REASONING

LEARN
PRACTICE
IMPROVE

CMA'S IAS ACADEMY
Prestigious Institute Recognized and Approved by Government of India & Karnataka
BELAGAVI
REASONING
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1  ALPHABET TEST

The letters of English alphabet can be written as:

A  B  C  D  E  F  G  H  I  J  K  L  M
From left side  1  2  3  4  5  6  7  8  9  10  11  12  13
From right side  26  25  24  23  22  21  20  19  18  17  16  15  14

N  O  P  Q  R  S  T  U  V  W  X  Y  Z
From left side  14  15  16  17  18  19  20  21  22  23  24  25  26
From right side  13  12  11  10  9  8  7  6  5  4  3  2  1

The sum of letter of English alphabet from left side & right side is 27.

Following formula is helpful in learning the order of letters of English alphabet.

E  J  O  T  Y
↓  ↓  ↓  ↓  ↓
5  10  15  20  25

Basically our left side is alphabet's left side and our right side is alphabet's right side.

QUESTIONS BASED ON ALPHABETS

Type I :

(1) Arrange the following word according to English dictionary and which is third letter among them.

HAT, HEAT, HEAD, HEARD, HATE

Sol. According to eng. Dictionary arrangement is

HAT, HATE, HEAD, HEARD, HEAT

So third word is 'HEAD'

Type II :

(1) In the word ‘APPLE’ how many such pair of letters are there which have exactly same number of letter between them as in the English alphabet.

Sol.  A  P  P  L  E
     1  16  16  12  5

Only one such pair i.e. A – E

(2) In the word ‘NOVEL’ how many such pair of letters are there which have exactly same number of letter between them as in the English alphabet.

Sol.  N  O  V  E  L
     14  15  22  5  12

2 pairs N – O and O – L.

Type III :

(1) How many meaningful words can be made from the 2nd, 5th, 9th and 10th letters of the word ‘ORIENTATION’

Sol.  2nd letter – R,  5th letter – N,
     9th letter – I,  10th letter – O

Only one meaningful word is possible i.e., IRON.

(2) How many meaningful words can be formed from the 2nd, 4th, 8th & 10th letter of word ‘CONSIDERATION’

Sol.  2 → O  4 → S  8 → R  10 → T

Only one meaningful word is possible i.e. ‘SORT’

Type IV :

(1) If the 1st and 2nd, 3rd and 4th letter and so on of the word ‘REPRESENTATION’ are interchange then which is the 7th letter from the right end.

Sol.  R E P R E S E N T A T I O N
       ERRPSENEDITNO

7th letter from right end is ‘E’

Type V :

(1) In the English alphabet which is the 4th letter to the left of the 11th letter from the left.

Sol.  K – 4 = 11 – 4 = 7

From left side i.e. A to Z + G is the 7th letter.

(2) Which letter is the middle of 8th letter from left side & 9th letter from right end in English alphabet.

Sol.  It’s ‘M’

Trick → let \( \frac{27-(\text{Left end}+\text{Right end})}{2} = k \)

Now middle letters is k & position from left end or position from right end.
\[ k = \frac{27 - (9 + 8)}{2} = 5 \]

Now, middle letter is \( 5 + 8 = 13^{th} \) letter from left i.e. ‘M’.

**Type VI:**

1. If the first half of English alphabet is written in reverse order and rest are written in same order. Then which is the 6th letter to the letter of 17th left from the left.

   **Sol.**
   
   M L K J I H G F E D C B A / N O
   
   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
   
   P Q R S T U V W X Y Z
   
   16 17
   
   Q - 6 = 17 - 6 = 11
   
   So 11th letter from left is C.

**Type VII:**

In this type of question a mix-matched letter series is given

1. In the given series how many E’s are there having M as a preceding & F as a succeeding letter.

   **Sol.** Only 2 (M E F)

### EXERCISE

**Direction (1 - 2):** Read the following letter sequence and answer the questions given below:

*SMFBWFTQPNJWVAETXGOJKPZRYTL*

1. Which letter is fourth to the left of 16th letter from your left?
   
   (a) J  
   (b) G  
   (c) W  
   (d) V  
   (e) None of these

2. If the first fourteen letters are written in the reverse order which letter will be sixth to the left of twelfth letter from your right?
   
   (a) F  
   (b) B  
   (c) W  
   (d) Q  
   (e) None of these

**Direction (3 - 5):** Study the following letter number symbol sequence carefully and answer the questions given below:

*B D S F E 3 8 S M 2 I K T P @ U 9 A 7 1 E H J 4 Q 6*

3. What should come in place of the question mark (?) in the following sequence?

**Direction (6 - 10):** In each of the following questions, five are given. Which of them will come in the middle if all are arranged alphabetically as in a dictionary?

4. Which of the following is exactly in the midway between the eleventh from the left end and the 7th from the end?
   
   (a) T  
   (b) @  
   (c) U  
   (d) P  
   (e) None of these

5. How many such digits are there in the above sequence are immediately preceded as well as followed by digits?
   
   (a) None  
   (b) One  
   (c) Two  
   (d) Three  
   (e) More than three

6. (a) Fraught  
   (b) Fray  
   (c) Fraud  
   (d) Franchise  
   (e) Frappe
7. (a) Generate (b) Generalize (c) Genepool
   (d) Genealogist (e) Generality
8. (a) Halt (b) Hake (c) Hairy
   (d) Hair-net (e) Hale
9. (a) Electric (b) Elector (c) Elect
   (d) Electrode (e) Electron
10. (a) Length (b) Lenient (c) Legacy
    (d) Legal (e) Legible

**Direction**: Each of the following questions is based on the following alphabet series:

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

11. If the alphabet is written in the reverse order and every alternate letter starting with Y is dropped which letter will be exactly in the middle of the remaining letters of the alphabet?
   (a) M (b) N (c) O
   (d) M or O (e) None of these

