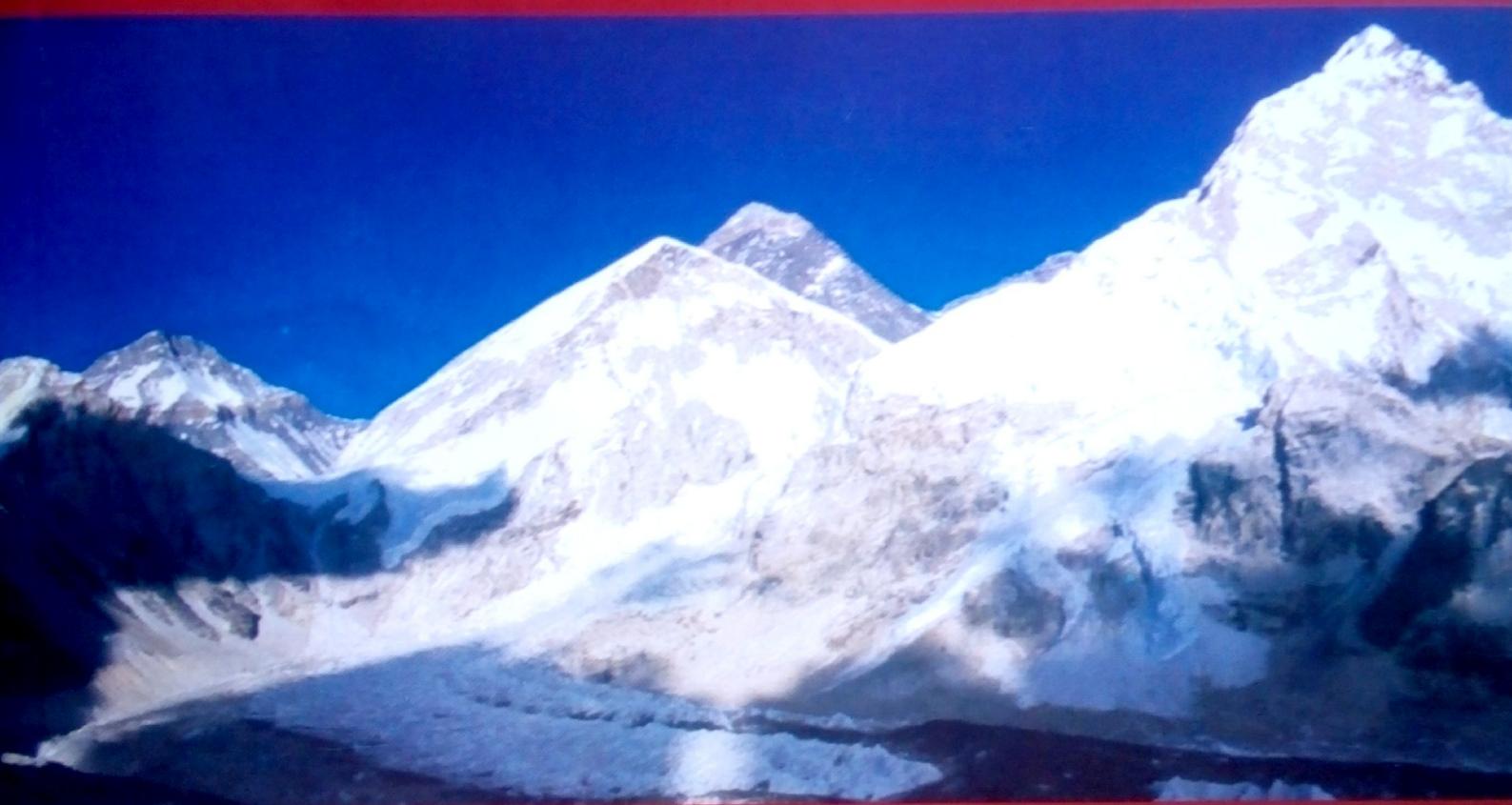


# Reasoning



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# REASONING

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## Contents

1. ODD ONE OUT .....	1-7
2. PAIR FORMATION .....	8-11
3. CODED EQUATION .....	12-17
4. CODING - DECODING .....	18-23
5. PROBLEM BASED ON ENGLISH ALPHABETS .....	24-30
6. DIRECTION TEST .....	31-42
7. BLOOD RELATION .....	43-52
8. CODED RELATION SHIP .....	53-62
9. SITTING ARRANGEMENT .....	63-74
10. SITTING ARRANGEMENT QUESTION BASED ON LATEST PATTERN .....	75-83
11. RANKING ARRANGEMENT .....	84-90
12. PUZZLE - I .....	91-93
13. PUZZLE - II .....	94-97
14. PUZZLE - III .....	98-103
15. PUZZLE QUESTION BASED ON LATEST PATTERN .....	104-110
16. CALENDAR .....	111-119
17. CLOCK .....	120-133
18. NUMBER SERIES .....	134-139
19. MISSING NUMBER .....	140-146
20. VEN DIAGRAM .....	147-154
21. DICE .....	155-161
22. CUBE & CUBOID .....	162-172
23. SYLLOGISM .....	173-188

# 1

## ODD ONE OUT

In this type of questions five items are given out of which four are same in some manner or meaning and only one item is different from the other four. You have to select the odd item as your answer.

### Example.

1. In the following question, four words are alike in some manner, and make a group. Choose the one item which does not fit in the given group.

(1) Parrot    (2) Bat    (3) Crow  
(4) Sparrow    (5) Pigeon

### Answer with Explanations:

Here, all except Bat, belong to the class of aves (Birds) while Bat is a mammal. Hence the answer is (2).

2. In the following question, four words are alike in some manner, and make a group. Choose this one which does not fit in the given group.

(1) Kanpur    (2) Allahabad    (3) Varanasi  
(4) Mathura    (5) Haridwar

### Answer with Explanations:

Here, all except Mathura are cities situated on the banks of Ganga river. Hence the answer is (4).

3.

In the following question, five number are given, four of which are alike in a certain way but the remaining one is different. Choose the one which is different from the other four.

(1) 121    (2) 137    (3) 153  
(4) 177    (5) 183

### Answer with Explanations:

121 is the only perfect square number in the group. Others are non-perfect square numbers. Hence the answer is (1).

