. Which of the following represents persons seated at the two extreme ends of the line?
- a) C, D b) A, B c) B, G d) D, H
14. What is the position of H with respect to F?
- a) Third to the left b) Immediate right
c) Second right d) Fourth to left
15. How many persons are seated between A and E?
- a) One b) Two c) Three d) Four

Directions (Q. no. 16 to 20)

Read the following information carefully and answer the following questions based on it.

Ten students – A, B, C, D, E, F, G, H, I and J are sitting in a row facing West.

B and F are not sitting on either of the edges.

G is sitting to the left of D and H is sitting to the right of J

There are four persons between E and A.

I is immediate to the North of B and F immediate is to the South of D.

J is in middle of A and D and G is in middle of E and F

There are two persons between H and C.

16. Who is sitting at the seventh-place counting from left?

- a) H b) C c) J d) Either H or C

17. Who among the following is definitely sitting at one of the ends?

- a) C b) H c) E d) Cannot be determined

18. Who are immediate neighbours of I?

- a) BC b) BH c) AH d) (a) or (b)

19. Who is sitting second left of D?

- a) G b) F c) E d) J

20. If G and A interchange their positions, then who become the immediate neighbours of E?

- a) G and F b) Only F c) Only A d) J and H

Circular Arrangement

1. Four girls A, B, C and D are sitting around a circle facing the centre. B and C are in front of each other, which of the following is definitely true?

- a) A and D are in front of each other
b) A is not between B and C
c) D is to the left of C
d) A is to the left of C

2. Five persons are sitting facing centre of a circle. Pramod is sitting to the right of Rajan. Raju is sitting between Brejesh and Naveen. Raju is to the left of Brejesh and Rajan is to right of Brejesh. Who is sitting to the left of Naveen?

- a) Pramod b) Raju c) Brejesh d) Rajan

3. Six persons are sitting in a circle facing the centre of the circle. Parikh is between Babita and Narendra. Asha is between Chitra and Pankaj. Chitra is to the immediate left of Babita. Who is to the immediate right of Babita?

- a) Parikh b) Pankaj c. Narendra d. Chitra

Directions (Q. no.4 to 6)

Read the following information carefully to answer the question that follow:

Six girls are sitting in a circle.

Sonia is sitting opposite to Radhika.

Poonam is sitting right of Radhika but left of Deepti.

Monika is sitting left of Radhika

Kamini is sitting right of Sonia and left of Monika

Now, Deepti and Kamini, Monika and Radhika mutually exchange their positions.

4. Who will be opposite to Sonia?

- a) Radhika b) Monika c) Kamini d) Sonia

5. Who will be sitting left of Kamini?

- a) Poonam b) Deepti c) Radhika d) Sonia

6. Who will be sitting left of Deepti?

- a) Sonia b) Monika c) Radhika d) Poonam

Direction (Q.no. 7 to 10)

Eight friends A, B, C, D, E, F, G and H are sitting around a circle facing the centre but not necessarily in the same order. G sits third to left of D. Only one person sits between D and F. B sits second to right of H. H is not an immediate neighbour of D. C is not an immediate neighbour of D. E is an immediate neighbour of H.

7. What is the position of E with respect to the position of C?

- a) Third to the left b) Second to the left
c) Immediate right d) Third to the right

8. Who amongst the following sits exactly between A and G?

- a) B b) C c) E d) F

9. Three of the following four are alike in a certain way and thus form a group. Which is the one that does not belong to that group?

- a) CG b) AE c) HD d) EC

10. Who amongst the following sits third to the left of F?

- a) A b) B c) C d) G

Polygonal Arrangement

1. Four boys and four girls are sitting around a square facing the centre. One person is sitting at each corner and at the midpoint of each side of the square. Madhu is sitting diagonally opposite to Usha who is to the right of Geeta. Ram who is to the left of Geeta is diagonally opposite to Gopi who is to the left of Bose. Position of Suma is not to the right off Madhu but in front of Prema. Who is sitting opposite to Bose?

- a) Geeta b) Prema c) Suma d) Madhu

2. Five children A, B, C, D and E are sitting along the corners of a pentagonal table facing the centre. B is between E and C. D is to the right of E. Who is to the left of C?

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

Directions (Q. no.3 to 6)

Read the following information carefully to answer the question that follow:
Six people A, B, C, D, E and F are sitting on the ground in a hexagonal shape. All the sides of hexagon so formed are of same length. A is not adjacent to B or C. D is not adjacent to C or E. B and C are adjacent. F in the middle of D and C.

3. Which of the following is not a correct neighbour pair?

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

4. Who is at the same distance from D as E is from D?

- a) B b) C c) D d) F

5. Which of the following group has the correct order of arrangement?

- a) A, F, B b) F, A, E c) B, C, F d) D, A, B

6. If one neighbour of A is D, who is the other one?

- a) B b) C c) E d) F

Directions (Q. no.7 to 10)

Read the following information carefully to answer the question that follow:

Eight friends P, Q, R, S, T, V, W and Y are sitting around a square table. Out of eight, four persons are sitting at the corners of the table and the other four are sitting at the mid-points of each side of the table. Persons at the corners are facing the centre while the persons at the mid-points of side are facing outside. S is third to the right of P. P is facing the centre, Y is not sitting beside P or S. T is third to the right of R. R is not sitting at the mid-point of any side of the table. R is also not beside Y. There is only one person between P and V. Q is not sitting beside V.

7. Which of the following is true regarding Y?

- a) T is not sitting beside Y
- b) Y is sitting at the midpoint of side
- c) R is second to the left of Y
- d) P and V are beside Y

8. Who is forth to the left of V?

- a) Y
- b) R
- c) T
- d) Q

9. What is the position of Q in respect of R?

- a) Immediate right
- b) Second to the left
- c) Third to the left
- d) Third to the right

10. Who is third to the right of W?

- a) R
- b) S
- c) Q
- d) Y

HOMEWORK SECTION

- 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?
(U.P.B.Ed 2013)
(a) D (b) A (c) E (d) B
- There are five different houses, A to E, in a row. A is to the right of B and E is to the left of C and right of A, B is to the right of D. Which of the houses is in the middle?
IB CA (IO) 2013)
(a) A (b) B (c) C (d) D
- Five friends P, Q, R, S and T are sitting in a row facing North. Here, S is between T and Q and Q is to the immediate left of R. P is to the immediate left of T. Who is in the middle? (SSC (Multi Task) 2014)
(a) S (b) T (c) Q (d) R
- 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? (SSC (FCI) 2012)
(a) B and E (b) B and C (c) B and D (d) B and A
- There are eight books kept one over the other. Two books are on Organisation Behaviour, two books on TQM, three books on Industrial Relations and one book is on Economics. Counting from the top, the second, fifth and sixth books are on Industrial Relations. Two books on Industrial Relations are between two books on TQM. One book of Industrial Relations is between two books on Organizational Behaviour while the book above the book of Economics is a book of TQM. Which book is the last book from the top? (MAT 2011)
(a) Economics (b) TQM
(c) Industrial Relations (d) Organizational Behaviour

6. Five boys are standing in a row facing East. Pavan is left of Tavan, Vipin and Chavan to the left of Nakul. Chavan is between Tavan and Vipin. Vipin is fourth from the left, then how far is Tavan from the right? (CLAT 2014)

- (a) First (b) Second (c) Third (d) Fourth

7. Six persons M, N, O, P, Q and R are sitting in two row with three persons in each row. Both the row are in front of each other. Q is not at the end of any row. P is second the left of R. O is the neighbour of Q and diagonally opposite to P. N is the neighbour of R. Who is in front of N? (UPSC (CSAT) 2011)

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

8. Six persons A, B, C, D, E and F are sitting in two row, three in each row. (MAT 2011)

- (I) E is not at the end of any row
(II) D is second to the left of F
(III) C, the neighbor of E, is sitting diagonally opposite to D
(IV) B is the neighbor of F.

Which of the following are in one of the two rows?

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

Direction (Q.No.9): Read the following information carefully and answer the question that follows. Five boys A1, A2, A3, A4 and A5 are sitting in a stair in the following way. (RRB (TC/CC) 2010)

- I. A5 is above A1
II. A4 is under A2
III. A2 is under A1
IV. A4 is between A2 and A3.

9. Who is at the lowest position of the stair?

- (a) A1 (b) A3 (c) A5 (d) A2

10. 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? (NIFT (UG) 2014)

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

11. Five senior citizens are living in a multi-storeyed building. Mr. Muan lives in a flat above Mr. Ashokan, Mr. Lokesh in a flat below Mr. Gaurav, Mr. Ashokan lives in a flat above Mr. Gaurav and Mr. Rakesh lives in a flat below Mr. Lokesh. Who lives in the topmost flat? (MAT 2013).

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

12. In a gathering seven members are sitting in a row. 'C' is sitting left to 'B' but on the right to 'D'. 'A' is sitting right to 'B', 'F' is sitting right to 'E' but left to 'D'. 'H' is sitting left to 'E'. Find the person sitting in the middle (SSC (10+2) 2013)

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

Directions (Q. no. 13 to 17): Study the following information carefully to answer the given questions. A to H are seated in straight line facing North. C sits fourth left of G. D sits second to right of G. Only two people sit between D and A. B and F are immediate neighbours of each other. B is not an immediate neighbour of A. H is not neighbour of D. (GIC 2012)

13. Who amongst the following sits exactly in the middle of the persons who sit fifth from the left and the person who sit sixth from the right?

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

14. Who amongst the following sits third to the right of C?

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

15. Which of the following represents persons seated at the two extreme ends of the line?

- (a) C, D (b) A, B (c) B, G (d) D, H

16. What is the position of H with respect to F?

- (a) Third to the left (b) Immediate right
(c) Second to right (d) Fourth to left

17. How many persons are seated between A and E?

- (a) One (b) Two (c) Three (d) Four Directions

(Q. No. 18-22) (MAT 2012)

Study the following information carefully to answer the given questions.

Ten students A to J are sitting in a row facing west.

- I. B and F are not sitting on either of the edges.
- II. G is sitting left of D and H is sitting to the right of J.
- III. There are four persons between E and A
- IV. I is immediate north of B and F is immediate south of D.
- V. J is in middle of A and D and G is in middle of E and F.
- VI. There are two persons between H and C.

18. Who is sitting at the seventh place counting from left?

- (a) H (b) C (c) J (d) Either H or C

19. Who among the following is definitely sitting at one of the ends?

- (a) C (b) H
(c) E (d) Cannot be determined

20. Who are immediate neighbours of I?

- (a) BC (b) BH
(c) AH (d) BC or BH

21. Who is sitting second left of D?

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

22. If G and A interchange their positions, then who become the immediate neighbours of E?

- (a) G and F (b) Only F (c) Only A (d) J and H

Directions (Q. no. 23 & 24) Read the following information carefully and then answer the questions that follow. A group of singers, facing the audience, are standing in line on the stage as follows.