12. Suppose the first and the second letters of the English alphabet changed places, also the third and the fourth, the fifth and the sixth, and so on. In the new alphabet series, thus formed which letter would be the 16th?
   (a) H (b) K (c) O
   (d) M (e) None of these

13. How many such pairs of digits are there in the number 8314629 each of which has as many digits between them in the number as after arranging the digits in ascending order?
   (a) None (b) One (c) Two
   (d) Three (e) None of these

14. If in the English alphabet every third letter is replaced by the symbol (*), which of the following would be sixth to the left of the sixteenth element from the left?
   (a) G (b) H (c) T
   (d) J (e) None of these

15. If 1st and 26th, 2nd and 25th, 3rd and 24th and so on, letters of the English alphabet are paired, then which of the following pairs is correct?
   (a) GR (b) DW (c) LP
   (d) EU (e) None of these

16. If every alternative letter of English alphabet from B onwards (including B) is written in lower case (small letters) and the remaining letters are capitalized, then how will the second month of the second half of the year be written?
   (a) JuLy (b) AuGuSt (c) jULY
   (d) AUGUST (e) None of these

17. In the following alphabets, which letter is seventh to the right of the thirteenth letter from the right end?
   (a) H (b) R (c) S
   (d) T (e) None of these

18. The positions of how many digits in the number 213659487 will remain same when the digits are arranged in ascending order?
   (a) None (b) One (c) Two
   (d) Three (e) Four

19. G H I J K L M N
   Which letter is fourth to the right of the letter immediately to the left of the letter immediately to the left of the letter which is third to the right of the letter immediately to the left of the letter H?
   (a) K (b) L (c) J
   (d) I (e) None of these

**Direction** (20 - 22): If letters from A to M were written leaving space for one letter between every two letters, and then the remaining letters were inserted, beginning with N and ending the service with Z after, M, answer the following questions:

20. Which letter would be fourth to the right of the ninth letter from the left?
    (a) C (b) F (c) S
    (d) G (e) None of these

21. Which letter would be exactly between Q and X?
    (a) S (b) T (c) H
    (d) W (e) None of these

22. Which letter would be exactly in the middle of the nineteenth letter from the beginning and eighteenth from the end?
    (a) S (b) T (c) G
    (d) H (e) None of these

**Direction** (23 - 27): If all the letters from A to Z were written as A _ C _ E _ G _ upto Y, i.e. dropping each alternative letter, leaving blank spaces and then all the blanks were filled in with remaining letters in reverse order, i.e., A Z C X E V … ending with B, answer the following questions:
23. Which letter is to the right of fifteenth letter from the left corner?
(a) M  (b) N  (c) Q
(d) L  (e) None of these

24. Which letters are exactly in the middle of the nineteenth letter from the left and fifteenth letter from the right end?
(a) MN  (b) NO  (c) OL
(d) PM  (e) None of these

25. Which letter would be placed between H and F?
(a) H  (b) J  (c) L
(d) U  (e) None of these

26. How many pairs of letters in the series are old neighbours from regular alphabetical order?
(a) One  (b) Two  (c) Three
(d) Four  (e) None of these

27. Which letters would be to the right and left of R?
(a) P and N  (b) R and T  (c) F and H
(d) K and I  (e) None of these

28. Study the following arrangement of the English alphabet and answer the questions given below:
F J M P O W R N B E Y C A V L D G X U H Q I S Z T
Which letter is fifth to the right of the letter which is exactly in the middle of F and D?
(a) D  (b) V  (c) A
(d) K  (e) None of these

29. Four of the following five are alike in a certain way based on their position in the above arrangement and hence form a group. Which one does not belong to that group?
(a) BRY  (b) ECN  (c) HXI
(d) OMR  (e) KYY

30. JPM : ZIS in the same way as MPO : ?
(a) IZS  (b) ZSI  (c) ISQ
(d) ISZ  (e) SIQ

31. If each of the odd digits in the number 54638 is decreased by 1 and each of the even digits is increased by 1, then which of the following will be the sum of the digits of the new number?
(a) 25  (b) 26  (c) 28
(d) 29  (e) None of these

32. If each letter is attached a value equal to its serial number in the above arrangement starting from your left, then what will be the sum of the numbers attached to all the vowels in the arrangement?
(a) 50  (b) 58  (c) 63
(d) 73  (e) None of these

33. In the given series of letters, how many A's are preceded and followed by A?
P A P A A P A P P A q P A A P P A P A
(a) 0  (b) 2  (c) 3
(d) 4  (e) None of these

34. In the following series of letters how many P's are there which do not have 'Y' preceding them and also do not have T following them?
Z Q S T P Y M N Q N Y T U V X Y P T A S P T Q Y S P T
(a) 1  (b) 2  (c) 3
(d) 5  (e) None of these

35. The positions of the second and the eight digits of the number 39128564 are interchanged. Similarly, the position of the fourth and the fifth digits are interchanged. Th positions of the first and the sixth digits are interchange and the positions of the third and the seventh digits are interchanged. Which of the following will be the third digit to the left of 3 after the rearrangement?
(a) 2  (b) 4  (c) 6
(d) 8  (e) 9

Direction (36 - 40) : Each of the following questions is based on the following alphabet series.
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

36. Which letter is midway between the eighteenth letter from the left end and tenth letter from the right end of the given alphabet?
(a) No letter  (b) K  (c) Q
(d) R  (e) None of these

37. Which letter in the alphabet series is as far from K as from M?
(a) M  (b) R  (c) O
(d) P  (e) None of these
38. Which letter will be seventh to the right of the third letter of the second half of the English alphabet?
   (a) V       (b) W       (c) X
   (d) None    (e) Z

39. If the above alphabet are divided into two equal halves from A to M and N to Z, which letter in the later half would be corresponding to the letter I?
   (a) V       (b) Q       (c) X
   (d) W       (e) None of these