4. Choose the number pair/group which is different from others?

(1) 2 - 8    (2) 3 - 27    (3) 4 - 32  
(4) 5 - 25    (5) 6 - 216

### Answer with Explanations:

In all other pairs, second number is the cube of the first. But it is not true for option (3). Hence the answer is (3).

Choose the group of letters which is different from others.

(1) AOT    (2) CPA    (3) REB  
(4) TIW    (5) QOD

### Answer with Explanations:

In all others groups except (2), the middle letter is a vowel. Hence the answer is (2).

**Exercise:**

1. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Teacher      (2) Engineer  
(3) Architect      (4) Doctor  
(5) Scientist
2. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Listen      (2) Feel  
(3) Think      (4) Sing  
(5) Hear
3. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Anxiety      (2) Anger  
(3) Sorrow      (4) Joy  
(5) Feeling
4. Four of the following five words are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Three      (2) Four  
(3) Five      (4) Six  
(5) Nine
5. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Anxiety      (2) Worry  
(3) Inhibition      (4) Curiosity  
(5) Weariness
6. Four of the following five are alike in a certain way and hence form a group. Find the one which is different from the other four.  
(1) Rice      (2) Wheat  
(3) Barley      (4) Mustard  
(5) Bajra
7. Four of the following five are alike in a certain way and hence from a group. Find the one which is different from the other four.  
(1) Arrow      (2) Sword  
(3) Knife      (4) Axe  
(5) Pistol
8. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Pear      (2) Jackfruit  
(3) Watermelon      (4) Papaya  
(5) Mango
9. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Pencil      (2) Sharpener  
(3) Blackboard      (4) Chalk  
(5) Pen
10. Four of the following five are alike in a certain way and so form a group. Which is one that does not belong to that group?  
(1) Tortoise      (2) Frog  
(3) Rat      (4) Mongoose  
(5) Snake
11. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Swan      (2) Crocodile  
(3) Frog      (4) Snake  
(5) Chicken
12. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Coriander      (2) Potato  
(3) Beetroot      (4) Onion  
(5) Ginger
13. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Crow      (2) Vulture  
(3) Bat      (4) Ostrich  
(5) Eagle
14. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Volume      (2) Size  
(3) Large      (4) Shape  
(5) Weight
15. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) Mars      (2) Sun  
(3) Saturn      (4) Mercury  
(5) Venus



31. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) Tarapur      (2) Kota  
 (3) Kalpakkam    (4) Paradwip  
 (5) Narora
32. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) Indigo      (2) Orange  
 (3) Yellow      (4) Pink  
 (5) Green
33. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) Copper      (2) Zinc  
 (3) Brass      (4) Aluminum  
 (5) Iron
34. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) Bake      (2) Peel  
 (3) Fry      (4) Boil  
 (5) Roast
35. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) Gurudwara    (2) Mosque  
 (3) Church      (4) Monastery  
 (5) Temple

Answers with explanations

- 1; All the rest are exclusive professions while a teacher may be there in any of these categories.
- 4
- 5; All others are specific feelings.
- 5; All others are consecutive numbers.
- 4; All others are negative.
- 4; Except 'mustard' each belongs to the same category, viz foodgrains. Mustard is an oilseed.
- 1; All others are held in the hand and not shot out.
- 2; All others are fruits.
- 2; Except it all others are used for writing purpose.
- 5; All others have feet.
- 5; Chicken is young one of hen.
- 1; Except it others are obtained below the ground.
- 3; Except it others are birds whereas bat is a mammal.
- 3; Others are related to physical measurement.
- 2; All except Sun are planets, while sun is a star.
- 5; Others are wild animals.
- 3; Others are the products made from milk.
- 5; Except it others are synonymous to one-another.
- 5; Others are related with time.
- 4; All except Gandhi are founders of religions.
- 1; All others denote various feelings.
- 5; Fox is a wild animal.
- 1; All except Tomato grow underground.
- 2; All except Appendix are bones, while appendix is an organ.
- 2; All except Lama are milk-yielding animals.
- 5; All except Crocodile are mammals, while crocodile is a reptile.
- 5; All except Gangtok are animal sanctuaries, while Gangtok is the capital city of Sikkim.
- 3; All except Astrology are branches of biology.
- 2; All except Disco are Indian forms of dance.
- 2; All except Cretinism are deficiency diseases, while Cretinism is a hormonal disease.
- 4; All except Paradwip are atomic power stations, while Paradwip is a port.
- 4; All except Pink are the colours seen in a rainbow.
- 3; Here, all except Brass are metal, while Brass is an alloy.
- 2; Here, all except Peel are different forms of cooking.
- 4; All except Monastery are places of worship, while monastery is a place where monks stay.

### **ODD ONE OUT-2**

1. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) 120      (2) 5040      (3) 40320  
(4) 720      (5) 52480
2. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to the group?  
(1) 331654729      (2) 381154729  
(3) 381654729      (4) 381664792  
(5) 381654722
3. Four of the following are alike in a certain way and so form a group. Which is the one that does not belong to the group?  
(1) 12      (2) 14      (3) 18  
(4) 20      (5) 22
4. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) 91      (2) 46      (3) 37  
(4) 73      (5) 62
5. Four of the following five are alike in a certain way and so form a group. Which one of the following does not belong to that group?  
(1) 126      (2) 122      (3) 65  
(4) 50      (5) 170
6. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to the group?  
(1) 169      (2) 179      (3) 135  
(4) 149      (5) 151
7. Four of the following five are alike in a certain way and so form a group. Which one of the following is different from the group?  
(1) 226      (2) 290      (3) 360  
(4) 176      (5) 122
8. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) 131      (2) 133      (3) 143  
(4) 87      (5) 57
9. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) 168      (2) 728      (3) 290  
(4) 380      (5) 120
10. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) 29      (2) 85      (3) 147  
(4) 125      (5) 53
11. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) 72      (2) 42      (3) 152  
(4) 110      (5) 156
12. Four of the following are similar in some respect. Find the odd one?  
(1) 143      (2) 63      (3) 195  
(4) 15      (5) 257
13. Four of the following are similar in some respect. Find the odd one?  
(1) 126      (2) 217      (3) 345  
(4) 513      (5) 730
14. Four of the following are similar in some respect. Find the odd one?  
(1) 13      (2) 107      (3) 47  
(4) 97      (5) 231
15. Four of the following are similar in some respect. Find the odd one out.  
(1) 1728      (2) 4913      (3) 13824  
(4) 12067      (5) 35937
16. Four of the following are similar in some respect. Find the odd one?  
(1) 7      (2) 3      (3) 18  
(4) 12      (5) 4
17. Four of the following five are alike in a certain way and so form a group. Which one of the following does not belong to that group?  
(1) 123      (2) 25      (3) 341  
(4) 218      (5) 62
18. Four of the following five are alike in a certain way and so form a group. Which one of the following does not belong to that group?  
(1) 13      (2) 29      (3) 38  
(4) 8      (5) 20
19. Four of the following five are alike in a certain way and so form a group. Which one of the following does not belong to that group?  
(1) 7      (2) 5      (3) 9  
(4) 17      (5) 33
20. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
(1) 5625      (2) 676      (3) 4096  
(4) 729      (5) 64

21. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) 62-37    (2) 74-40    (3) 85-60  
 (4) 103-78    (5) 37-12
22. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) 81-243    (2) 16-64    (3) 64-192  
 (4) 25-75    (5) 9-27
23. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) 95-82    (2) 69-56    (3) 55-42  
 (4) 48-38    (5) 100-87
24. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) 7-18    (2) 9-26    (3) 11-36  
 (4) 13-42    (5) 20-70
25. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) 15-46    (2) 12-37    (3) 9-28  
 (4) 8-33    (5) 20-61
26. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) 9:32    (2) 13:44    (3) 8:30  
 (4) 10:54    (5) 7:26
27. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) 27:72    (2) 65:56    (3) 45:54  
 (4) 13:31    (5) 42:52
28. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) 16-40    (2) 18-45    (3) 14-28  
 (4) 1-20    (5) 10-25
29. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) KLL    (2) DED    (3) GHG  
 (4) ABA    (5) BCB
30. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) JSAFE    (2) ZGPKU    (3) ERMTH  
 (4) LANCP    (5) OPLQS
31. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) UHRNI    (2) HBOKL    (3) KLTNV  
 (4) AIJBY    (5) TRPOV
32. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) ORYJ    (2) IMTD    (3) FCGNX  
 (4) JNUE    (5) AELV
33. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) URINE    (2) USAGE    (3) USUAL  
 (4) UNDER    (5) UKASE
34. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) SPREAD    (2) VAULT    (3) CREAM  
 (4) SPREE    (5) PAINT
35. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) VIDEO    (2) AUDIO    (3) AWARE  
 (4) ARISE    (5) ALERT
36. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) TRAIN    (2) WHEAT    (3) BRAIN  
 (4) PROUD    (5) DRIVER
37. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) BEH    (2) CFI    (3) DGJ  
 (4) EHL    (5) FIL
38. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) KRTSINSA (2) PENAL    (3) RUUD  
 (4) IDHNI    (5) ROAST
39. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) NCDT    (2) BRSF    (3) ZGHV  
 (4) AQDM    (5) OPQT
40. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
 (1) PUT    (2) END    (3) OWL  
 (4) ARM    (5) ACT

### Answers with explanation

1. 5;  $5! = 120$ ;  $7! = 5040$   
 $8! = 40320$   $6! = 720$ . But 52480 is not the value of the factorial of any natural number.
2. 3; Except it others are written with the help of eight digits only.
3. 5; Except it, reducing each number by 1, will give result in the form of a prime number.  
 $12 - 1 = 11$  (Prime no.);  $14 - 1 = 13$  (Prime no.);  
 $18 - 1 = 17$  (Prime no.);  $20 - 1 = 19$  (Prime no.);  
But  $22 - 1 = 21$  (It is not a prime no.).
4. 5; Sum of the digits of other numbers is equal to ten.
5. 1; The rest are based on the expression  $x^2 + 1$ .  
But  $126 = 11^2 + 5$ .
6. 1; The rest are not squares of a number.
7. 3; After a close look you will get that except 360 each number is one more than square of a natural number, ie  
 $226 = 15^2 + 1$ ;  $290 = 17^2 + 1$ ;  $170 = 13^2 + 1$ ;  
 $122 = 11^2 + 1$
8. 1; Except it all others are non prime numbers.
9. 4; Except it other numbers are either 1 less or 1 more than a perfect square number.
10. 3; All other numbers are in the form of  $n^2 + 4$  where n is a natural number.
11. 3;  $72 = 9^2 - 9$ ;  $42 = 7^2 - 7$ ;  $152 = 12^2 + 8$ ;  $110 = 11^2 - 11$ ;  $156 = 13^2 - 13$ .  
Except 152, others show the trend  $x^2 - x$ .
12. 5; The given numbers can be written as follows:  
 $143 = 12^2 - 1$ ;  $63 = 8^2 - 1$ ;  $195 = 14^2 - 1$ ;  
 $15 = 4^2 - 1$  But  $257 = 16^2 + 1$   
Obviously, except 257 others can be written in the form  $x^2 - 1$ .
13. 3; Except it others can be written in the form  $x^3 + 1$ .
14. 5; The rest are prime nos. 231 is divisible by 3.
15. 4; The rest are the cube of some numbers.  
 $1728 = (12)^3$ ,  $4913 = (17)^3$ ,  $13824 = (24)^3$ ,  
 $35937 = (33)^3$
16. 3; The nos. are based on the expression  $x^2 + 3$ . Putting  $x = 0, 1, 2, \dots$  we can get these nos. except 18.
17. 4; The rest are based on the expression  $x^3 - 2$ .
18. 3; The nos are based on the expression  $n^2 + 4$ .
19. 1; All the other numbers are in the form of  $2^n + 1$  where n is a natural number.
20. 2; Except (2) perfect cube root of all the numbers are possible.
21. 2; Except (2) the difference between the given numbers is 25.
22. 2; Except (2) in all the options the second number is three times of the first number.
23. 4; Except (4) in all the options the first number is 13 more than the first number.
24. 3; Except (3) in all the options the second number = (First number  $\times 4 - 10$ ).
25. 4; Except (4) in all the options the second number = (First number  $\times 3) + 1$ .
26. 3; Except (3) in all the options the second number = (First number  $\times 3 + 5$ ).
27. 5; Except (5) in all the options the given number Interchange their position like  
~~27 : 72~~  
Interchange
28. 3; Except (3) in all the options the second number = (First number + Half of first number).
29. 1
30. 1; Except (1) in the options one vowel is used.
31. 1; Except (1) in all the positions two letters are in ascending order. For example 'KL' is in ascending order in option (2) and (3), 'IJ' is in ascending order in option (4) and 'PO' is in ascending order in option (5).
32. 1; Except (1) in all the options letters are in increasing order + 4, +7, + 10.... from left to right.
33. 5; Except (5) in all the options the letters have meaningful word.
34. 4; Except (4) in all the options two different vowels are used and in the option (4) only one vowel 'E' is used twice.
35. 3; In (3) the vowel 'A' is used twice.
36. 5; Except (5) two vowels are used together in all the options.
37. 3; Except (3) in all the positions one vowel is used.
38. 3; Except (3) in all the positions vowel 'U' is used twice.
39. 4; Except (4) in all other options the two letters in the middle are consecutive.
40. 1; Except (1) in all the options, words are starting with vowel.