- I. D is to the right to C
- II. F is standing beside G.
- III. B is immediate left of F
- IV. E is immediate left of A
- V. C and B have one person between them
- VI. A and D have one person between them

23. Who is on the second extreme right?

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

24. If we start counting from the left, on which number is B?

- (a) 1st (b) 2nd (c) 3rd (d) 5th

Directions (Q. No. 25- 27): Study the following information carefully to answer the given questions. Eight persons P to W are sitting in front of one another in two rows. Each row has four persons. P is between U and V and facing North. W is opposite to Q, who is to the immediate left of S. R is between T and S and W is to the immediate right of V. (UCO Bank 2011)

25. Who is sitting in front of R?

- (a) U (b) Q (c) V (d) P

26. Who is to the immediate right of R?

- (a) S (b) U (c) S or Q (d) None of these

27. In which of the following pairs, persons are sitting in front of each other?

- (a) SV (b) RV (c) TV (d) UR

28. Four girls A, B, C, D are sitting around a circle facing the centre. B and C in front of each other, which of the following is definitely true? (MAT 2009)

- (a) A and D in front of each other (b) A is not between B and C
(c) D is left of C (d) A is left of C

HOMEWORK SOLUTION

1. Arrangement \Rightarrow C E B A D
Option C

2. Arrangement \Rightarrow D B A E C
Option A

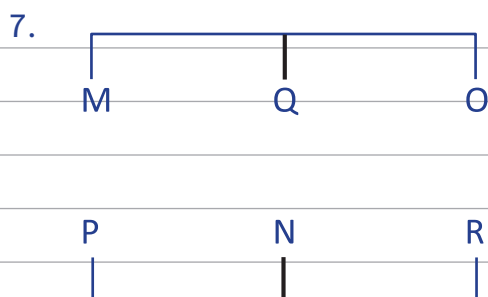
3. Arrangement \Rightarrow P T S Q R
Option A

4. Arrangement \Rightarrow A E C F B D
Option B

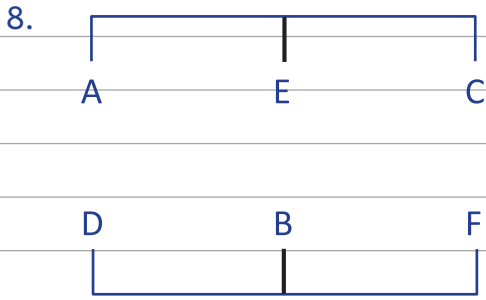
- 5. 1 \rightarrow OB
- 2 \rightarrow IR
- 3 \rightarrow OB
- 4 \rightarrow TQM
- 5 \rightarrow IR
- 6 \rightarrow IR
- 7 \rightarrow TQM
- 8 \rightarrow ECO

Option A

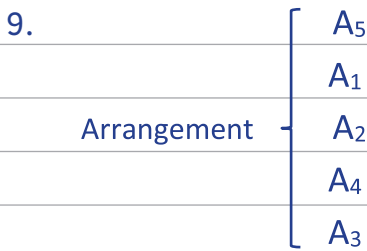
6. Arrangement \rightarrow Pavan Tavan Chavan Vipul Nakul
Option D



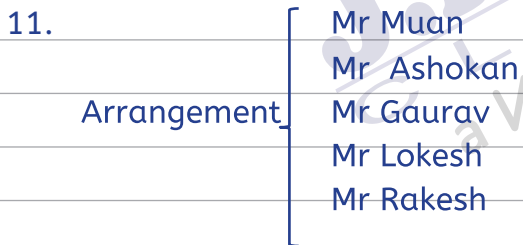
Option B



Option A



Option B



Option C



13. Option D

14. Option C

15. Option D

16. Option A

17. Option A

18. to 22.

Arrangement \Rightarrow E G F D J A H B I C

18. Option D

19. Option C

20. Option D

21. Option A

22. Option C

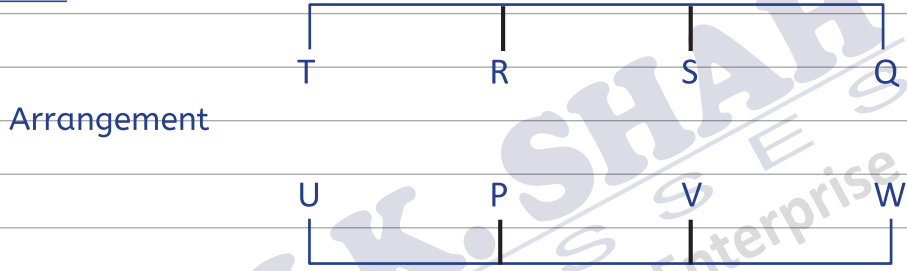
23 to 24

Arrangement \Rightarrow E A C D B F G

23. Option B

24. Option D

25 to 27

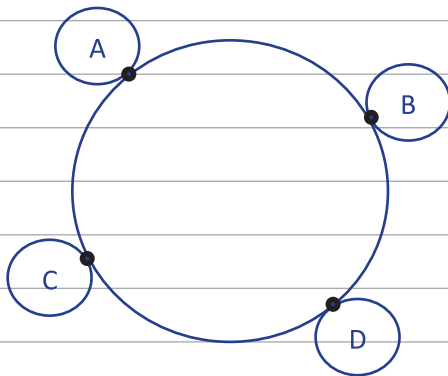


25. Option D

26. Option D

27. Option A

28.



Option A

SELF ASSESSMENT

- Five senior citizens are living in a multi-storeyard building. Mr Muan lives a flat above Mr. Ashokan, Mr. Lokesh in a flat below Mr. Gaurav, Mr. Ashokan lives in a flat above 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. Muan d) Mr. Rakesh
- 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
- 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
- In a straight line there are six person 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 person?
a) B and E b) B and C c) B and D d) B and A
- Five boys A, B, C, D, E are sitting in a row A is the right of B and E is to the left to B but to the right of C. A is to the left to D. Who is second from the left end?
a) D b) A c) E d) B
- Six Persons M N O P Q and R are sitting in two row with three persons in each row. Both the row are in front of each other. Q is not at the end of any row. P is second the left of R. O is the neighbor of Q and diagonally opposite to P. N is the neighbor of R. Who is in front of N?
a) R b) Q c) P d) M

Direction to solve Q. No. 7 to 15

A, B, C, D and E are five men sitting in a line facing to South-while M, N, O, P and Q are the five ladies sitting in a second line parallel to the first line and are facing to North.

- a) B who is just next to the right of D, is opposite to Q.
- b) C and N are diagonally opposite to each other.
- c) P who is just to the left of O, is opposite to D.
- d) M is at one end of the line
- e) E is opposite to O

7. Who is sitting between M and P

- a) Q
- b) P
- c) E
- d) D

8. Which of the following pair is diagonally opposite to each other?

- a) EQ
- b) BO
- c) AN
- d) AM

9. Who is the extreme left of E?

- a) D
- b) A
- c) E
- d) O

10. In the original arrangement who is sitting just opposite to N?

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

11. How many persons are there between N & P?

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

12. Who among the following sit next to each other ?

- a) C and D
- b) N and P
- c) M and Q
- d) D and A

13. Who among the following sit on the immediate right of D?

- a) G
- b) E
- c) F
- d) B

14. Who among the following sits third to the right of A?

- a) C
- b) G
- c) B
- d) E

15. Which is true with regard to B?

- a) B is second to the right of A
- b) B is fourth to the left of N.
- c) B sits between C and D
- d) B sits at the extreme left

Instructions to solve (Q.16 to 20)

- I) P, Q, R, S, T, U and V are sitting on a wall and all of them are facing West.
- II) S is the immediate left of R.
- III) T is at an extreme end and has Q as his neighbour
- IV) V is between Q and U.
- V) S is sitting third from the north end.

16. Who is the sitting to the left of S?

- a) Q b) U c) T d) R e) P

17. Which of the following pairs of people are sitting at the extreme ends?

- a) TQ b) PR c) TP d) ST e) VP

18. Name the person who should change places with R such that he gets the fourth place from the South end?

- a) P b) S c) Q d) T e) U

19. Immediately between which of the following pairs of people S is sitting?

- a) UR b) PQ c) VP d) TU e) RV

20. Which of the conditions given above are not required to find out the place in which P is sitting?

- a) I b) II c) IV
- d) III e) All required

ANSWER

1.	C	2.	D
3.	B	4.	B
5.	C	6.	B
7.	A	8.	D
9.	B	10.	B
11.	A	12.	C
13.	D	14.	C
15.	C	16.	B
17.	C	18.	E
19.	A	20	E

Explanatory Solution

Q.1

Arrangement { Mr. Muan
Mr. Ashokan
Mr. Gaurav
Mr. Lokesh
Mr. Rakesh Option C

Q.2 Arrangement → R K P S T Option D

Q.3 Arrangement → A B E D C Option B

Q.4 Arrangement → A E C F B D Option B

Q.5 Arrangement → C E B A D Option C

Q.6

↓	↓	↓
M	Q	O
P	N	R
↑	↑	↑

Option B

Q.7 to Q.15

North					
<u>C</u>	<u>B</u>	<u>D</u>	<u>E</u>	<u>A</u>	↓
<u>M</u>	<u>Q</u>	<u>P</u>	<u>O</u>	<u>N</u>	↑
South					

Q.7 → Option A

Q.8 → Option D

Q.9 → Option B

Q.10 → Option B

Q.11 → Option A

Q.12 → Option C

Q.13 → Option D

Q.14 → Option C

Q.15 → Option C

Q.16 to Q.20

Arrangement

			West						
→ South	<u>T</u>	<u>Q</u>	<u>V</u>	<u>U</u>	<u>S</u>	<u>R</u>	<u>P</u>		North
			East						

Q.16 → Option B

Q.17 → Option C

Q.18 → Option E

Q.19 → Option A

Q.20 → Option E

4

BLOOD RELATION

Blood relation between two individuals is defined as a relation between them by the virtue of their birth rather than by their marriage or any other reasons.

Different Types of Blood Relation questions

1. Blood relation based on Conversation
2. Blood relation based on Puzzles
3. Symbolically Coded Blood Relationship

J.K. SHAH[®]
CLASSES
a Veranda Enterprise

CLASS WORK SECTION

Type 1. Blood relation based on Conversation

1. Pointing towards a woman, Suresh said, "She is the daughter of my father's sister". How is the woman related to Suresh?
a) Brother b) Cousin c) Uncle d) Sister
2. Vinod introduces Vishal as the son of the only brother of his father's wife. How is Vinod related to Vishal? (M-2018)
a) Cousin b) Brother c) Son d) Uncle
3. Suresh introduces a man as "he is the son of the woman who is the mother of the husband of my mother". How is Suresh related to the man? (M-2018)
a) Brother in law b) Son c) Brother d) Father.
4. Pointing to a picture, Summit said, she is the mother of my son's wife's daughter. How is lady related to the Summit. (J-2019)
a) Uncle b) Cousin c) Daughter d) None
5. Mathew told his friend Sham, pointing to a photograph, "Her father is the only son of my mother." The photograph is of whom?
a) Mathew's niece b) Mathew's mother
c) Mathew's daughter d) Mathew's sister
6. Introducing Amrita, Raj said "Her mother is the only daughter of my Mother-in Law". How is Raj related to Amrita?
a) Husband b) Father c) Wife d) Uncle
7. Pointing to a lady Rishi said, "The son of her brother is the brother of my wife". How is this lady related to Rishi?
a) Mother-in Law b) Mother's sister
c) Sister of Father-in Law d) None of the above.