40. Which letter will be fifth to the left of the twentieth letter from the right end of the alphabet?
   (a) M       (b) N       (c) X
   (d) B       (e) None of these

41. In the following series of letters, some definite order determines which of the next two letters in the correct order?
   A J K T U B I L S V C H M R W D G N Q X E F O
   (a) P Y     (b) P Z     (c) Y Z
   (d) Z A     (e) None of these

42. Which of the following pairs of letters has as many letters between them in the English alphabet?
   (a) AL       (b) EL       (c) LS
   (d) MO       (e) None of these

43. B C D E F G H I
   Which letter is second to the left of the letter immediately to the left of the letter which is fourth to the right of the letter immediately to the left of the letter which is second to the left of the letter E?
   (a) A       (b) B       (c) C
   (d) D       (e) None of these

44. If A interchanges position with B, similarly C and D interchange positions and so as E and F and so on up to Y and Z, then which of the following will be ninth from the left?
   (a) A       (b) F       (c) I
   (D) J       (e) None of these

45. Rohan is seventeenth from the left end of a row of 29 boys and Vaibhav is seventeenth from the right end in the same row. How many boys are there between them in the row?
   (a) 2       (b) 5       (c) 6
   (d) Data inadequate (e) 2

46. In a class of 35 students, Karan is placed seventh from the bottom whereas Sonal is placed ninth from the top. Punit is placed exactly in between the two. What is Karan's position from Punit?
   (a) 9       (b) 10      (c) 11
   (d) 13       (e) None of these

47. Rehan is fifteenth from the front in a column of boys. There were thrice as many behind him as there were in front. How many boys are there between Rehan and the seventh boy from the end of the column?
   (a) 33       (b) 34      (c) 35
   (d) Data inadequate (e) None of these

48. In a class, among the passed students, Anubha is twenty-second from the top and Sonam, who is 5 ranks below Anubha, is thirty-fourth from the bottom. All the students from the class have appeared for the exam. If the ratio of the students who passed in the exam to those who failed is 4:1. In that class, how many students are there in the class?
   (a) 60       (b) 75      (c) 90
   (d) Data inadequate (e) None of these

49. In a queue, P is eighteenth from the front while Q is sixteenth from the back. If R is twenty-fifth from the front and is exactly in the middle of P and Q, then how many persons are there in the queue?
   (a) 45       (b) 46      (c) 47
   (d) 48       (e) None of these

50. Ram ranks fifth in a class. Suman is eighth from the last. If Tisha is sixth after Ram and just in the middle of Ram and Suman, then how many students are there in the class?
   (a) 23       (b) 24      (c) 25
   (d) 26       (e) None of these
2 CODING & DECODING

Coding

The method of converting a meaningful word in a non meaningful word/letter/number by a certain rule is called coding.

e.g. → AMAN → BNBO or CPES

Decoding

The method of converting a non-meaningful word/letter/ number in a meaningful word by a certain rule is called de-coding.

C P E S → A M A N

Ex.: If in a certain language ‘GOAL’ is coded as HPBM, how is ‘POST’ coded in same language.

⇒ GOAL → HPBM
   POST → QPTU

Type I : Coding based on eng alphabets.

Ex.: If code for RADIO is SBEJP. What is code for CAMERA

⇒ CAMERA → DBNFSB

Type II: Coding based on group words

Ex.: In a certain code language
   Dev Das ji means good little fock
   Ram Kishan ji means behaves good feel
   Durga Lal Kishan means makes mischief feel
   Das Raj Kishan means little girl feel

What is code for fock

⇒ Dev

Type III : Coding based on conversion of name of words.

Ex.: If ‘water’ is called ‘food’, ‘food’ is called ‘tree’, ‘tree’ is called ‘sky’ and ‘sky’ is called ‘wall’ then where do birds fly?

⇒ birds fly in sky and sky is called wall.

Type IV : Coding based on numbers.

Ex.1 If in a coded language A is coded as 1, B as 2 and so on then what is code for MAGGI.

⇒ MAGGI → 131779

Ex.2 If BEAUTIFUL is coded as 573041208 and RUBBER is coded as 905579 then what is code for TEAR.

⇒ TEAR → 4739.

Ex.3 If CHANDRA is coded as 49 and KALA is coded as 25. What is code for CHANDRIKA

⇒ CHANDRA = 3 + 8 + 1 + 14 + 4 + 18 + 1 = 49
   KALA = 11 + 1 + 12 + 1 = 25
   CHANDRIKA = 3 + 8 + 1 + 14 + 4 + 18 + 9 + 11 + 1
               = 69

Ex.4 If RAM is coded as 4 and SHYAM as 6 what is code for KARAN

⇒ R → 4  
   A → Z → 26
   M → N → 14
   4 + 9 = 13
   1 + 3 = 4
   9 + 0 = 9

⇒ R → 4  
   A → Z → 26
   M → N → 14
   4 + 9 = 13
   1 + 3 = 4
   9 + 0 = 9

Type V : Coding based on symbols.

Ex.5 If a certain code language TRAIN means
   $@ = £, ACE means @ % #,

What is the meaning of CERTAIN

⇒ CERTAIN → % # ? $ @ = £

EXERCISE

Direction (1 - 3) : In the below question a group of letters or word is given followed by some conditions. You have to find the code for the word based on the following letter coding system.

<table>
<thead>
<tr>
<th>Letters</th>
<th>A</th>
<th>M</th>
<th>L</th>
<th>E</th>
<th>G</th>
<th>S</th>
<th>K</th>
<th>R</th>
<th>U</th>
<th>D</th>
<th>W</th>
<th>C</th>
<th>H</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digit</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>#</td>
<td>7</td>
<td>@</td>
<td>2</td>
<td>6</td>
<td>%</td>
<td>*</td>
<td>@</td>
<td></td>
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Conditions:
(i) If the sum of positions of first and second letters of the word is 8 then both are to be coded as 'O'.
(ii) If product of positions of letters at even positions of the word are 24 then they are to be coded as 'd'.