2

## **PAIR FORMATION**

**Let us look at the different types of the format 4. of the question related with this topic.**

## **FORMAT OF THE QUESTIONS :**

1. How many pairs of letters are there in the word STUDENT, which have the same number of letters between them as in the English alphabet?

(1) Five      (2) Six      (3) Seven  
(4) More than seven    (5) None of these

**Answer 1:**



In this question you have to look such pairs in both ways i.e from left to right and from right to left.

2. How many pairs of letters are there in the word POPULATION, which have the same number of letters between them as in the English alphabet ?

(1) Five      (2) Six      (3) Seven  
(4) Ten      (5) None of these

### **Answer 4;**



In this question you have to look such pairs in both ways i.e from left to right and from right to left.

3. How many pairs of letters are there in the word SPONTANEOUS which have number of letters between them in the word one less than the number of letters between them in English alphabet?

(1) Five      (2) One      (3) Four  
(4) Two      (5) Three

### **Answer 1;**



**In each shown pairs there is one letter less than the number of letters between them in English alphabet.**

- ~~How many pairs of letters are there in the word ANTEDILUVIAN which have number of letters between them in the word one more than the number of letters between them in English alphabet?~~

- (1) One      (2) Two      (3) Three  
(4) Four      (5) None of these

### **Answer 3:**

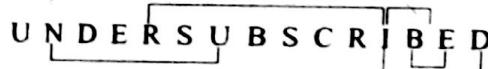


In each shown pairs there is one letter more than the number of letters between them in English alphabet.

- How many pairs of letters are there in the word **UNDERSUBSCRIBED** which have number of letters between them in the word two less than the number of letters between them in English alphabet?

- (1) one      (2) two      (3) three  
(4) four      (5) more than four

**Answer 5;**



In each shown pairs there is two letters less than the number of letters between them in English alphabet.

6. How many pairs of letters are there in the word VALETUDINARIAN which have number of letters between them in the word two more than the number of letters between them in English alphabet?



### **Answer 1;**



Such pairs are VT, LI, ED, UR, EA, IA, RL and DA.

- In each shown pairs there is two letters more than the number of letters between them in English alphabet.

7. Which pair of the letters in the word BEAUTIFUL has the same relationship between its letters with respect to their position in the English alphabet as the pair EA in that word has between its letters?
- (1) IB      (2) LF      (3) IE  
 (4) FL      (5) TL

**Answer 3;**

B E A U T I F U L

In English alphabet there are three letters between A and E. Similarly, there are only three letters between E and I.

8. How many pairs of letters are there in the word STUDENT which have the same number of letters between them as in the English alphabet sequence?
- (1) Five      (2) Six      (3) Seven  
 (4) More than seven      (5) None of these

**Answer 5;**

S T U D E N T

In this question you have to look such pairs according to English alphabet sequence. Therefore, you have to count from left to right only.

9. How many pairs of digits are there in the number 189254367 which have the same number of digits between them as in the number sequence?
- (1) Five      (2) Six      (3) Seven  
 (4) More than seven      (5) None of these

**Answer 4;**

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

In this question you have to look such pairs according to number sequence. Therefore, you have to count from left to right only.

10. How many pairs of digits are there in the number 4683752 which have the same

number of digits between them as in the number sequence?

- (1) None      (2) One      (3) Two  
 (4) Three      (5) None of these

**Answer 2;** 4 6 8 3 7 5 2

In this question you have to look such pairs according to number sequence. Therefore, you have to count from left to right only.

11. How many such pairs of digits are there in the number 254983 each of which has as many digits between them in the number as when the digits are rearranged in descending order within the number?
- (1) None      (2) One      (3) Three  
 (4) Five      (5) More than five

**Answer 5;**

2 5 4 9 8 3

9 8 5 4 3 2

12. The positions of how many digits in the number 5321648 will remain unchanged after the digits are rearranged in ascending order within the number?
- (1) None      (2) One      (3) Two  
 (4) Three      (5) More than three

**Answer 2;**

Given Number : 5 3 2 1 6 4 8  
 Ascending Order : 1 2 3 4 5 6 8

Position of only one digit '8' remains unchanged.

13. The positions of how many digits in the number 5 9 1 6 4 8 2 3 will remain unchanged after the digits are rearranged in descending order within the number?

- (1) None      (2) One      (3) Two  
 (4) Three      (5) More than three

**Answer 3;**

Given Number : 5 9 1 6 4 8 2 3  
 Descending Order : 9 8 6 5 4 3 2 1

Positions of 4 and 2 remain unchanged.