8. Pointing towards a boy Veena said “He is son of only son of my grandfather”. How is that boy related to Veena?
a) Uncle b) Brother c) Cousin d) Data inadequate
9. A prisoner introduced a boy who came to visit him to the jailor as “Brothers and sisters I have none, he is my father’s son’s son”. Who is the boy?
a) Nephew b) Son c) Cousin d) Uncle
10. Pointing towards a girl, Anurag says, “This girl is the daughter of the only child of my father”. What is the relation of Anurag’s wife with the girl?
a) Sister b) Aunt c) Daughter d) Mother

Type 2. Blood relation based on Puzzle

Directions (Q. no.1 to 4)

Read the following information carefully to answer the question that follow:

There are six children playing football, namely, P, Q, R, S, T and U.

P and T are brothers,

U is the sister of T.

R is the only son of P’s Paternal uncle,

Q and S are the daughters of the only brother of R’s father.

1. How is R related to U?
a) Cousin b) Brother c) Son d) Uncle
2. How many male players are there?
a) One b) Three c) Four d) Five
3. How many female players are there?
a) One b) Two c) Three d) Four
4. How is S related to P?
a) Uncle b) Sister c) Niece d) Cousin

5. Six persons are seen together in a group. They are A, B, C, D, E and F.
B is brother of D, but D is not brother of B,
F is brother of B.
C and A are married together.
F is son of C, but C is not mother of F.
E is brother of A.
The number of female member in the group is (N-2018)
a) 1 b) 2 c) 3 d) 4
6. P and Q are brothers R and S are sisters, P's son is R's brother. How is Q related to R? (M-2018)
a) Uncle b) Brother c) Father d) Grandfather
7. P's father is Q's son. M is the paternal uncle of P and N is the brother of Q. How is M related to N?
a) Nephew b) Cousin
c) Data inadequate d) None of these
8. T, S and R are three brothers. T's son Q is married to K and they have one child Rahul blessed to them. M the son of S is married to H and this couple is blessed with a daughter Madhvi. R has daughter N who is married to P. This couple has one daughter Karuna born to them. How is Madhvi related to S?
a) Daughter b) Niece
c) Granddaughter d) None of these
9. Arti and Saurabh are the children of Mr and Mrs Shah. Ritu and Shakti are the children of Mr and Mrs Mehra. Saurabh and Ritu are married to each other and two daughter Mukti and Shruti are born to them. Shakti is married to Rina and two children Subhash and Reshma are born to them. How is Arti related to Shruti?
a) Mother b) Mother-in Law c) Sister d) Aunt
10. In a family, there are seven persons comprising two married couple. T is the only son of M and the grandson of K. M is a widower. M and R are brothers and W is the daughter in law of J, who is the mother of R and the grandmother of D. How is D related to M?
a) Son b) Son in law c) Nephew or Niece d) Brother

Type 3. Symbolically Coded Blood Relation

Directions (Q. no.1 & 2)

Read the following information carefully to answer the question that follow:

'P x Q' means 'P is sister of Q.'

'P + Q' means 'P is mother of Q'

'P - Q' means 'P is father of Q'

'P ÷ Q' means 'P is brother of Q'

1. Which of the following represents 'M is the nephew of R'?

- a) $M \div T - R$ b) $R \div T - M$ c) $R \times T + M \times J$ d) $R \div T - M \div J$

2. Which of the following represents W is the grandfather of H?

- a) $W + T - H$ b) $W \div T - H$ c) $W \times T + H$ d) None of these

3. 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?

(N-2018)

- a) $R \div M + N$ b) $R + N \div M$ c) $R - M \div N$ d) None of these

4. If 'A x D' means 'A is sister of D',

'A + D' means 'D is the daughter of A'

'A ÷ D' means 'A is the mother of D,

Then how will N is the aunt of M be denoted?

- a) $M + L \times N$ b) $M \div L + N$ c) $L \times N \div M$ d) $N \times L \div M$

5. S x T means that S is the mother of T

S + T means that S is father of T

S - T means that S is the sister of T

On the basis of this information, you have to select the option which shows that A is the grandfather of T?

- a) $A + S + B - T$ b) $A \times B + C - T$
c) $A + B - C \times T$ d) (a) & (c) both

Directions (Q. no.6 to 10)

Read the following information carefully to answer the question that follow:

'A + B' means 'A is the father of B'

'A x B' means 'A is the sister of B'

'A \$ B' means 'A is the wife of B'

'A % B' means 'A is the mother of B'

'A ÷ B' means 'A is the son of B.'

6. What should come in place of the question mark, to establish that J is the brother of T in the expression?

$J \div P \% H ? T \% L$

a) x

b) ÷

c) \$

d) Either + or x

7. Which among the given expression indicate that M is the daughter of D?

a) $L \% R \$ D + T \times M$

b) $L + R \$ D + M \times T$

c) $L \% R \% D + T \div M$

d) $L \$ D \div R \% M \div T$

8. Which among the following options is true, if the expression 'I + T % J x L ÷ K' is definitely true?

a) L is the daughter of T

b) K is the son in law of I

c) I is the grandmother of L

d) J is the brother of L

9. Which among the following expressions is true, if Y is the son of X is definitely false?

a) $W \% L \times T \times Y \div X$

b) $W + L \times T \times Y \div X$

c) $X + L \times T \times Y \div W$

d) $W \$ X + L + Y + T$

10. What should come in the place of the question mark, to establish that T is the sister in law of Q in the expression

$R \% T \times P ? Q + V$

a) +

b) %

c) x

d) \$

HOMEWORK SECTION

1. A is B's brother. C is A's mother. D is C's father, E is B's son. How is D related to A?
(a) Son (b) Grandson
(c) Grandfather (d) Great Grandfather
2. As is B's brother. C is A's father. D is C's sister and E is D's mother. How is B related to E?
(a) Grand-daughter (b) Great grand daughter
(c) Grandaunt (d) Daughter
3. A is B's Sister. C is B's Mother. D is C's Father. E is D's Mother. Then how is A related to D?
(a) Grandmother (b) Grandfather
(c) Daughter (d) Grand-daughter
4. A is the father of B. C is the daughter of B. D is the brother of B. E is the son of A. What is the relationship between C and E?
(a) Brother and sister (b) Cousins
(c) Niece and uncle (d) Uncle and aunt
5. If P is the husband of Q and R is the mother of S and Q. What is R to P?
(a) Mother (b) Sister
(c) Aunt (d) Mother-in Law
6. P and Q are brothers. R and S are sister. P's son is S's brother. How is Q related to R?
(a) Uncle (b) Brother
(c) Father (d) Grandfather
7. X is the husband of Y. W is the daughter of X. Z is husband of W. N is the daughter of Z. What is the relationship of N to Y?
(a) Cousin (b) Niece
(c) Daughter (d) Grand-daughter

8. A reads a book and find the name of the author familiar. The author 'B' is the paternal uncle of C. C is the daughter of A. How is B related to A?
- (a) Brother (b) Sister
(c) Father (d) Uncle
9. A's mother D is sister of B and D has a daughter C who is 21 years old. How is B related to C?
- (a) Uncle (b) Maternal Uncle
(c) Niece (d) Son
10. A is B's brother. C is A's mother. D is C's father. F is A's son. How is F related to D?
- (a) Son (b) Grandson
(c) Grand-grandson (d) Grand-daughter
11. A is B's brother. C is A's mother. D is C's father. E is B's son. How is B related to D?
- (a) Son (b) Grand-daughter
(c) Grandfather (d) Great grandfather
12. A is B's brother. C is A's mother. D is C's father. F is B's son. How is B related to F's child?
- (a) Aunt (b) Cousin
(c) Nephew (d) Grandfather
13. A is B's daughter. B is C's mother. D is C's brother. How is D related to A?
- (a) Father (b) Grandfather
(c) Brother (d) Son
14. A is D's brother. D is B's father. B and C are sisters. How is C related to A?
- (a) Cousin (b) Niece
(c) Aunt (d) Nephew
15. A is B's brother. C is A's mother, D is C's father. E is B's son. How is D related to E ?
- (a) Grandson (b) Great Grandson
(c) Great Grandfather (d) Grandfather

16. X and Y are the children of A. A is the father of X but Y is not his son. How is Y related to A?
- (a) Sister (b) Brother
(c) Son (d) Daughter
17. A is B's brother. C is A's mother. D is C's father. E is B's son. How is E related to A?
- (a) Cousin (b) Nephew
(c) Uncle (d) Grandson
18. Based on the statements given below, find out who is the uncle of P? (i) K is the brother of J (ii) M is the sister of K (iii) P is the brother of N (iv) N is the daughter of J
- (a) K (b) J (c) N (d) M
19. A and B are sisters. A is mother of D. B has a daughter C who is married to F. G is the husband of A. How is C related to D?
- (a) Cousin (b) Niece
(c) Aunt (d) Sister-in-law
20. R and S are brothers. X is the sister of Y and X is mother of R. What is Y to S?
- (a) Uncle (b) Brother
(c) Father (d) Mother
21. A is B's brother. C is A's mother. D is C's father. B is D's grand-daughter. How is B related to C.
- (a) Daughter (b) Cousin
(c) Niece (d) Grandaunt
22. A is the son of B while B and C are sisters to one another. E is the mother of C. If D is the son of E, which of the following statements is correct?
- (a) D is the maternal uncle of A (b) E is the brother of B
(c) D is the cousin of A (d) B and D are brothers
23. P is the father of T. T is the daughter of M. M is the daughter of K. What is P to K?
- (a) Father (b) Father-in Law
(c) Brother (d) Son-in Law

24. A and B are brothers. E is the daughter of F. F is the wife of B. What is the relation of E to A?
- (a) Sister (b) Daughter
(c) Niece (d) None of these
25. M and F are a married couple. A and B are sisters. A is the sister of F. Who is B to M?
- (a) Sister (b) Sister-in-law
(c) Niece (d) Daughter
26. If A is the mother of D. B is not the son of C. C is the father of D, D is the sister of B, then how is A related to B?
- (a) Mother (b) Brother[®]
(c) Step son (d) Sister
27. A and B are brother and sister respectively. C is A's father. D is C's sister and E is D's mother. How is B related to E?
- (a) Grand-daughter (b) Great grand-daughter
(c) Aunt (d) Daughter
28. Q is the son of P. X is the daughter of Q. R is the aunty (Bua) of X and L is the son of R, then what is L to P?
- (a) Grandson (b) Grand-daughter
(c) Daughter (d) Nephew
29. P and Q are brothers. R and S are sisters. P's son is S's brother. How is Q related to R?
- (a) Uncle (b) Brother
(c) Father (d) Grandfather
30. A and B are the young ones of C. If C is the mother of B but A is not the daughter of C, then what is the relationship between C and A?
- (a) Nephew and Aunty (b) Brother and Sister
(c) Mother and Son (d) Niece and Aunty