Scanned by CamScanner
(iii) If difference of positions of third and sixth letters of the word is 8 then both are to be coded as '?'
    Now, find the code for

1. **WHKPAC**
   (a) $6 \ast @ ? = %$  (b) $6 \ast ? @ = ?$  (c) $6 \ast ? 2 = %$
   (d) $6 \ast ? = @ ?$  (e) $6 \ast ? = ?$

2. **BRGSAU**
   (a) $271 \# = \circ$  (b) $217 \# = \circ$  (c) $271 = \# \circ$
   (d) $71 \# = %$  (e) $72 \# = %$

3. **CERMCS**
   (a) $0047\#$  (b) $0407\%$  (c) $0074\%$
   (d) $\%\$47\#$  (e) None of these

4. If '% means 's', '@' means 'x', '&{ means 'v' and '#' means 'w', then what will be the average of five consecutive even numbers where 'R' is the smallest number ?
   (a) $R \& 10 \# 5$  (b) $R \& 4$  (c) $40 \# R \& 5$
   (d) $(R \& 20) \# 2$  (e) None of these

5. If the code for 'PEN' is 35, what will be the code for 'ASK' ?
   (a) 30  (b) 31  (c) 32
   (d) 35  (e) None of these

6. If in a certain code, RIYA is written as SIYA and GATE is written as HATE, then how will MAKE be written in that code ?
   (a) CAKE  (b) GAKE  (c) NAKE
   (d) LAKE  (e) None of these

7. If RUBBER is coded as QUCCER, the code for DINNER will be
   (a) DIOPER  (b) CINNRE  (c) CIOOER
   (d) DIOOER  (e) None of these

8. If in a certain language, MOBILE is coded as NQEMQK, then how is MIRACLE coded in that language ?
   (a) JDOMICF  (b) NKEUHRL
   (c) NJQBBMN  (d) AELGMNB
   (e) None of these

9. If DONE is coded as EOOE, ROSE is coded as SOTE, how would you code TAKE ?
   (a) TBKF  (b) UALE  (c) UBLE
   (d) UBLF  (e) None of these

10. In a certain code language, DOOR is written as CPNSR and LACK is written as KBBLK. How will the word GRID be written in that code language ?
    (a) FSHCD  (b) HSJED  (c) FOHCD
    (d) FSHEK  (e) None of these

11. If SUMMER is written as USMMRE in a certain code, how would WINTER be written in that code ?
    (a) IWKRTN  (b) IWNRTE  (c) IWNRE
    (d) IWTRE  (e) None of these

12. If in a certain language, EXPLAINING is coded as PXEAULIGNI, then how is PRODUCTION coded in that language ?
    (a) ROPVECDOPV  (b) ORUDPDECROJ
    (c) ORPUDACQUI  (d) ORPUDTCNOI
    (e) None of these

13. In a certain code language, TERMINATION is written as IMTRENOAIT. How is COMETIVE written in that code ?
    (a) OMCPEITIV  (b) EPCOMTEVIIT
    (c) OMEPCTIIVET  (d) PEMCOTIVEITI
    (e) None of these

14. In a certain code, INTRODUCTION is written as UCODTITRONIN. How is KARUNAKARANA written in that code ?
    (a) AKNUARRANKA  (b) KANARARUNAKA
    (c) NKKRANKRAUK  (d) RURNKAAUNAK
    (e) None of these

15. If PERSUATION is written as NOTIAURSEP, then which letter will be in the fifth place when counted from the left if CONTRIBUTE is written in the same way ?
    (a) R  (b) I  (c) A
    (d) L  (e) None of these

16. In a certain code NECKLACE is written as EDBMLDFN. How is MEDICINE written in the same code ?
    (a) EOIDEJFM  (b) EOJDEJFEM  (c) MFEDJJOE
    (d) MEFJDJEO  (e) None of these

17. In a certain code, COVALENT is written as BWPDUOFM and TEAR is written as FUSB. How will DESIRE be written in that code ?
    (a) ETFSJE  (b) TEFFSJ  (c) TFESFJ
    (d) EFTJSE  (e) None of these
18. In a certain code language, TRIANGLE is written as BHSSFKHM. How is COMPUTER written in that code?
   (a) QLPBPBDUT   (b) LQPBPISTU
   (c) BLPQSDUT   (d) TUDSBPLQ
   (e) None of these

19. In a certain code, SUPREME is written as DLDSRTO. How is RESERVE written in that code?
   (a) DLSTVDQ   (b) DUQFQDR
   (c) QUDFRDQ   (d) DUQFRDQ
   (e) None of these

20. In a certain code language:
   (i) mint bio tee zro → her town is manpuri
   (ii) neep mint kap tee oro → her first love is maths
   (iii) oro greet tee mint pki → maths collection is her hobby

   Then which word in that language represent 'maths'?
   (a) mint   (b) bio   (c) oro
   (d) greet   (e) none of these

21. In a certain code language NATURE is written as AOUUES. How will ANSWER be written in that code?
   (a) NBXSSSE   (b) NBWRPFE   (c) MAVSPE
   (d) NBWTRF   (e) None of these

22. In a certain code language, PURSE is written as KFIHV, then what will be the code of CHAIR?
   (a) IRSZX   (b) IRXZS   (c) SZXIR
   (d) XSZRI   (e) None of these

23. In a certain code language, FATHER is written as IVSGZU. How will CRUELITY be written in that code language?
   (a) VOCVZRLE   (b) VPCVZRL   (c) VPVCZRL
   (d) BGOFIX   (e) None of these

24. If in certain language, BROUGHT is coded as CSPVHIV, which word would be coded as GBNPVT?
   (a) FARMER   (b) HCOQWU   (c) FRAMES
   (d) FARMES   (e) FAMOTH

25. In a certain code, EVOLUTIONARY is coded as YRANOITULOVE. Which word would be coded as NOITINUMMA?
   (a) ANMOMIUTNI   (b) AMNOMOUMIN
   (c) AMMUNITION   (d) NMMUNITIOA
   (e) None of these

26. In a certain code language:
   (i) 'nip zip tip' means 'summer is hot'.
   (ii) 'to tip de' means 'winter is cold'.
   (iii) 'de nip doo' means 'winter or summer'.
   (iv) 'to the da' means 'nights are cold'.