**Exercise:**

1. How many pairs of letters are there in the word DIPLOMACY which have the same number of letters between them as in English alphabet?  
(1) Three    (2) Four    (3) Five  
(4) Six       (5) None of these
2. How many pairs of letters are there in the word POPULATION which have the same number of letters between them as in English alphabet?  
(1) Five      (2) Six      (3) Seven  
(4) More than seven    (5) None of these
3. How many pairs of letters are there in the word PROBATIONARY which have as many letters between them as in the English alphabet?  
(1) Two      (2) Three    (3) Four  
(4) Five      (5) None of these
4. How many pairs of letters are there in the word MEDITATION which have the same number of letters between them as in English alphabet?  
(1) Three    (2) Four    (3) Five  
(4) Six       (5) None of these
5. How many pairs of letters are there in the word GUIDELINES which have the same number of letters between them as in English alphabet?  
(1) Three    (2) Five    (3) Six  
(4) Four      (5) None of these
6. How many pairs of letters are there in the word SECRETARIES which have the same number of letters between them as in English alphabet?  
(1) Two      (2) Three    (3) Four  
(4) Five      (5) None of these
7. How many pairs of letters are there in the word WASTEBASKET which have the same number of letters between them as in English alphabet?  
(1) Four      (2) Five    (3) Six  
(4) Seven     (5) None of these
8. How many pairs of letters are there in the word ROMANTICISM which have the same number of letters between them as in English alphabet?  
(1) Four      (2) Five    (3) Six  
(4) Seven     (5) None of these
9. How many pairs of letters are there in the word TECHNOCRATIC which have the same number of letters between them as in English alphabet?  
(1) Four      (2) Five    (3) Six  
(4) Seven     (5) None of these
10. How many pairs of letters are there in the word COMMERCIAL which have as many letters between them as in the alphabet?  
(1) Five      (2) Six      (3) Seven  
(4) Eight     (5) None of these
11. How many pairs of letters are there in the word PRAKASHAN which have the same number of letters between them as in English alphabet?  
(1) Two      (2) Three    (3) Four  
(4) Nil       (5) None of these
12. How many pairs of letters are there in the word SUPPOSITION which have the same number of letters between them as in English alphabet?  
(1) Four      (2) Five    (3) Six  
(4) Seven     (5) None of these
13. How many pairs of letters are there in the word STATIONMASTER which have the same number of letters between them as in English alphabet?  
(1) Four      (2) Five    (3) Six  
(4) Seven     (5) None of these
14. How many pairs of letters are there in the word PHARMACEUTICALS which have as many letters between them as in English alphabet?  
(1) Four      (2) Five    (3) Six  
(4) Seven     (5) None of these
15. How many pairs of letters are there in the word INTEGRATION which have the same number of letters between them as in English alphabet?  
(1) Four      (2) Five    (3) Six  
(4) Seven     (5) None of these
16. How many such digits are there in the number 27561493 each of which is as far away from the beginning of the number as when the digits are arranged in descending order within the number?  
(1) None     (2) One     (3) Two  
(4) Three    (5) More than three

17. In the number 7524693 how many digits will be as far away from the beginning of the number if digits are arranged in ascending order as they are in the number?  
 (1) None    (2) One    (3) Two  
 (4) Three    (5) More than three
18. In the number 254983 how many digits are there which have as many digits in between them as there are in the number when arranged in descending order?  
 (1) None    (2) One    (3) Two  
 (4) Three    (5) More than three
19. In the number 59164823 how many digits will be as far away from the beginning of the number if digits are arranged in descending order as they are in the number?  
 (1) None    (2) One    (3) Two  
 (4) Three    (5) More than three
20. In the number 5321648 how many digits will be as far away from the beginning of the number if digits arranged in ascending order as they are in the number?  
 (1) None    (2) One    (3) Two  
 (4) Three    (5) More than three