31. A is the mother of D and sister of B. B has a daughter C who is married to F. G is the husband of A. How is G related to D?
- (a) Uncle (b) Husband
(c) Son (d) Father
32. Pointing towards A, B said “your mother is the younger sister of my mother”. How is A related to B?
- (a) Uncle (b) Cousin
(c) Nephew (d) Father
33. A is B’s wife’s husband’s brother. C and D are sisters of B. How is A related to C?
- (a) Brother (b) Sister-in-law
(c) Wife (d) Sister
34. A and B are brothers. C and D are sisters. A’s son is D’s brother. How is B related to C?
- (a) Father (b) Brother
(c) Uncle (d) Son
35. A is B’s sister. C is B’s mother. D is C’s father. E is D’s mother. Then how is A related to D?
- (a) Grandmother (b) Grandfather
(c) Daughter (d) Grand-daughter
36. P, Q, R, S, T, 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 grand-daughter of the family?
- (a) She is a lawyer (b) She is an engineer
(c) She is a student (d) She is a doctor

37. 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. How many male members are there in the family?
- (a) 3 (b) 2 (c) 4 (d) 1
38. A's mother is sister of B and has a daughter C. How can A be related to B from among the following?
- (a) Niece (b) Uncle
(c) Daughter (d) Father
39. Rajiv is the brother of Atul. Sonia is the sister of Sunil. Atul is the son of Sonia. How is Rajiv related to Sonia?
- (a) Nephew (b) Son
(c) Brother (d) Father
40. Sita is the niece of Ashok. Ashok's mother is Lakshmi. Kalyani is Lakshmi's mother. Kalyani's husband is Gopal. Parvathi is the Mother-in Law of Gopal. How is Sita related to Gopal?
- (a) Great grandson's daughter (b) Gopal's Sita's father
(c) Sita is Gopal's great grand-daughter (d) Grand niece
41. Seema is the daughter-in-law of Sudhir and sister-in-law of Ramesh. Mohan is the son of Sudhir and only brother of Ramesh. Find the relation between Seema and Mohan.
- (a) Sister-in-law (b) Aunt
(c) Cousin (d) Wife
42. Suresh introduces a man as, "He is the son of the woman who is the mother of the husband of my mother". How is Suresh related to the man?
- (a) Uncle (b) Son
(c) Cousin (d) Grandson

43. Pointing to a lady in a photograph. Meera said, "Her father's son's wife is my Mother-in Law". How is Meera's husband related to that lady in the photo?
- (a) Nephew (b) Uncle
(c) Son (d) Father
44. Pointing to a photograph Vikas said, "She is the daughter of my grandfather's only son". How is she related to Vikas in the photograph?
- (a) Father (b) Brother
(c) Sister (d) Mother
45. Suresh's sister is the wife of Ram. Ram is Rani's brother. Ram's father is Madhur. Sheetal is Ram's grandmother. Rema is Sheetal's daughter-in-law. Rohit is Rani's brother's son. Who is Rohit to Suresh?
- (a) Brother-in-law (b) Son
(c) Brother (d) Nephew
46. Vinod introduces Vishal as the son of the only brother of his father's wife. How is Vinod related to Vishal?
- (a) Cousin (b) Brother
(c) Son (d) Uncle
47. Among her children, Ganga's favourites are Ram and Rekha. Rekha is the mother of Sharat, who is loved most by his maternal uncle Mithun. The head of the family is Ram Lal, who is succeeded by his sons Gopal and Mohan. Gopal and Ganga have been married for 35 years and have 3 children. What is the relation between Mithun and Mohan?
- (a) Uncle (b) Son
(c) Brother (d) No relation
48. Rahul and Robin are brothers. Promod is Rohin's father. Sheela is Pramod's sister. Prema is Promod's niece. Shubha is Sheela's grand-daughter. How is Rahul related to Shubha?
- (a) Brother (b) Cousin
(c) Uncle (d) Nephew

49. Preeti has a son, named Arun. Ram is Preeti's brother. Neeta too has a daughter named Reema. Neeta is Ram's sister. What is Arun's relationship to Reema?
- (a) Brother (b) Nephew
(c) Cousin (d) Uncle
50. There are 2 film stars. One is the father of the other's son. What is the relationship of the two with each other?
- (a) Grandfather and Grandson (b) Grandfather and son
(c) Husband and wife (d) Father and Son
51. Ramu's mother said to Ramu, "My mother has a son whose son is Achyut". How is Achyut relation to Ramu?
- (a) Uncle (b) Cousin
(c) Brother (d) Nephew
52. Ravi's father has a son Rohit who has an aunt Laxmi who has a husband Rao whose Father-in Law is Mohan. What is the relation of Mohan to Ravi?
- (a) Nephew (b) Grandfather
(c) Son (d) Uncle
53. Vijay says, "Ananda's mother is the only daughter of my mother". How is Ananda relation to Vijay?
- (a) Brother (b) Father
(c) Nephew (d) Grandfather
54. Introducing a man, a woman said, "His wife is the only daughter of my mother." How is the woman related with the man?
- (a) Sister-in-law (b) Wife
(c) Aunt (d) Mother-in Law
55. A prisoner introduced a boy who came to visit him to the jailor as "Brothers and sisters I have none, he is my father's son's son". Who is the boy?
- (a) Nephew (b) Son
(c) Cousin (d) Uncle

HOMWORK SOLUTION

1. D (Grand Father) – C (Mother) – A & B (Children) – E (Grand Son)
D is Grand Father of A, Option C
2. E (Grand Mother) – C (Father) D (Father's Sister) – A (Male) & B (Children)
B is grand child of E. No mention is there regarding the gender of B. So B can be Grand Son or Grand Daughter of E. In the four options given, only Grand Daughter is given and there is no mention of Grand Son. So we chose Grand Daughter. Option A
- Kindly Note: General answer of these type of missing link question is Can't be determined. If option D is open, i.e., None of the above or Can't be determined, than its advised that you chose Option D – None of the above or Can't be determined.
3. E (Great Grand Mother) –D (Grand Father) – C (Mother) – A (Female) & B (Children)
A is Grand Daughter of D. Option D
4. A (Father) – E (Male), B & D(Male) (Children) – C (Grand Daughter, Daughter of B)
C is daughter of B and E is brother of B. C is niece of E, E is uncle of C. Option C
5. R (Mother of Q & S) – P (Husband) + Q (Wife) – S (Brother/Sister of Q)
R is Mother-in Law of P. Option D
6. P (Father) Q(Brother of P) – P (Son) R (Daughter) S (Daughter)
Q is brother of R's father. Q is uncle of R. Option A
7. X (Husband) + Y (Wife) – W (Daughter) + Z (Daughter's husband) – N (Grand Daughter)
N is Grand Daughter of Y.
Option D
8. A (Father) + B (Uncle of C) – C (Daughter)
B is uncle of C. B is male. B is brother of A.
Option A

9. Correct Question is: A's mother is sister of B and she has a daughter C who is 21 years old. How is B related to C?

Solution:

A and C are siblings – B is maternal uncle/aunt of both A and C.

Again in options only maternal uncle is given and all other options are closed. We chose Ma-ternal Uncle. Option B

10. D (Grand Father) – C (Mother) – A (Male) & B (Children) – F (Grand Son, son of A)
F is Grand-grandson of D. Option C

11. D (Grand Father) – C (Mother) – A (Male) & B (Children) – E (Grand Son, son of B)
B is grand child of D. B is either male or female (no clue given). Again as per options given, B is grand-daughter of D. Option B

12. D (Grand Father) – C (Mother) – A (Male) & B (Children) – F (Grand Son, son of B)
B shall be grand-father / mother of F's child. Again in option only grand-father is there. We select Option D

13. B (Father / Mother) – A (Daughter), D (Male) & C (Children).
D is brother of A. Option C

14. A (Male) & D – B & C (Daughters of D).
A is uncle of C. C is niece of A. Option B

15. D (Grandfather) – C (Mother) – A (Male) & B (Children) – E (Son of B).
D is great grandfather of E. Option C

16. A – X & Y (Daughter) (Children)
Y is daughter of A.
Option D

17. D (Grandfather) – C (Mother) – A (Male) & B (Children) – E (Son of B)
A is uncle of B. B is Nephew of A.
Option B

18. M (Female), K (Male) & J – N (Daughter of J) & P (Son of J)
K is uncle of P.
Option A
19. A (Female, Mother), G (Husband of A), B (Female, sister of A) – D (Child of A, G) – C (Daughter of B) + F (Husband of C)
C is cousin of D.
Option A.
20. X (Mother), Y (Brother / Sister of X) – R + S (Brother) (Son of X)
Y is maternal uncle / aunt of S.
Option A
21. D (Grandfather) – C (Mother of A) – A (Son) + B (Daughter of C)
B is daughter of C
Option A
22. E (Mother) – D (Brother) + B & C (Sisters) – A (Son of B)
D is maternal uncle of A
Option A
23. K (Grandfather / mother, related to M) – P (Father) + M (Mother) – T (Daughter)
P is Son-in Law of K
Option D
24. A + B (Brothers), F (wife of B) – E (Daughter of B & F)
A is uncle of E. E is niece of A.
Option C
25. M & F (Couple), A & B (Sisters of F)
If M is male, than B is sister-in-law of M
If M is female, than B is sister of M's husband, i.e. F, again B is sister-in-law of M
Option B
26. A (Mother) & C (Father) – D (Female) & B (Female) (Children)
A is mother of B