   Which word in that language represent 'winter'?
   (a) nip   (b) de   (c) zip
   (d) da   (e) None of these

27. In a certain code, NOVEMBER is written as ERMBVENO. Which word will be written as IEUAACEV in that code?
   (a) VACUATEA   (b) CAVEETAU
   (c) EVACUAIE   (d) VECAAUET
   (e) None of these

28. If in a certain code, S is written as O, N as P, E as M, I as A, D as E, U as C, T as S, R as N then how will INDUSTRIES be written in that code?
   (a) CPEAMNOSA   (b) APCEOSANMO
   (c) APECOSNAMO   (d) PACEOSNAMO
   (e) None of these

29. If the word REVERSE be written as APUPATP in coded form, how can RESERVE be written following the same coding?
   (a) RQPUPMN   (b) SQRPUVW
   (c) PATAPUP   (d) APPTAPU
   (e) None of these

30. If in a certain code, R is written as S, E as P, F as Q, I as M, G as N, A as B, T as Z, O as Y then how will REFRIGERATOR be written in that code?
   (a) PSQSNMPZBYS   (b) QSSPSPMBZYS
   (c) PSQSMNPBZYS   (d) PSBZYSQQSMN
   (e) None of these

31. In a certain code, TABLE is written as PBCME and GRADE as QSBHE. Following the same rule of coding, what should be the code for the word BLADE?
   (a) CMBEH   (b) CMBHE   (c) CBMEH
   (d) EBMEH   (e) None of these

32. If MIRACLE is written as QBSTUZW and GAMBLE is written as ATQCZW, then how will REAL be written in the same code?
   (a) TZWS   (b) SWZT   (c) WSTZ
   (d) SWTZ   (e) None of these
Direction (33 - 35): Study the following letters and their corresponding digit codes followed by certain conditions of coding and answer the questions given below them by finding out which of the digit combinations given in (a), (b), (c), and (d) is the coded form of the letter-groups given in each question and mark your answer accordingly.

<table>
<thead>
<tr>
<th>Letter</th>
<th>P</th>
<th>N</th>
<th>A</th>
<th>J</th>
<th>I</th>
<th>R</th>
<th>E</th>
<th>B</th>
<th>U</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>

**Conditions**

1. If both the first and the last letters in the group are vowels, both should be coded as *.
2. If both the first and the last letters in the group are consonants, both should be coded as £.

33. EUAKU
   (a) #70892  (b) 350781  (c) *5078*
   (d) £57034  (e) None of these

34. RPBNJ
   (a) 803917  (b) 462095  (c) *4902*
   (d) 649025  (e) None of these

35. NREKIA
   (a) 362875  (b) 263857  (c) 86385£
   (d) *6385*  (e) None of these

**Direction (36 - 40): In a certain code language:**
285 means 'sky is blue'
249 means 'sea is deep'
453 means 'sea looks blue'.

36. Which digit in that code language represent 'deep'? (a) 4   (b) 9   (c) 5
    (d) 2   (e) None of these

37. Which digit in that code language represent 'blue'? (a) 8   (b) 5   (c) 2
    (d) 9   (e) None of these

38. Which digit in that code language represent 'sea'? (a) 2   (b) 8   (c) 3
    (d) 4   (e) None of these

39. Which digit in that code language represent 'looks'? (a) 3   (b) 8   (c) 4
    (d) 2   (e) None of these

40. Which digit in that code language represent 'is'? (a) 2   (b) 8   (c) 4
    (d) 5   (e) None of these

41. Which digit in that code language represent 'sky'? (a) 4   (b) 2   (c) 8
    (d) 9   (e) None of these

**Direction (42 - 43): In a certain code language:**
4a 3b 8c → travel in end
5a 4a 7b 8c → equity in new end
7b 3b 5d 7c → travel did new plan

42. What is code for 'travel'? (a) 4a   (b) 3b   (c) 8c
    (d) 7b   (e) None of these

43. What is code for 'new'? (a) 4a   (b) 3b   (c) 8c
    (d) 7b   (e) None of these

44. If CLOCK is coded as KCOLC, what will be the first and last letters of the word in the same code for VICTORY? (a) I, C   (b) C, I   (c) T, O
    (d) Y, V   (e) None of these

45. If BLUE is coded as AMTF, what will be the last letter of the word in the same code for RED? (a) F   (b) E   (c) C
    (d) Q   (e) None of these

**Direction (46 - 47): In a certain code language:**
'897' means 'Oranges are nice'
'348' means 'Eat nice food' and
'279' means 'Oranges are tasty'

46. Which digit means 'tasty' in that language? (a) 3   (b) 2   (c) 7
    (d) 9   (e) None of these

47. Which digit means "nice" in that language? (a) 2   (b) 9   (c) 7
    (d) 8   (e) None of these

48. In a certain code language (1) 'DUN BAKE' means
   'DARK NIGHT,' (2) 'TIN TARA HARA' means
   'OVER STAR SKY,' and (3) 'TIN DUF BAKE means
   'DARK BLUE SKY,' which word in that code language means
   'BLUE'? (a) TIN   (b) BAKE   (c) DUF
   (d) TARA   (e) None of these

49. Which of the following means 'DARK' in that code language? (a) DUF   (b) TIN   (c) DUN
    (d) BAKE   (e) None of these

50. In a code language 'MONKEY' is written as 'UXVYWXZ' and
    'DIARY' is written as 'MORSZ'. How would 'DIOMAND be written in the same code? (a) NOURMVX (b) NOUMMVX
    (c) MOXURVM (d) MOXRUMV (e) None of these
3 BLOOD RELATION

This type of test is to test candidates ability about blood relation. In this type of test, questions are given such that the relation of two persons is given and the relation of the other is to be found out.