6. 4; S E C R E T A R I E S

7. 5; W A S T E B A S K E T

8. 1; R O M A N T I C I S M

9. 1; T E C H N O C R A T I C

10. 3; C O M M E R C I A L

11. 5; P R A K A S H A N

12. 5; S U P P O S I T I O N

13. 5; S I A T I O N M A S T E R

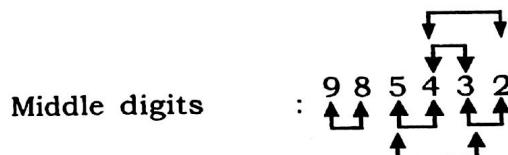
14. 2; P H A R M A C E U T I C A L S

15. 1; I N T E G R A T I O N

16. 2; Given Number : 2 7 5 6 1 4 9 3  
 Descending Order : 9 7 6 5 4 3 2 1

17. 1; Given Number : 7 5 2 4 6 9 3  
 Ascending Order : 2 3 4 5 6 7 9

18. 5; Given Number : 2 5 4 9 8 3



19. 3; Given Number : 5 9 1 6 4 8 2 3  
 Descending Order : 9 8 6 5 4 3 2 1

20. 2; Given Number : 5 3 2 1 6 4 8  
 Ascending Order : 1 2 3 4 5 6 8

#### Answers and Explanations:

1. 1; D I P L O M A C Y

2. 4; P O P U L A C Y

3. 2; P R O A C T I O N A R Y

4. 3; M E D I T A T I O N

5. 5; G U I D E L I N E S

# 3

## CODED EQUATION

1. If ' $\times$ ' means '+', ' $-$ ' means ' $\times$ ', ' $\div$ ' means ' $+$ ' and ' $+$ ' means ' $-$ ' then  
 $(3 - 15 \div 11) \times 8 + 7 = ?$   
 (1) 1      (2) 4      (3) 0  
 (4) 8      (5) None of these
2. If ' $+$ ' means ' $\div$ ', ' $\times$ ' means ' $-$ ', ' $\div$ ' means ' $\times$ ' and ' $-$ ' means ' $+$ ' then what will be the result of the following expression?  
 $9 + 3 \div 4 - 8 \times 12 = ?$   
 (1)  $-6\frac{1}{4}$       (2)  $6\frac{3}{4}$       (3) 18  
 (4)  $-1\frac{3}{4}$       (5) None of these
3. If ' $\times$ ' means ' $\div$ ', ' $-$ ' means ' $\times$ ', ' $\div$ ' means ' $+$ ' and ' $+$ ' means ' $-$ ' then  
 $(3 - 18 \div 11) \times 13 \div 8 = ?$   
 (1) 18      (2) 13      (3) 11  
 (4) 1      (5) None of these
4. If 'A' means ' $-$ ', 'B' means ' $\div$ ', 'C' means ' $+$ ' and 'D' means ' $\times$ ' then -  
 $25 B 5 C 24 A 2 D 12 = ?$   
 (1) 34      (2) 5      (3)  $-23\frac{4}{9}$   
 (4) 2      (5) None of these
5. If ' $\Delta$ ' means '+', ' $\square$ ' means ' $\times$ ', ' $\blacksquare$ ' means ' $\div$ ' and ' $\theta$ ' means ' $-$ ' then  
 $40 \blacksquare 8 \Delta 16 \square 4 \theta 13 = ?$   
 (1) 69      (2) 75      (3) 78  
 (4) 98      (5) None of these
6. If ' $+$ ' means ' $\div$ ', ' $\times$ ' means ' $+$ ', ' $-$ ' means ' $\times$ ' and ' $\div$ ' means ' $-$ ' then which of the following will be the correct equation?  
 (1)  $72 \div 6 - 3 \times 5 \div 3 = 38$   
 (2)  $72 \times 6 + 7 \div 2 - 6 = 24$   
 (3)  $72 \div 6 + 3 \times 5 - 3 = 45$   
 (4)  $72 - 6 + 3 \times 5 \div 3 = 64$   
 (5) None of these
7. If ' $-$ ' means '+', ' $+$ ' means ' $-$ ', ' $\times$ ' means ' $\div$ ' and ' $\div$ ' means ' $\times$ ' then which of the following will be the correct equation?  
 (1)  $10 + 5 - 14 \div 10 \times 15 = 158$   
 (2)  $30 + 5 + 14 - 10 \times 15 = 122$   
 (3)  $30 - 5 + 14 \div 10 \times 15 = 162$   
 (4)  $30 \times 5 - 4 \div 10 + 15 = 31$   
 (5) None of these
8. If ' $+$ ' means ' $\div$ ', ' $\times$ ' means ' $-$ ', ' $\div$ ' means ' $\times$ ' and ' $-$ ' means ' $+$ ' then  
 $18 + 6 \times 4 - 8 \div 4 = ?$   
 (1) 12      (2)  $\frac{20}{3}$       (3)  $-\frac{20}{3}$   
 (4) -12      (5) None of these
9. If ' $+$ ' means ' $\div$ ', ' $\times$ ' means ' $-$ ', ' $\div$ ' means ' $\times$ ' and ' $-$ ' means ' $+$ ' then  
 $27 + 3 \div 4 - 8 \times 12 = ?$   
 (1) 32      (2)  $6\frac{3}{4}$       (3)  $-1\frac{3}{4}$   
 (4)  $6\frac{1}{4}$       (5) None of these
10. If ' $\div$ ' means ' $\times$ ', ' $\times$ ' means ' $-$ ', ' $+$ ' means ' $\div$ ' and ' $-$ ' means ' $+$ ' then  
 $600 \div 5 + 15 - 20 \times 25 = ?$   
 (1) 25      (2) -27      (3) 195  
 (4) -45      (5) None of these
11. If ' $+$ ' means ' $\div$ ', ' $\times$ ' means ' $+$ ', ' $-$ ' means ' $\times$ ' and ' $\div$ ' means ' $-$ ' then which of the following will be the correct equation?  
 (1)  $24 + 8 - 7 \times 6 \div 4 = 25$   
 (2)  $20 \times 5 + 12 \div 6 \times 5 = 15$   
 (3)  $20 \div 5 + 6 \times 12 - 4 = 67\frac{1}{6}$   
 (4)  $50 - 4 + 8 \times 18 \div 6 = 21$   
 (5) None of these
12. If  $x$  means '+',  $y$  means ' $-$ ',  $z$  means ' $\times$ ' and  $p$  means ' $\div$ ' then  
 $(20 p 2 x 5 y 5) z 8 = ?$   
 (1) 5      (2) 10      (3) 15  
 (4) 20      (5) None of these

13. If '+' shows ' $\div$ ', '-' shows '=', ' $\times$ ' shows '+', ' $\div$ ' shows '>', '=' shows '<', '>' shows ' $\times$ ', and '<' shows '-' then the correct expression is-
- $5 + 2 \times 1 = 3 + 14 > 11$
  - $5 > 2 \times 1 - 3 > 4 < 1$
  - $5 \times 2 < 1 - 3 < 4 \times 11$
  - $5 < 2 \times 1 \div 3 > 4 \times 11$
  - None of these
14. If ' $\div$ ' shows '>', ' $\times$ ' shows '+', '+' shows ' $\div$ ', '-' shows '=', '>' shows ' $\times$ ', '=' shows '<', '<' shows '-' then which of the following will be the correct?
- $3 + 2 < 4 \div 6 > 3 \times 2$
  - $3 \times 2 < 4 \div 6 + 3 < 2$
  - $3 > 2 < 4 - 6 \times 3 \times 2$
  - $3 \times 2 \times 4 = 6 + 3 < 2$
  - None of these
15. If '+' means ' $\div$ ', ' $\div$ ' means ' $\times$ ', ' $\times$ ' means '-', '-' means '+', then which of the following will be the correct?
- $18 \div 6 - 7 + 5 \times 2 = 20$
  - $18 + 6 \div 7 \times 5 - 2 = 18$
  - $18 \times 6 + 7 \div 6 - 2 = 16$
  - $18 \div 6 \times 7 + 5 - 2 = 22$
  - None of these
16. If '-' means ' $\div$ ', '+' means ' $\times$ ', ' $\div$ ' means '+', ' $\times$ ' means '+', then which of the following will be the correct?
- $6 \div 20 \times 12 + 7 - 1 = 70$
  - $6 + 20 - 12 \div 7 \times 1 = 62$
  - $6 - 20 \div 12 \times 7 + 1 = 57$
  - $6 + 20 - 12 \div 7 - 1 = 38$
  - None of these
- Directions (17 - 20): Study the following information carefully to answer the given questions:**
- 'A \* B' means 'A  $\times$  B'.
  - 'A @ B' means 'A - B'.
  - 'A \$ B' means 'A + B'.
  - 'A # B' means 'A  $\div$  B'.
17. Rupesh donates 7% of his monthly salary 'R' and ₹ 3000 as rent of his house. What will remain with him after donating 7% and paying house rent?
- $R @ 3000 @ 7 * 100 # R$
  - $R @ 7 * R # 100 # 3000$
  - $R @ (R * 7 # 100 \$ 3000)$
  - $3000 \$ 7 * 100 # R @ R$
  - None of these
18. What will be the average of five continuous even numbers in which 'S' is the smallest number?
- $(S \$ 20) # 5$
  - $30 # S \$ 5$
  - $S \$ 4$
  - $S \$ 10 # 5$
  - None of these
19. If the price of 6 lemon is ₹ 5 then how much lemons can be purchased in ₹ 100.
- $6 * 5 # 100$
  - $100 * 6 # 5$
  - $100 \$ 6 # 5$
  - $6 * 100 @ 5$
  - None of these
20. The area of a circle is  $\frac{22}{7}$  times the square of its radius. How many times the surface area of 21 circle will be of radius (r cm)?
- $22 * r 7 * r # 21$
  - $22 # 21 * r * r$
  - $66 r^2 # 7$
  - $66 * r * r$
  - None of these
21. If R means  $\times$ , D means  $\div$ , A means + and S means -, then what is the value of  
95 D 19 R 11 S 28 A 17 ?
- 34
  - 46
  - 35
  - 48
  - None of these
22. If 'P' means ' $\times$ ', R means '+', 'T' means ' $\div$ ' and S means ' $\cdot$ ', then  
 $18 T 3 P 9 S 8 R 6 = ?$
- $-1\frac{1}{3}$
  - 46
  - 58
  - $\frac{2}{3}$
  - None of these
23. If ' $<$ ' means 'minus', ' $>$ ' means 'plus', ' $=$ ' means 'multiplied by', and ' $\$$ ' means 'divided by', then what would be the value of  
 $27 > 81 \$ 9 < 8 = 2 = ?$
- 20
  - 4
  - 8
  - 56
  - None of these