Option A

27. E (Grandmother) – C (Father), D (Sister of C) – A (Male) + B (Female) (Children of C)
B is grand-daughter of E

Option A

28. P – Q (Son of P), R (Daughter of P) – X (Daughter of Q), L (Son of R)
L is grandson of P

Option A

29. P & Q (Brother) – R & S (Daughter of P)
Q is uncle of R

Option A

30. C (Mother) – A (Son), B (Children)
C is mother of A. A is son of C.

Option C

31. A (Mother, G is husband), B (Brother of A) – D (Child of A & G), C (Daughter of B, F is
hus-band)
G is father of D

Option D

32. A's mother is the younger sister of B's mother.
A and B are cousins

Option B

33. A & B (Brothers), C & D (Sisters)
A is brother of C

Option A

34. A & B (Brothers) – C & D (Daughters of A)
B is uncle of C

Option C

35. E (Great grandmother) – D (Grandfather) – C (Mother) – A (sister of B, female)
A is grand-daughter of D
Option D
36. Q (Lawyer) + P (Housewife) → T (Teacher, Mother) + S (Doctor, Father) → R & U
(Children) (one male Engineer, one female Student)
The grand-daughter of the family is a Student
Option C
37. A (Mother) + C (Father), E (Brother of C) – B (Son), D (Daughter), F (Son)
Male members are = C, E, B, F = 4
Option C
38. Mother, Sister/Brother (B) – C (Daughter), A (Children)
A is either Nephew or Niece of B.
Option A
39. Sonia (Mother), Sunil (Brother of Sonia) – Atul (Son), Rajiv (Son)
Rajiv is son of Sonia
Option B
40. Parvathi (Mother of Kalyani) – Kalyani (Grandmother) + Gopal (Grandfather) –
Lakshmi (Mother) – Ashok (Son) – Sita (Niece of Ashok)
Sita is great grand-daughter of Gopal. Option C
41. Sudhir (Father) – Seema (Daughter-in-law), Ramesh (Son), Mohan (Husband of
Seema)
Seema is wife of Mohan. Option D
42. A is the son of the woman who is the mother of the husband of Suresh's mother
= A is the son of the woman who is mother of Suresh's father
= A is the son of Suresh's grand-mother
= A is either father or uncle of Suresh
= Suresh is either son or nephew of A
Option B

43. Lady's father's only son's wife is Meera's Mother-in Law.
= Lady's brother's wife is Meera's Mother-in Law
= Lady's sister-in-law is Meera's Mother-in Law
Now, Meera's husband is son of lady's sister-in-law
Thus, Meera's husband is lady's nephew
Option A
44. A is the daughter of Vikas's grandfather's only son
= A is the daughter of Vikas's father
= A is the sister of Vikas. Option C
45. Sheetal (Grandmother of Ram) – Madhur (Father of Ram) + Reema (Mother of Ram)
– Suresh, Ram (Husband) + Wife (Suresh's sister), Rani (Ram is Rani's brother) – Rohit
(Ram's Son)
Rohit is Ram's Son = Rohit is Suresh's sister's son = Rohit is Nephew of Suresh
Option D
46. Vishal is the son of the only brother of Vinod's father's wife.
= Vishal is the son of only brother of Vinod's mother.
= Vishal is the son of Vinod's maternal uncle.
= Vishal is the cousin of Vinod
Option A
47. Ram Lal (Head of the family) – Gopal & Mohan (Sons), Ganga (Wife of Gopal) – Ram,
Rekha (Female), Mithun (Male) (Children of Gopal & Ganga) – Sharat (Rekha is the
mother)
Mithun is son of Gopal. Mohan is brother of Gopal.
Mithun is Nephew of Mohan or Mohan is uncle of Mithun
Option A
48. Pramod (Father), Sheela (Sister of Pramod) – Rahul & Robin (Sons of Pramod), Prema
(Daugh-ter of Sheela) – Shubha (Daughter of Prema)
Shubha is daughter of Prema. Rahul is cousin of Prema. Rahul is uncle of Shubha.
Option C

49. Preeti (Mother), Ram (Preeti's brother), Neeta (Sister of Ram & Preeti) – Arun (Son of Preeti), Reema (Daughter of Neeta)
Arun and Reema are Cousins.
Option C
50. A is father of B's son, i.e. C. A is father of C. C is B's son too. B is the mother of C. A and B are Husband and Wife.
Option C
51. Ramu's Mother = X
X's mother has a son whose son is Achyut.
Ramu's grandmother has a son whose son is Achyut
Ramu's maternal uncle's son is Achyut
Ramu and Achyut are cousins
Option B
52. Mohan (Grandfather) – Father, Laxmi (Sister of Father) + Rao (Husband of Lakshmi) – Ravi & Rohit (Son)
Mohan is grandfather of Ravi
Option B
53. Ananda's mother is the only daughter of Vijay's mother
= Ananda's mother is Vijay's sister
= Ananda is Nephew / Niece of Vijay (Vijay is maternal uncle/aunt of Ananda)
Option C
54. A's wife is the only daughter of Lady's mother
= A's wife is the Lady
Lady is the wife of A (the man)
Option B
55. Brothers and Sisters I have none, he is my father's son's son.
= He is MY (my father's son = myself) son
Option B

SELF ASSESSMENT

- Pointing to a photograph, a man said "His mother husband's sister is my aunt". Then what is relation between the man and the person?
a) Son b) Uncle c) Nephew d) Brother
- introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?
a) Brother b) Nephew c) Uncle d) Son-in Law
- Pointing to a photograph. Bajpai said, "He is the son of daughter of father of my brother" How Bajpai is related to the man in the photograph?
a) Nephew b) Brother c) Father d) Maternal uncle
- Pointing a photograph, X said to his friend Y, "she is the only daughter of the father of my mother", How X is related to the person of photograph?
a) Daughter b) Son c) Nephew d) Cannot be decided
- Pointing toward a man, a woman said 'His mother is the only daughter of my mother'. How is the woman related to the man?
a) Mother b) Grandmother c) Sister d) Daughter
- Pointing to a photograph. Anjali said, "He is the son of the only son of my grandfather". How is the man in photograph related to Anjali?
a) Brother b) Uncle c) Son (d) Data is inadequate
- A's son B is married with C whose sister D is married to E the brother of B. How D is related to A?
a) Sister b) Daughter in law
c) Sister in law d) Cousin

8. If $M \times N$ means M is the daughter of N, $M + N$ means M is the father of N. $M \% N$ means M is the mother of N and $M - N$ means M is the brother of N then $P \% Q + R - T \times K$ indicates which relation of P to K ?
- | | |
|--------------------|------------------|
| a) Daughter-in-law | b) Sister-in-law |
| c) Aunty | d) None of these |

Directions (Q. no. 9 to 11): R is the father of P, who is a son-in-law of M and S is the mother of G. S is a sister of K, who is a brother-in-law of P and H is the daughter of T, who is a grandmother of G.

9. How is G related to P?
- | | |
|-------------|-------------------------|
| a) Son | b) Daughter |
| c) grandson | d) Cannot be determined |
10. If M is a female, then how is H related to S?
- | | |
|-----------|-------------------------|
| a) Sister | b) Sister in law |
| c) Niece | d) Cannot be determined |
11. If K married to N, then how is N related to M?
- | | |
|------------------|--------------------|
| a) Son-in Law | b) Daughter-in-law |
| c) Mother-in Law | d) Father-in Law |
12. Pointing a boy. Ram said 'He is the only son of my grandfather's son' How is the boy related to Ram?
- | | | | |
|------------|--------|-----------|--------------------|
| a) Brother | b) Son | c) Cousin | d) Data inadequate |
|------------|--------|-----------|--------------------|

Q 13 to 15 Directions:

$P \times Q$ means P is brother of Q.

$P \div Q$ means Q is mother of P.

$P - Q$ means P is father of Q.

$P + Q$ means Q is sister of P.

13. Which of the following means M is the daughter of T?
- | | | | |
|-----------------------|-------------------------|----------------------------|----------------------------|
| a) $M + N \div J - T$ | b) $T - J \times R + M$ | c) $M - J \times T \div K$ | d) $M + W \times R \div T$ |
|-----------------------|-------------------------|----------------------------|----------------------------|

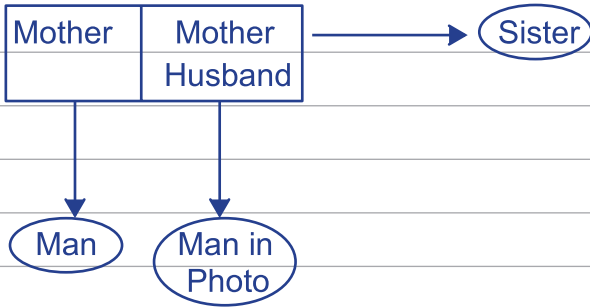
14. How is K related to R in the expression $R \div T + K$?
- a) Daughter b) Sister c) Niece d) None of these
15. Which of the following means D is grandfather of W?
- a) $D - K \times T - W$ b) $D \div K \times T \div W$
c) $D - K \times T \div W$ d) $D \div K \times T - W$
16. If $P + Q$ means P is the mother of Q.
 $P \div Q$ 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) $R \div M + N$ b) $R + N \div M$ c) $R - M \div N$ d) None of the above
17. Pointing in a photograph, Sonia said, "His mother's daughter's is my mother". How is Sonia related to that man?
- a) Nephew b) Sister c) Wife d) Niece
18. If $A \$ B$ means A is the brother of B, $A @ B$ means A is the wife of B, $A \# B$ means A is the daughter of B and $A * B$ means A is the father of B. Which of the following indicates that U is the Father-in-Law of P.
- a) $P @ Q \$ T \# U * W$ b) $P @ W \$ Q * T \# U$
c) $P @ Q \$ W * T \# U$ d) $P @ Q \$ T \# W * U$
19. P is the sister of Q. R is the father of S, who is the brother of Q. R married to T, How is Q related to T?
- a) Son b) Daughter
c) Either son or daughter d) Data is inadequate
20. Pointing a girl, Prasan said, she is the only granddaughter of my wife's grandfather's only child. How is the girl related to Prasan?
- a) Sister b) Niece
c) Daughter d) Cannot be determined