For this, we use family tree. To build a family tree, certain standard notations are used to indicate a relationship between the member of the family.

Notifications

1. A is a male
2. A is a female
3. Sex of A not known
4. A and B are married to each other
5. A and B are siblings
6. A and C are B's Children

To make a family tree from the given duties we will first identify the males and the females in the family and then try to put each member in their respective position in the tree.

Ex.1 : A, B, C, D, E and F are related to each other as given here. B is F's daughter in law. D is A's only grandchild. C is D's only uncle. A has only 2 children F and C, one male and one female. E is the father of C.
(i) Who is the grandmother of D?
(ii) Who is the mother-in-law of B?

Step I :
Identify the sex of A, B, C, D, E and F.
(a) B is F's daughter in law \(\rightarrow\) B
(b) C is D's only uncle \(C^+
(c) A has 2 children F and C, one male and one female, since C is male, F is female. \(\rightarrow\) F
(d) E is the father of C. \(\rightarrow\) E

Step II :
Use the conditions to arrange A, B, C, D, E and F in these tree generations.

(a) B is F's daughter in law \(\rightarrow\) B
(b) D is A's only grandchild

(c) C is D's uncle \(C^+
(d) A has only two children F and C,

one male and one female.

(e) E is C's father

Level I :

Level II

Level III

Question I and II can be answered easily by looking at the family tree. A is the grandmother of D and F is the mother-in-law of B.

Ex.2 Meena is Pankaj's daughter. Reena is Pankaj's sister. Reena's daughter is Diya and Reena's Son is Ram. Tina is Diya's only maternal aunt.

Q.1 Meena is Tina's
(a) aunt
(b) niece
(c) uncle
(d) none of these

Q.2 Diya is Pankaj's :
(a) nephew
(b) niece
(c) uncle
(d) can't be say

Q.3 Ram is Tina's :
(a) niece
(b) aunt
(c) nephew
(d) none of these

Sol. Tina \(\leftrightarrow\) Pankaj = Reena

Ans.1(d) Meena is Tina's daughter

Meena

Ram

Diya

Tina

Reena
Ex.3 If
(i) \( P + Q \) means, \( P \) is the mother of \( Q \)
(ii) \( P - Q \) means, \( P \) is the brother of \( Q \)
(iii) \( P \div Q \) means, \( P \) is the father of \( Q \)
(iv) \( P \times Q \) means, \( P \) is the sister of \( Q \)
Which of the following shows the relation that \( X \) is a paternal uncle of \( Y \)?
(a) \( X - M + N \div Y \)  
(b) \( Y - M + N \times X \)
(c) \( X - M - N \times Y \)  
(d) \( Y - M \times N \div Y \)
Sol.: (a) \( X - M + N \div Y \)  
\[ X^* = M^* \]
\[ N^+ \downarrow \]
\[ Y \]
So, in this statement, \( X \) is the paternal uncle of \( Y \).

Ex.4 Looking at a portrait of a man, Mohan said, "His mother is the wife of my father's son'. Brothers and sisters I have none". At whose portrait was Mohan looking.
(a) His son  
(b) his nephew  
(c) his cousin  
(d) his uncle
Sol.: (a) Father  
\[ \downarrow \]
Mohan  
\[ \text{↔} \]
Mother  
\[ \downarrow \]
Man
Since Mohan has neither a sister nor brother, therefore Mohan is the only son of his father. Hence the mother of the man is the wife of Mohan.

Ex.5 Introducing a lady, a man said, "Her mother is the only daughter of my mother-in-law". What is the man to the lady.
(a) Son  
(b) Brother  
(c) Uncle  
(d) Father
Sol.: (d) Since the mother-in-law of the man is the mother of the mother of the lady, therefore, the lady is the daughter of the man.

Mother –in-law  
\[ \downarrow \]
Man  
\[ \text{↔} \]
Mother  
\[ \downarrow \]
Lady

EXERCISE

Direction (1 - 5) : Read the following information and answer the questions given below:
A = B means B is the father of A
A * B means A is the sister of B
A ? B means B is the mother A
A $ B means A is the brother of B
A @ B means B is son of A
A # B means A is the daughter of B

1. Which of the following is not correct ?
(a) R $ S ? T means R is grand daughter of T  
(b) P = Q ? R means R is grand mother of P  
(c) L $ M * O means O is sister of L  
(d) M * O @ P = Q means Q and O are husband and wife  
(e) All are correct

2. Which of the following is correct ?
(a) V # T * P means P is maternal uncle of V  
(b) D ? V # T means D is grand daughter of T  
(c) L @ M $ R means R is paternal uncle of L  
(d) M @ R * D ? V means M is son of V  
(e) None is correct

3. Which of the following indicates A is grandfather of B?
(a) M # A = N = B  
(b) B $ L # Q # A  
(c) B $ L # A  
(d) L * B = S $ Q = A  
(e) None of these

4. Which of the following F is paternal uncle of G?
(a) G # L $ F $ N  
(b) N $ F $ L # G  
(c) G # M * F $ L  
(d) L = F $ Q @ G  
(e) None of these

5. S $ M * B @ L = F ? Q reveals which of the following relations?
(a) F and B are brother and sister  
(b) B is paternal uncle of S  
(c) L is grandmother of Q  
(d) M is maternal aunt of L  
(e) None of the above relations gets revealed
6. Rohan is the brother of Sohan, and Mohan is the father of Rohan, Raman is the brother of Diya and Diya is daughter of Sohan. Who is the uncle of Raman?
   (a) Sohan     (b) Mohan     (c) Rohan
   (d) can’t be determined (e) none of these