24. If 'P' means 'division', 'T' means 'addition', 'M' means 'subtraction', and 'D' means 'multiplication', then what will be the value of the following expression?  
 $12 M 12 D 28 P 7 T 15 ?$   
(1) -15      (2) 45      (3) -30  
(4) 15      (5) None of these
25. If '+' means 'divided by', '-' means 'added to', ' $\times$ ' means 'subtracted from' and ' $\div$ ' means 'multiplied by' then what is the value of  
 $24 \div 12 - 18 + 9 ?$   
(1) 15.30      (2) 290      (3) -25  
(4) 0.72      (5) None of these
26. If \$ means 'plus (+)', # means 'minus (-)', @ means 'multiplied ( $\times$ )', and \* means 'divided ( $\div$ )', then what is the value of ' $16 \$ 4 @ 5 # 72 * 8 ?$ '  
(1) 29      (2) 27      (3) 25  
(4) 36      (5) None of these
27. If '+' means '-', '-' means ' $\times$ ', ' $\times$ ' means ' $\div$ ' and ' $\div$ ' means '+' in the given equation, then  
 $[(217 \times 310) + (190 + 114))] - 100 \div 50 = ?$   
(1) 40      (2) 60      (3) 80  
(4) 100      (5) None of these
28. If 'L' means ' $\times$ ', 'M' means '+', 'N' means ' $\div$ ' and 'P' means '-' then  
 $1 4 N 2 L 7 P 2 5 M 1 = ?$   
(1) -25      (2) -23      (3) 25  
(4) 24      (5) None of these
29. If '+' means ' $\div$ ', ' $\div$ ' means '+', '-' means ' $\times$ ' and ' $\times$ ' means '+' then what is the value of  
 $6 \times 3 \div 2 - 2 + 5 = ?$   
(1)  $8\frac{1}{5}$       (2)  $2\frac{3}{5}$       (3) 3  
(4)  $4\frac{2}{7}$       (5) 5
30. If 'P' denotes '+', 'Q' denotes ' $\times$ ', 'R' denotes ' $\div$ ' and 'S' denotes '-' then  
 $18 Q 1 P R 5 S 6 = ?$   
(1) 51      (2) 57      (3) 53  
(4) 95      (5) 0
31. If '+' means '-', '-' means ' $\times$ ', ' $\times$ ' means ' $\div$ ' and ' $\div$ ' means '+' then, find the value of  
 $14 \times 3 \div 11 - 3 + 101 = ?$   
(1) 63.3      (2) -63.3      (3) 63.48  
(4) 63.3      (5) -63
32. If '\*' means ' $\times$ ', '#' means ' $\div$ ', '@' means ' $\div$ ' and '\$' means '+' then  
 $25 \# 5 \$ 3 * 4 @ 6 = ?$
33. If '-' means '+', '+' means ' $\times$ ', ' $\div$ ' means ' $\div$ ' and ' $\times$ ' means '+' then, which of the following equation is correct?  
(1) 12      (2) 15.3      (3) 22  
(4) 8      (5) None of these
34. If '+' is written as ' $\times$ ', '-' is written as ' $\div$ ', ' $\times$ ' is written as '-' and ' $\div$ ' is written as '+' then, what is the actual value of  
 $72 + 9 \times 45 - 5 + 42 - 6 ?$   
(1) 648      (2) 646      (3) 656  
(4) 636      (5) None of these
35. If 'P' means ' $\div$ ', 'Q' means ' $\times$ ', 'R' means ' $\div$ ' and 'S' means '+' then what will be the value of the following expression?  
 $8 Q 7 S 30 R 15 P 10$   
(1) 33      (2) 39      (3) 48  
(4) 49      (5) 42
36. If 'P' means '+', 'Q' means ' $\times$ ', 'R' means ' $\div$ ' and 'T' means '-' then what will be the value of  
 $120 R 15 Q 5 P 16 T 22 ?$   
(1) -34      (2) 16      (3) -35  
(4) 35      (5) 34
37. If '+' means ' $\div$ ', ' $\times$ ' means '+', '-' means ' $\times$ ' and ' $\div$ ' means '-' then what will be the value of  $800 + 20 - 4 \times 40 \div 10 ?$   
(1) 3984      (2) 984      (3) 3264  
(4) 190      (5) 200
38. If 'A' means ' $\times$ ', 'B' means ' $\div$ ', 'C' means ' $\div$ ' and 'D' means '-' then what is the value of  
 $180 B 15 D 11 C 8 A 10 ?$   
(1) -79      (2) 102      (3) 83  
(4) 92      (5) None of these
39. If '+' stands for ' $\div$ ', ' $\div$ ' stands for '+', '-' stands for ' $\times$ ' and ' $\times$ ' stands for ' $\div$ ' then, which one of the following equations is correct?  
(1)  $265 + 11 - 2 \times 14 = 22$   
(2)  $2 - 14 \times 4 \div 11 = 16$   
(3)  $46 - 10 + 10 \times 5 = 92$   
(4)  $66 \times 3 - 11 + 12 = 230$   
(5) None of these
40. If 'P' means ' $\times$ ', 'Q' means ' $\div$ ', 'R' means ' $\div$ ' and 'S' means ' $\div$ ' then what is value of  
 $154 Q 14 S 7 P 3 R 25 ?$   
(1) 35      (2) 57      (3) 42  
(4) 25      (5) None of these