ANSWER

1.	D	2.	A
3.	D	4.	B
5.	A	6.	A
7.	B	8.	D
9.	D	10.	B
11.	B	12.	C
13.	B	14.	D
15.	A	16.	A
17.	D	18.	A
19.	C	20	C

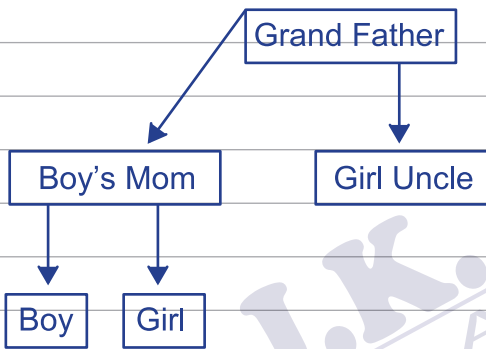
Explanatory Solution

Q.1



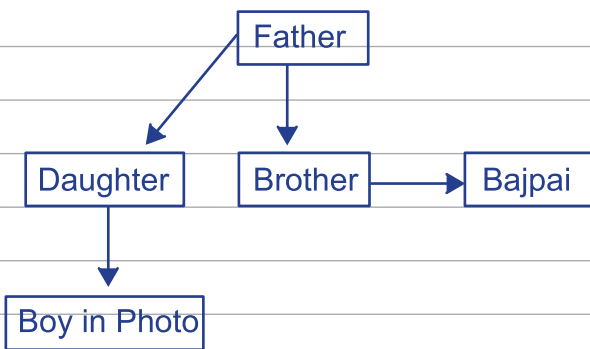
Option D

Q.2



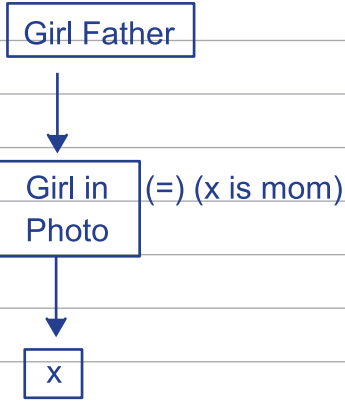
Option A

Q.3



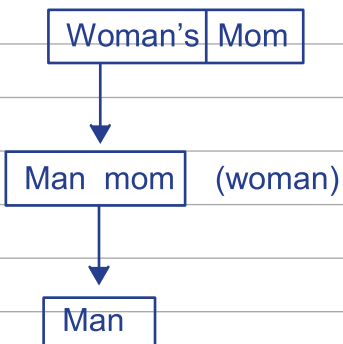
Option D

Q.4



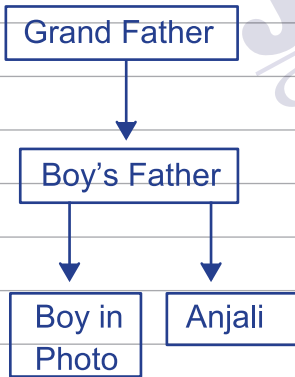
Option D

Q.5



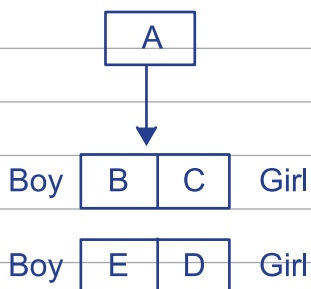
Option A

Q.6



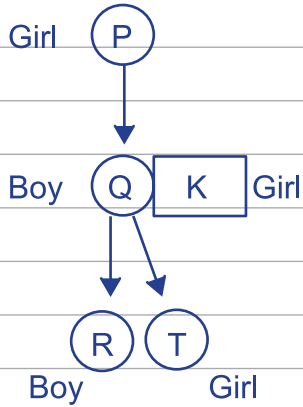
Option A

Q.7



Option B

- Q.8 $M \times N \rightarrow M$ is daughter of N
 $M + N \rightarrow M$ is father of N
 $M \% N \rightarrow M$ is mother of N
 $M - N \rightarrow M$ is brother of N
 $P \% Q + R - T \times K$

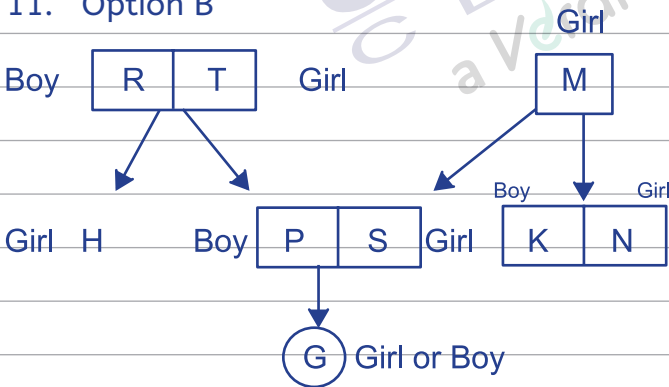


P is Mother-in Law of K

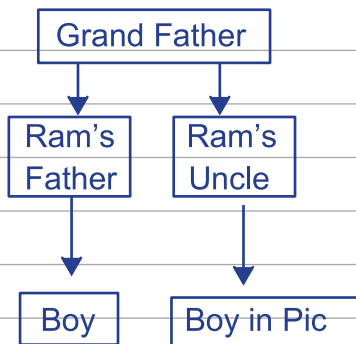
Option D

Q.9 to Q.11

9. Option D
 10. Option B
 11. Option B



Q.12



Option C

Q.13 to Q.15

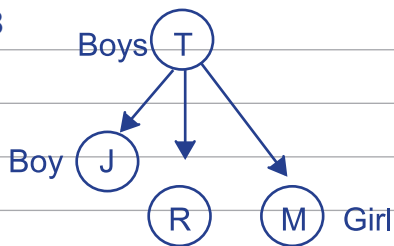
$P \times Q \rightarrow P$ is brother of Q

$P \div Q \rightarrow Q$ is mother of P

$P - Q \rightarrow P$ is father of Q

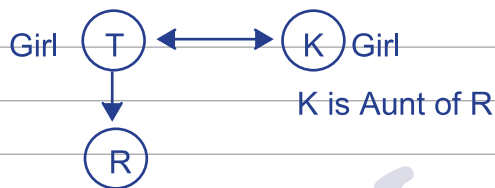
$P + Q \rightarrow Q$ is sister of P

Q.13



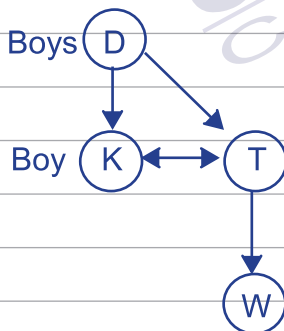
Option B

Q.14



Option D

Q.15



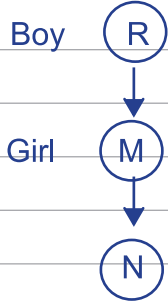
Option A

Q.16

$P + Q \rightarrow P$ is mother of Q

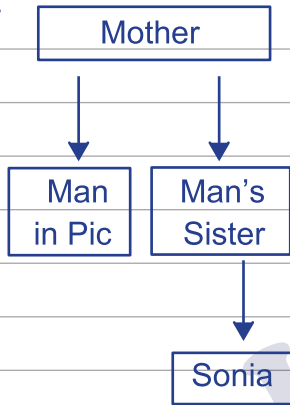
$P \div Q \rightarrow P$ is father of Q

$P - Q \rightarrow P$ is sister of Q



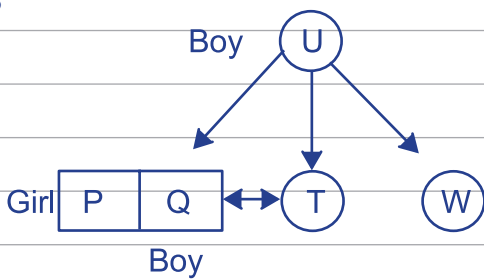
Option A

Q.17



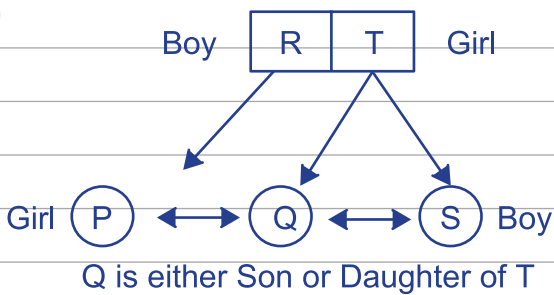
Option D

Q.18



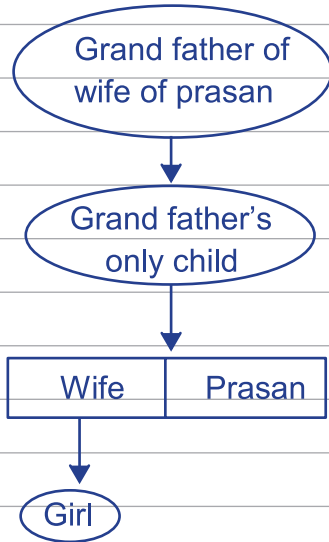
Option A

Q.19



Option C

Q.20



Option C

Daughter[®]

J.K. SHAH[®]
CLASSES
a Veranda Enterprise

5

APPENDIX

Table I - LOGARITHM

	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
10	0000	0043	0086	0128	0170						5	9	13	17	21	26	30	34	38
						0212	0253	0294	0334	0374	4	8	12	16	20	24	32	36	36
11	0414	0453	0492	0531	0569						4	8	12	16	20	23	27	31	35
						0607	0645	0682	0719	0755	4	7	11	15	18	22	26	29	33
12	0792	0828	0964	0899	0934						3	7	11	14	18	21	25	28	32
						0969	1004	1038	1072	1106	3	7	10	14	17	20	24	27	31
13	1139	1173	1208	1239	1271						3	6	10	13	16	19	23	26	29
						1303	1335	1367	1399	1430	3	7	10	13	16	19	22	25	29
14	1461	1492	1523								3	6	9	12	15	19	22	25	28
				1553	1584	1614	1644	1673	1703	1732	3	6	9	12	14	17	20	23	26
15	1761	1790	1818								3	6	9	11	14	17	20	23	26
				1847	1875	1903	1931	1959	1987	2014	3	6	8	11	14	17	19	22	25
16	2041	2068	2095	2122	2148						3	6	8	11	14	16	19	22	24
						2175	2201	2227	2253	2279	3	5	8	10	13	16	18	21	23
17	2304	2330	2355	2380	2405						3	5	8	10	13	15	18	20	23
						2430	2455	2480	2504	2529	3	5	8	10	12	15	17	20	22
18	2553	2577	2601	2625	2648						2	5	7	9	12	14	17	19	21
						2672	2695	2718	2742	2765	2	4	7	9	11	14	16	19	21
19	2788	2810	2833	2856	2878						2	4	7	9	11	13	16	18	20
						2900	2923	2945	2967	2989	2	4	6	8	11	13	15	17	19
20	3010	3023	3054	3075	3096	3116	3139	3160	3181	3201	2	4	6	8	11	13	15	17	19
21	3222	3243	3263	3284	3304	3324	3345	3365	3385	3404	2	4	6	8	10	12	14	16	18
22	3424	3444	3464	3483	3502	3522	3541	3560	3579	3598	2	4	6	8	10	12	14	15	17
23	3617	3636	3655	3674	3692	3909	3927	3747	3766	3784	2	4	6	7	9	11	13	15	17
24	3802	3820	3838	3856	3874	3892	3909	3927	3945	3962	2	4	5	7	9	11	12	14	16
25	3979	3997	4014	4031	4048	4065	4082	4099	4116	4133	2	3	5	7	9	10	11	13	15
26	4150	4166	4183	4200	4216	4232	4249	4265	4281	4298	2	3	5	7	8	10	11	13	15
27	4314	4330	4346	4362	4378	4393	4409	4425	4440	4456	2	3	5	6	8	9	11	12	14
28	4472	4487	4502	4518	4533	4548	4564	4579	4594	4609	2	3	5	6	8	9	10	12	14
29	4624	4639	4654	4669	4683	4698	4713	4728	4742	4757	1	3	4	6	7	9	10	11	13
30	4771	4786	4800	4814	4829	4843	4857	4871	4886	4900	1	3	4	6	7	9	10	11	13
31	4914	4928	4942	4955	4969	4983	4997	5011	5024	5038	1	3	4	6	7	8	10	11	12