7. If L is the husband of M and N is the mother of O and M, what is N to L ?
   (a) Mother    (b) Sister    (c) Aunt
   (d) Mother in law (e) none of these

8. Pointing at a photo, Jagdish said, “His father is the only son of my mother”. The photo belongs to —
   (a) Jagdish    (b) Jagdish’s brother
   (c) Jagdish’s father    (d) Jagdish’s son
   (e) none of these

9. P is the mother of Q and R. If S is the husband of R, what is P to S ?
   (a) Mother    (b) Sister    (c) Mother-in-law
   (d) Aunt    (e) none of these

10. Introducing a lady, a man said, “Her mother is the only
daughter of my mother-in-law”. What is the man to the lady?
    (a) Son    (b) Brother    (c) Uncle
    (d) Husband    (e) Father

11. If X is the brother of Y, Z is the sister of X, P is the
brother of J and J is the daughter of Y, who is the uncle
of P ?
    (a) Y    (b) Z    (c) J
    (d) X    (e) none of these

12. A man said to a lady, “The son of your only brother is
the brother of my wife”. What is the lady to the man?
    (a) Mother    (b) sister
    (c) Sister of father-in-law    (d) Grand mother
    (e) Maternal aunt

13. If L is the brother of M and A, B is the mother of M
and C is the father of L. Which one of the following
statement is not definitely true ?
    (a) M is the brother of A    (b) L is the father of A
    (c) L is the son of B    (d) B is the wife of C
    (e) L is the son of C

14. Pointing to a man, a woman said, “His mother is the
only daughter of my mother”. How is the women related
to the man ?
    (a) Mother    (b) Daughter    (c) Grandmother
    (d) Sister    (e) None

15. If (i) $B \triangleq C$ means $B$ is the brother of $C$  (ii) $B \triangleq C$ means $B$ is the sister
   of $C$. Which one of the following shows the relation that
   X is the maternal uncle of Y ?
   (a) $X \triangle Y$    (b) $X \triangle Y$
   (c) $Y \triangle X$
   (d) $Y \triangle X$

16. Pointing to a boy, Mukesh said, “His only brother’s
mother is my father’s wife”. How is Mukesh related to
that boy ?
   (a) Uncle    (b) Father    (c) Nephew
   (d) Mother    (e) none of these

17. If X’s mother was Y’s mother’s daughter. How was Y
related to X ?
   (a) Father    (b) Sister    (c) Either (d) or (e)
   (d) Maternal Aunt    (e) Maternal uncle

18. Introducing a woman, a man said, “Her mother’s husband’s
sister is my aunt”. How is the man related to the woman?
    (a) Nephew    (b) Father    (c) Brother-in-law
    (d) Cousin    (e) Uncle

19. M and N are brothers. O and P are sisters. M’s son is P’s
brother. How is N related to O ?
    (a) Father    (b) Brother    (c) Uncle
    (d) Grandfather    (e) none of these

20. Old man’s son is my son’s uncle, then what relation
has the old man to me ?
    (a) Brother    (b) Father    (c) Grandfather
    (d) Uncle    (e) none of these

21. If (1) $A + B$ means ‘A is the sister of B’ ; (2) $A - B$ means
    ‘A is the father of B’ ; (3) $A \times B$ means ‘A is the broth
er of B’. Which of the following means ‘X is the aunt of Y’?
    (a) $X + M - Y$    (b) $X - M \times Y$
    (c) $M - M + Y$    (d) $X \times M - Y$
    (e) none as there is no symbol for aunt.

Direction (22 - 23) : Read the following information carefully
and answer the questions given below :
Soni is son of Vivek’s father’s sister. Manish is son of Bhakti
who is mother of Mayank and grandmother of Vivek. Mukesh
is father of Manu and grandfather of Soni. Bhakti is wife of
Mukesh.

22. How is Soni related to Bhakti ?
    (a) Nephew    (b) Grandson
    (c) Son    (d) Date inadequate
    (e) None of these
23. How is Mayank’s wife related to Manu?
(a) Niece (b) Sister (c) Sister-in-law (d) Data inadequate (e) None of these

24. In a joint family, there are father, mother, 3 married sons and one unmarried daughter. Of the sons, two have 2 daughters each, and one has a son. How many female members are there in the family?
(a) 2 (b) 3 (c) 6 (d) 9 (e) 11

25. A is the husband of B, M is the father in law of B. How is A related to P?
(a) Sister (b) Mother-in-law (c) Son (d) Wife (e) None of these

26. X’s father is Y’s son. O is the paternal uncle of X and R is the brother of Y. How is R related to O?
(a) Brother (b) Nephew (c) Cousin (d) Data inadequate (e) None of these

27. S, the son-in-law of P, is the brother-in-law of Q who is the brother of R. How is Q related to P?
(a) Brother (b) Son (c) Father (d) Data inadequate (e) None of these

28. Pointing to a photograph a woman said, “She is the only daughter of my mother’s father”. How is the woman related to the person in the photograph?
(a) Mother (b) Grandmother (c) Daughter (d) can’t be determined (e) none of these

Direction (29 - 30) : Read the following statement carefully and answer the following questions.

X is the father of Z. But Z is not his son. E is the daughter of Z. F is the spouse of X. G is the spouse of Y. H is the father of G. Y is brother of Z. D is the son of Y.

29. Who is the Grand mother of D?
(a) H (b) X (c) Z (d) F (e) None of these

30. Who is the son of F?
(a) Y (b) Z (c) E (d) D (e) None

Direction (31 - 34) : Read the information given below to answer these questions:

Isha and Rohan are a married couple having two daughter, Naina and Diya. Diya is married to Abhay who is the son of Kiran and Varun. Vandana is the daughter of Abhay. Payal, who is Abhay’s sister, is married to Harshit and has two sons, Nanu and Banku. Banku is the grandson of Kiran and Varun.