32	5051	5065	5079	5092	5105	5119	5132	5145	5159	5172	1 3 4	5 7 8	9 11 12
33	5185	5198	5211	5224	5237	5250	5263	5276	5289	5302	1 3 4	5 6 8	9 10 12
34	5315	5328	5340	5353	5366	5378	5391	5403	5416	5428	1 3 4	5 6 8	9 10 11
35	5441	5453	5465	5478	5490	5502	5514	5527	5539	5551	1 2 4	5 6 7	9 10 11
36	5563	5575	5587	5599	5611	5623	5635	5647	5658	5670	1 2 4	5 6 7	8 10 11
37	5682	5694	5705	5717	5729	5740	5752	5763	5775	5786	1 2 3	5 6 7	8 9 10
38	5798	5809	5821	5832	5843	5855	5866	5877	5888	5899	1 2 3	5 6 7	8 9 10
39	5911	5922	5933	5944	5955	5966	5977	5988	5999	6010	1 2 3	4 5 7	8 9 10
40	6021	631	6042	6053	6064	6075	6085	6096	6107	6117	1 2 3	4 5 6	8 9 10
41	6128	6138	6149	6160	6170	6180	6191	6201	6212	6222	1 2 3	4 5 6	7 8 9
42	6232	6243	6253	6263	6274	6284	6294	6304	6314	6235	1 2 3	4 5 6	7 8 9
43	6335	6345	6355	6365	6575	6385	6395	6405	6415	6425	1 2 3	4 5 6	7 8 9
44	6435	6444	6454	6464	6474	6484	6493	6503	6513	6522	1 2 3	4 5 6	7 8 9
45	6532	6542	6551	6561	6571	6580	6590	6599	6609	6618	1 2 3	4 5 6	7 8 9
46	6628	6637	6646	6656	6665	6675	6684	6693	6702	6712	1 2 3	4 5 6	7 7 8
47	6721	6730	6739	6749	6758	6767	6776	6785	6794	6803	1 2 3	4 5 5	6 7 8
48	6812	6821	6830	6839	6848	6857	6866	6875	6884	6893	1 2 3	4 4 5	6 7 8
49	6902	6911	6920	6928	6037	6946	6955	6964	6972	6981	1 2 3	4 4 5	6 7 8

Example:

$\log 2 = 0.3010$; $\log 20 = 1.3010$; $\log 200 = 2.3010$; $\log 2,000 = 3.3010$ etc.

$\log 2 = 0.3010 - 1 - (-) 0.699$

$\log 0.02 = 0.3010 - 2 - (-) 1.699$

	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
50	6990	6998	7007	7016	7024	7033	7042	7050	7059	7067	1	2	3	3	4	5	6	7	8
51	7076	7084	7093	7101	7110	7118	7126	7135	7143	7152	1	2	3	3	4	5	6	7	8
52	7160	7166	7177	7185	7193	7202	7210	7218	7226	7235	1	2	2	3	4	5	6	7	7
53	7243	7251	7259	7267	7275	7284	7292	7300	7306	7314	1	2	2	3	4	5	6	6	7
54	7324	7332	7340	7348	7358	7364	7372	7380	7388	7396	1	2	2	3	4	5	6	6	7
55	7404	7412	7419	7427	7435	7443	7451	7459	7466	7474	1	2	2	3	4	5	5	6	7
56	7452	7490	7497	7505	7513	7520	7528	7536	7543	7551	1	2	2	3	4	5	5	6	7
57	7559	7566	7574	7582	7589	7597	7604	7612	7619	7627	1	2	2	3	4	5	5	6	7
58	7634	7642	7649	7657	7664	7672	7679	7686	7694	7701	1	1	2	3	4	4	5	6	7
59	7709	7716	7723	7731	7738	7745	7752	7760	7767	7774	1	1	2	3	4	4	5	6	7
60	7782	7789	7796	7803	7810	7818	7825	7832	7839	7848	1	1	2	3	4	4	5	6	6
61	7853	7860	7868	7875	7882	7889	7896	7903	7910	7917	1	1	2	3	4	4	5	6	6
62	7924	7931	7938	7945	7952	7958	7966	7973	7980	7987	1	1	2	3	3	4	5	6	6
63	7993	8000	8007	8014	8021	8028	8035	8041	8048	8055	1	1	2	3	3	4	5	5	6
64	8062	8069	8075	8082	8089	8096	8102	8109	8116	8122	1	1	2	3	3	4	5	5	6
65	8129	8136	8142	8149	8158	8162	8169	8176	8182	8189	1	1	2	3	3	4	5	5	6
66	8195	8202	8209	8215	8222	8228	8235	8241	8248	8254	1	1	2	3	3	4	5	5	6
67	8261	8267	8274	8280	8287	8293	8299	8306	8312	8319	1	1	2	3	3	4	5	5	6
68	8325	8331	8338	8344	8351	8357	8363	8370	8376	8382	1	1	2	3	3	4	4	5	6
69	8388	8395	8401	8407	8414	8420	8428	8432	8439	8445	1	1	2	2	3	4	4	5	6
70	8451	8457	8463	8470	8476	8482	8488	8494	8500	8506	1	1	2	2	3	4	4	5	6
71	8513	8519	8525	8531	8537	8543	8549	8555	8561	8567	1	1	2	2	3	4	4	5	5
72	8573	8579	8585	8591	8597	8603	8609	8615	8621	8627	1	1	2	2	3	4	4	5	5
73	8633	8639	8645	8651	8657	8663	8669	8673	8681	8686	1	1	2	2	3	4	4	5	5
74	8692	8698	8704	8710	8716	8722	8727	8733	8738	8745	1	1	2	2	3	4	4	5	5
75	8751	8756	8762	8768	8774	8779	8785	8791	8797	8802	1	1	2	2	3	3	4	5	5
76	8808	8814	8820	8825	8831	8837	8842	8848	8854	8859	1	1	2	2	3	3	4	5	5
77	8865	8871	8876	8882	8887	8893	8899	8904	8910	8915	1	1	2	2	3	3	4	4	5
78	8921	8927	8932	8938	8943	8949	8954	8960	8965	8971	1	1	2	2	3	3	4	4	5
79	8976	8982	8987	8993	8998	9004	9009	9015	9020	9025	1	1	2	2	3	3	4	4	5
80	9031	9036	9042	9047	9053	9058	9063	9069	9074	9079	1	1	2	2	2	3	4	4	5
81	9085	9090	9096	9101	9106	9112	9117	9122	9128	9133	1	1	2	2	2	3	4	4	5
82	9138	9143	9149	9154	9159	9165	9170	9175	9180	9186	1	1	2	2	2	3	4	4	5
83	9191	9196	9201	9206	9212	9217	9222	9227	9232	9238	1	1	2	2	2	3	4	4	5
84	9243	9248	9253	9258	9263	9269	9274	9279	9284	9289	1	1	2	2	2	3	4	4	5
85	9294	9299	9304	9309	9315	9320	9325	9330	9335	9340	1	1	2	2	3	3	4	4	5
86	9345	9350	9355	9360	9365	9370	9375	9380	9385	9390	1	1	2	2	3	3	4	4	5
87	9395	9400	9405	9410	9415	9420	9425	9430	9435	9440	0	1	1	2	2	3	3	4	4
88	9445	9450	9450	9455	9460	9469	9474	9479	9484	9489	0	1	1	2	2	3	3	4	4

89	9494	9499	9504	9509	9513	9518	9523	9528	9533	9538	0	1	1	2	2	3	3	4	4
90	9542	9547	9552	9557	9562	9566	9571	9576	9581	9586	0	1	1	2	2	3	3	4	4
91	9590	9595	9600	9605	9609	9614	9619	9624	9628	9633	0	1	1	2	2	3	3	4	4
92	9638	9643	9647	9652	9657	9661	9666	9671	9675	9680	0	1	1	2	2	3	3	4	4
93	9685	9689	9694	9699	9703	9708	9713	9717	9722	9727	0	1	1	2	2	3	3	4	4
94	9731	9736	9741	9745	9750	9754	9759	9763	9768	9773	0	1	1	2	2	3	3	4	4
95	9777	9782	9786	9791	9795	9800	9805	9809	9814	9818	0	1	1	2	2	3	3	4	4
96	9823	9827	9832	9836	9841	9845	9850	9854	9859	9863	0	1	1	2	2	3	3	4	4
97	9868	9872	9877	9881	9886	9890	9894	9899	9903	9908	0	1	1	2	2	3	3	4	4
98	9912	9917	9921	9926	9930	9934	9939	9943	9945	9952	0	1	1	2	2	3	3	4	4
99	9958	9961	9965	9969	9974	9978	9983	9987	9991	9996	0	1	1	2	2	3	3	3	4