31. What is the relationship between Nanu and Vandana?
(a) Cousins (b) Husband – Wife (c) Father – Daughter (d) Uncle – Niece (e) None of these

32. How is Payal related to Diya?
(a) Aunt (b) Sister-in-law (c) Sister (d) Mother (e) None of these

33. Which of the following is true?
(a) Varun is Diya’s maternal uncle (b) Nanu is the son of Naina (c) Kiran is Harshit’s mother-in-law (d) Vandana is the cousin of Payal (e) None of these

34. How is Isha Related to Abhay?
(a) Cousins (b) Mother (c) Father (d) Mother in law (e) None of these

35. Pointing towards someone said, “She is my father’s sister and she is the only daughter”. How many children had my grandfather?
(a) Two sons (b) One daughter (c) one son and one daughter (d) can’t be determined (e) None of these

36. Gaurav said, “This lady is the wife of the grandson of my mother.” Who is Gaurav to the lady?
(a) Father (b) Grandfather (c) Husband (d) Father-in-law (e) None of these

37. A family has a man, his wife, their four sons and their wives. The family of every son also has 3 sons and one daughter. Find out the total number of male members in the whole family.
(a) 4 (b) 8 (c) 12 (d) 17 (e) None of these

Scanned by CamScanner
Direction (38 - 40) : All the six members of a family L, M, N, O, P and Q are travelling together. M is the son of N but N is not mother of M, L and N are only married couple. P is the brother of N. O is the daughter of L. Q is the brother of M.

38. How many male members are there in the family?
   (a) 1
   (b) 3
   (c) 2
   (d) 4
   (e) None of these

39. Who is the mother of M?
   (a) O
   (b) Q
   (c) P
   (d) L
   (e) None of these

40. How many children does L have?
   (a) one
   (b) two
   (c) three
   (d) four
   (e) None of these

41. Read the following statements carefully and answer the questions given below.
   (A) A×B means A is the brother of B
   (B) A+B means A is the father of B
   (C) A+B means A is the sister of B

   Which of the following represents X is the uncle of Y?
   (a) X+D+Y
   (b) X×D+Y
   (c) X+D×Y
   (d) X+D+Y
   (e) None of these

42. Abha is the niece of Manish. Manish's mother is Riya. Vimla is Riya's mother. Vimla's husband is Rishi. Saroj is the mother-in-law of Rishi. How is Abha related to Rishi?
   (a) Daughter
   (b) Great grand daughter
   (c) Grand niece
   (d) Great grandson's daughter
   (e) None of these

43. Examine the following relationships among members of a family of six persons – P, Q, R, S, T and U.
   1. The number of males equals that of females
   2. P and T are sons of U.
   3. S is the mother of, one boy and one girl
   4. Q is the son of P.
   5. There is one married couple in the family at present.

   Which one of the following inferences can be drawn from the above?
   (a) P, Q and R are all females
   (b) P is the husband of S.
   (c) S is the grand daughter of U.
   (d) T and U are children of S.

Direction (44 - 47) : Study the information given below to answer these questions:

P is the father of two children Q and R, who are of different sexes.
S is Q's spouse T, is of the same sex as R.
Q and S have two children : U, who is of the same sex as Q, and V, who is of the same sex as S. T's mother X, who is married to Y, is the sister of R's mother, Z.

T and T's spouse A, have two children B and C, who are of the same sex as A.

No person has married more than once and no children have been born out of wedlock.

The only restriction on marriage are that marriage to a sibling, to a direct descendant, or to more than one person at the same time are forbidden.

44. According to the rules, R can marry
   (a) U only
   (b) V only
   (c) B or C
   (d) U, B or C
   (e) None of these

45. If the generation of U and C's parents and their siblings contains more females than males, then which of the following must be false?
   (a) C and U are of the same sex
   (b) P is of the same sex as R
   (c) B is a male
   (d) None of these
   (e) All of these

46. U is -
   (a) V's sister
   (b) R's niece or nephew
   (c) V's brother
   (d) Q's daughter
   (e) None of these

47. If Y and X divorced, then X could marry
   I. R only
   II. U
   III. R or V
   (a) I only
   (b) II only
   (c) III only
   (d) II or III, but not both
   (e) None of these

Direction (48 - 50) : Read the following information carefully and answer the questions that follow:

In a village of Morena district in Madhya Pradesh, only two types of people live who belong to a tribal class. The first type is known as class X, while the other is known as class Y. The activities of both types of people are governed by perfectly patterned norms of social behaviour. Each person of the tribe has to obey the norms. They are rigid about this.

As far as marriage is concerned, the following norms are to be followed:

(a) The people of class X cannot marry any other member of their own class, though they can marry members of class Y.

(b) After being married, each male member ceases to be a member of that class in which he was born but automatically, he becomes the member of the other class to which his wife belongs.
(c) As far as females are concerned, they remain the members of their own class after being married.

(d) On his birth, the child automatically becomes the members of his mother’s class.

(e) When any male member becomes widower or divorcee, then he again belongs to the group in which he was born.

(f) Nobody can marry more than one person according to social laws.

48. Any class $Y$ female can have
   (P) Grandfather born in class $X$
   (Q) Grandmother born in class $X$
   (a) Only (P) can be true
   (b) Only (Q) can be true
   (c) Either (P) or (Q) can be true
   (d) Neither (P) nor (Q) can be true
   (e) None of these

49. One boy, who was born in class $Y$ (boy and his wife can have married and unmarried brothers),
   (a) can have his daughter in class $Y$
   (b) can have a son-in-law born in class $X$
   (c) can have his uncle from any class
   (d) can have a divorced son in class $Y$
   (e) None of these

50. Which of the following marriages is not permissible according to the social laws?
   (a) Any girl of class $Y$ marriage his mother’s brother.
   (b) Any widower marriage his wife’s sister.
   (c) Any boy of class $Y$ marriage his father’s sister.
   (d) Any widower born in class $X$ marriage his brother’s widow.
   (e) None of these
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