Table II - ANTILOGARITHM

	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
100	1000	1002	1005	1007	1009	1012	1014	1016	1018	1021	0	0	1	1	1	1	2	2	2
101	1023	1026	1028	1030	1033	1035	1038	1040	1042	1045	0	0	1	1	1	1	2	2	2
102	1047	1050	1052	1054	1057	1059	1062	1064	1067	1069	0	0	1	1	1	1	2	2	2
103	1072	1074	1076	1079	1081	1084	1086	1089	1091	1094	0	0	1	1	1	1	2	2	2
104	1096	1099	1102	1104	1107	1109	1112	1114	1117	1119	0	1	1	1	1	2	2	2	2
105	1122	1125	1127	1130	1132	1135	1138	1140	1143	1146	0	1	1	1	1	2	2	2	2
106	1148	1151	1153	1156	1159	1161	1164	1167	1169	1172	0	1	1	1	1	2	2	2	2
107	1175	1178	1180	1183	1186	1189	1191	1194	1197	1199	0	1	1	1	1	2	2	2	2
108	1202	1205	1208	1211	1213	1216	1219	1222	1225	1227	0	1	1	1	1	2	2	2	3
109	1230	1233	1236	1239	1242	1245	1247	1250	1253	1256	0	1	1	1	1	2	2	2	3
110	1259	1262	1265	1268	1271	1274	1276	1279	1282	1285	0	1	1	1	1	2	2	2	3
111	1288	1291	1294	1297	1300	1303	1306	1309	1312	1315	0	1	1	1	2	2	2	2	3
112	1381	1321	1324	1327	1330	1334	1337	1340	1342	1348	0	1	1	1	2	2	2	2	3
113	1349	1352	1355	1358	1361	1365	1368	1371	1374	1377	0	1	1	1	2	2	2	3	3
114	1380	1384	1387	1390	1393	1396	1400	1403	1406	1409	0	1	1	1	2	2	2	3	3
115	1413	1416	1419	1422	1426	1429	1432	1435	1439	1442	0	1	1	1	2	2	2	3	3
116	1445	1449	1452	1455	1459	1462	1466	1469	1472	1476	0	1	1	1	2	2	2	3	3
117	1479	1483	1486	1489	1493	1496	1500	1503	1507	1510	0	1	1	1	2	2	2	3	3
118	1514	1517	1521	1524	1528	1531	1535	1538	1542	1545	0	1	1	1	2	2	2	3	3
119	1549	1552	1556	1560	1563	1567	1570	1574	1578	1581	0	1	1	1	2	2	3	3	3
120	1585	1589	1592	1596	1600	1603	1607	1611	1614	1618	0	1	1	1	2	2	3	3	3
121	1622	1626	1629	1633	1637	1641	1644	1648	1652	1656	0	1	1	2	2	2	3	3	3
122	1660	1663	1667	1671	1675	1679	1683	1687	1690	1694	0	1	1	2	2	2	3	3	3
123	1698	1702	1706	1710	1714	1718	1722	1726	1730	1734	0	1	1	2	2	2	3	3	4
124	1738	1742	1746	1750	1754	1758	1762	1768	1770	1774	0	1	1	2	2	2	3	3	4
125	1778	1782	1786	1791	1795	1799	1803	1807	1811	1816	0	1	1	2	2	2	3	3	4
126	1820	1824	1828	1832	1837	1841	1845	1849	1897	1858	0	1	1	2	2	3	3	3	4
127	1862	1866	1871	1875	1879	1884	1888	1892	1941	1901	0	1	1	2	2	3	3	3	4
128	1905	1910	1914	1919	1923	1928	1932	1936	1941	1945	0	1	1	2	2	3	3	4	4
129	1950	1954	1959	1963	1968	1972	1977	1982	1986	1991	0	1	1	2	2	3	3	4	4
130	1995	2000	2004	2009	2014	2018	2023	2028	2032	2037	0	1	1	2	2	3	3	4	4
131	2042	2046	2051	2056	2061	2065	2070	2075	2080	2084	0	1	1	2	2	3	3	4	4
132	2089	2094	2099	2104	2109	2113	2118	2123	2128	2133	0	1	1	2	2	3	3	4	4
133	2138	2143	2148	2153	2158	2163	2168	2173	2178	2183	0	1	1	2	2	3	3	4	4
134	2188	2193	2198	2203	2206	2213	2218	2223	2228	2234	1	1	2	2	3	3	4	4	5
135	2239	2244	2249	2254	2259	2265	2270	2275	2280	2256	1	1	2	2	3	3	4	4	5

136	2291	2286	2301	2307	2312	2317	2323	2328	2333	2339	1 1 2	2 3 3	4 4 5
137	2344	2350	2355	2359	2366	2271	2377	2382	2388	2393	1 1 2	2 3 3	4 4 5
138	2399	2404	2410	2415	2421	2427	2432	2438	2443	2449	1 1 2	2 3 3	4 4 5
139	2455	2460	2466	2472	2477	2483	2489	2495	2500	2506	1 1 2	2 3 3	4 5 5
140	2512	2518	2523	2529	2535	2541	2547	2553	2559	2564	1 1 2	2 3 4	4 5 5
141	2570	2576	2582	2588	2594	2600	2606	2612	2618	2624	1 1 2	2 3 4	4 5 5
142	2630	2636	2642	2649	2655	2661	2667	2673	2679	2624	1 1 2	2 3 4	4 5 6
143	2692	2698	2704	2710	2716	2723	2729	2735	2742	2748	1 1 2	3 3 4	4 5 6
144	2754	2761	2767	2773	2780	2786	2793	2799	2805	2812	1 1 2	3 3 4	4 5 6
145	2818	2825	2831	2838	2844	2851	2858	2864	2871	2877	1 1 2	3 3 4	5 5 6
146	2884	2891	2897	2904	2911	2917	2924	2931	2938	2944	1 1 2	3 3 4	5 5 6
147	2951	2958	2965	2972	2979	2985	2992	2999	3006	3013	1 1 2	3 3 4	5 5 6
148	3020	3027	3034	3041	3048	3055	3062	3069	3076	3083	1 1 2	3 4 4	5 6 6
149	3090	3097	3105	3112	3118	3126	3133	3141	3148	3155	1 1 2	3 4 4	5 6 6

	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
150	3162	3170	3177	3184	3192	3199	3206	3214	3221	3228	1	1	2	3	4	4	5	6	7
151	3236	3243	3251	3258	3268	3273	3281	3289	3296	3304	1	2	2	3	4	5	5	6	7
152	3311	3319	3327	3334	3342	3350	3357	3365	3373	3381	1	2	2	3	4	5	5	6	7
153	3388	3396	3404	3412	3420	3428	3436	3442	3451	3459	1	2	2	3	4	5	6	6	7
154	3467	3475	3483	3491	3499	3508	3516	3524	3532	2540	1	2	2	3	4	5	6	6	7
155	3548	3556	3565	3573	3581	3589	3597	3606	3614	3622	1	2	2	3	4	5	6	6	7
156	3631	3639	3648	3656	3664	3673	3681	3690	3698	3707	1	2	3	3	4	5	6	7	8
157	3715	3724	3733	3741	3750	3758	3767	3776	3784	3793	1	2	3	3	4	5	6	7	8
158	3802	3811	3819	3828	3837	3846	3855	3864	3873	3882	1	2	3	4	4	5	6	7	8
159	3890	3899	3908	3917	3926	3936	3945	3954	3963	3972	1	2	3	4	4	5	6	7	8
160	3981	3990	3999	4009	4018	4027	4036	4046	4055	4065	1	2	3	4	5	6	6	7	8
161	4074	4083	4093	4102	4111	4121	4130	4140	4150	4159	1	2	3	4	5	6	7	8	9
162	4169	4178	4188	4198	4207	4217	4227	4236	4246	4256	1	2	3	4	5	6	7	8	9
163	4266	4276	4285	4295	4305	4315	4325	4335	4345	4355	1	2	3	4	5	6	7	8	9
164	4365	4375	4385	4395	4406	4416	4426	4436	4446	4457	1	2	3	4	5	6	7	8	9
165	4467	4477	4487	4498	4508	4519	4529	4539	4550	4560	1	2	3	4	5	6	7	8	9
166	4571	4581	4592	4603	4613	4624	4634	4645	4656	4667	1	2	3	4	5	6	7	9	10
167	4677	4688	4699	4710	4721	4732	4742	4753	4764	4775	1	2	3	4	5	7	8	9	10
168	4788	4797	4808	4819	4831	4842	4853	4864	4875	4887	1	2	3	4	6	7	8	9	10
169	4898	4909	4920	4932	4943	4955	4986	4977	4989	5000	1	2	3	5	6	7	8	9	10
170	5012	5023	5035	5047	5058	5070	5082	5093	5105	5117	1	2	4	5	6	7	8	9	11
171	5129	5140	5152	5164	5176	5188	5200	5212	5224	5236	1	2	4	5	6	7	8	10	11
172	5248	5260	5272	5284	5297	5309	5321	5333	5346	5358	1	2	4	5	6	7	9	10	11
173	5370	5383	5395	5408	5420	5433	5445	5458	5470	5483	1	3	4	5	6	8	9	10	11
174	5495	5508	5521	5534	5546	5559	5572	5585	5598	5610	1	3	4	5	6	8	9	10	12
175	5632	5636	5649	5662	5675	5689	5702	5715	5728	5741	1	3	4	5	7	8	9	10	12
176	5754	5768	5781	5794	5808	5821	5834	5848	5861	5875	1	3	4	5	7	8	9	11	12
177	5858	5902	5916	5929	5943	5957	5970	5984	5998	6012	1	3	4	5	7	8	10	11	12
178	6028	6039	6053	6067	6081	6095	6109	6124	6138	6152	1	3	4	6	7	8	10	11	13
179	6166	6180	6194	6209	6223	6237	6252	6266	6281	6295	1	3	4	6	7	9	10	11	13
180	6310	6324	6339	6353	6368	6383	6397	6412	6427	6442	1	3	4	6	7	9	10	12	13
181	6457	6471	6486	6501	6516	6531	6546	6561	6577	6592	2	3	5	6	8	9	11	12	14
182	6607	6622	6637	6653	6668	6683	6699	6714	6730	6745	2	3	5	6	8	9	11	12	14
183	6761	6776	6792	6808	6823	6839	6855	6871	6887	6902	2	3	5	6	8	9	11	13	14
184	6918	6934	6950	6965	6982	6598	7015	7031	7047	7063	2	3	5	6	8	10	11	13	15
185	7079	7096	7112	7129	7145	7161	7178	7194	7211	7228	2	3	5	7	8	10	12	13	15
186	7244	7261	7278	7295	7311	7328	7345	7362	7379	7396	2	3	5	7	8	10	12	13	15
187	7413	7430	7447	7464	7482	7499	7516	7534	7551	7568	2	3	5	7	9	10	12	14	16
188	7586	7603	7621	7638	7656	7674	7691	7709	7727	7745	2	4	5	7	9	11	12	14	16

189	7762	7780	7796	7816	7834	7852	7870	7889	7907	7925	2 4 5	7 9 11	13 14 16
190	7943	7962	7980	7998	8017	8035	8054	8072	8091	8110	2 4 6	7 9 11	13 15 17
191	8128	8147	8166	8185	8204	8222	8241	8260	8279	8299	2 4 6	8 9 11	13 15 17
192	8318	8337	8356	8375	8395	8414	8433	8453	8472	8492	2 4 6	8 10 12	14 15 17
193	8511	8531	8551	8570	8590	8610	8630	8650	8670	8690	2 4 6	8 10 12	14 16 18
194	8710	8730	8750	8770	8790	8810	8831	8851	8872	8892	2 4 6	8 10 12	14 16 18
195	8913	8933	8954	8974	8995	9016	9036	9057	9078	9099	2 4 6	8 10 12	15 17 19
196	9120	9141	9162	9183	9204	9226	9247	9268	9290	9311	2 4 6	8 11 13	15 17 19
197	9333	9354	9376	9397	9419	9441	9462	9484	9506	9528	2 4 7	9 11 13	15 17 20
198	9550	9572	9594	9616	9638	9661	9683	9705	9727	9750	2 4 7	9 11 13	16 18 20
199	9772	9795	9817	9840	9836	9886	9908	9931	9954	9977	2 5 7	9 11 14	16 18 20

Example:

If $\text{Log } x = 0.301$. then $x = \text{Antilog } 0.301 = 2$

If $\text{Log } x = 1.301$. then $x = (\text{Antilog } 0.301) \times 10 = 20$

If $\text{Log } x = 2.301$. then $x = (\text{Antilog } 0.301) \times 100 = 200$

If $\text{Log } x = (-) 0.699$, then we can write $\text{Log } x = (-1 + 0.301)$: Thus $x = \text{Antilog } (0.301) / 10 = 0.2$

If $\text{Log } x = (-) 1.699$, then we can write $\text{Log } x = (-2 + 0.301)$: Thus $x = \text{Antilog } (0.301) / 100 = 0.02$

J.K. SHAH[®]
CLASSES
a Veranda Enterprise