**Answers with Explanation:**

1. 3; After changing signs according to the question, the new equation will be:

$$(3 \times 15 + 11) + 8 - 7$$

$$(45 + 11) + 8 - 7 = ?$$

$$56 + 8 - 7 = ?$$

$$7 - 7 = ?$$

$$\therefore ? = 0$$

2. 5; After changing signs according to the question, the new equation will be:

$$9 + 3 \times 4 + 8 - 12$$

$$3 \times 4 + 8 - 12 = ?$$

$$12 + 8 - 12 = ?$$

$$20 - 12 = 8$$

3. 2; After changing signs according to the question, the new equation will be:

$$(3 \times 18 + 11) + 13 + 8$$

$$= (54 + 11) + 13 + 8$$

$$= 65 + 13 + 8 = 5 + 8 = 13$$

4. 2; After changing signs according to the question, the new equation will be:

$$25 \div 5 + 24 - 2 \times 12$$

$$= 5 + 24 - 24 = 29 - 24 = 5$$

5. 5; After changing signs according to the question, the new equation will be:

$$40 \div 8 + 16 \times 4 - 13$$

$$= 5 + 16 \times 4 - 13$$

$$= 5 + 64 - 13 = 69 - 13 = 56$$

6. 1; After changing signs according to the question, the new equations will be:

Here,

$$(1) 72 \div 6 \times 3 + 5 - 3 = 38$$

$$(2) 72 + 6 \div 7 - 2 \times 6 = 6 \frac{6}{7}$$

$$(3) 72 - 6 \div 3 + 5 = 3 \frac{85}{7}$$

$$(4) 72 \times 6 \div 3 + 5 - 3 = 146$$

From option (1)

$$72 \div 6 \times 3 + 5 - 3$$

$$= 12 \times 3 + 5 - 3$$

$$= 36 + 5 - 3$$

$$= 41 - 3 = 38 \text{ (True)}$$

7. 4; After changing signs according to the question, the new equation will be:

Here,

$$(1) 10 - 5 + 14 \times 10 \div 15 = 14 \frac{1}{3}$$

$$(2) 30 - 5 - 14 + 10 \div 15 = 11 \frac{2}{3}$$

$$(3) 30 + 5 - 14 \times 10 \div 15 = 25 \frac{2}{3}$$

$$(4) 30 \div 5 + 4 \times 10 - 15 = 31$$

From option (4),

$$30 \div 5 + 4 \times 10 - 15$$

$$= 6 + 40 - 15$$

$$= 46 - 15 = 31 \text{ (True)}$$

8. 5; After changing signs according to the question, the new equation will be:

$$18 + 6 - 4 \times 3 + 4$$

$$= 3 - 4 \times 3 + 4 = 3 - 12 + 4$$

$$= 7 - 12 = -5$$

9. 1; After changing signs according to the question, the new equation will be:

$$27 \div 3 \times 4 + 8 - 12$$

$$= 9 \times 4 + 8 - 12$$

$$= 36 + 8 - 12 = 44 - 12 = 32$$

10. 3; After changing signs according to the question, the new equation will be:

$$600 \times 5 + 15 + 20 - 25$$

$$= 600 \times \frac{5}{15} + 20 - 25$$

$$= 40 \times 5 + 20 - 25 = ?$$

$$= 200 + 20 - 25 = ?$$

$$= 220 - 25 = 195$$

11. 3; After changing signs according to the question, the new equations will be:

$$(1) 24 \div 8 \times 7 + 6 - 4 = 23$$

$$(2) 20 + 5 \div 12 - 6 + 5 = 19 \frac{5}{12}$$

$$(3) 20 - 5 \div 6 + 12 \times 4 = 67 \frac{1}{6}$$

$$(4) 50 \times 4 \div 8 + 18 - 6 = 37$$

From option (3),

$$20 - 5 \div 6 + 12 \times 4$$

$$= 20 - \frac{5}{6} + 48 = 68 - \frac{5}{6} = 67 \frac{1}{6} \text{ (True)}$$

12. 1; After changing signs according to the question, the new equation will be:

$$(20 \times 2 + 5 - 5) \div 8$$

$$= (40 + 5 - 5) \div 8$$

$$= (45 - 5) \div 8 = 40 \div 8 = 5$$

13. 2; After changing signs according to the question, the new equations will be:

Here,

$$(1) 5 \div 2 + 1 < 3 \div 14 \times 11$$

$$\text{or, } 3.5 < 2 \frac{5}{14} \text{ (Incorrect)}$$

$$(2) 5 \times 2 + 1 = 3 \times 4 - 1 \text{ (Correct)}$$

$$(3) 5 + 2 - 1 = 3 - 4 + 11$$

or,  $9 = 10$  (Incorrect)

$$(4) 5 - 2 + 1 > 3 \times 4 + 11$$

or,  $4 > 23$  (Incorrect)

From option (2),

$$5 \times 2 + 1 = 3 \times 4 - 1$$

$= 11 = 11$  (True)

14. 2; After changing signs according to the question, the new equations will be:

Here,

$$(1) 3 \div 2 - 4 > 6 \times 3 + 2$$

or,  $-2.5 > 20$  (Incorrect)

$$(2) 3 + 2 - 4 > 6 \div 3 - 2$$

or,  $1 > 0$  (Correct)

$$(3) 3 \times 2 - 4 = 6 + 3 + 2$$

or,  $2 = 11$  (Incorrect)

$$(4) 3 + 2 + 4 < 6 \div 3 - 2$$

or,  $9 < 0$  (Incorrect)

From option (2),

$$3 + 2 - 4 > 6 \div 3 - 2 = 1 > 2 - 2 = 1 > 0$$

15. 2; After changing signs according to the question, the new equations will be:

$$(1) 18 \times 6 + 7 \div 5 - 2 = 107 \frac{2}{5}$$

$$(2) 18 \div 6 \times 7 - 5 + 2 = 18$$

$$(3) 18 - 6 \div 7 \times 6 + 2 = 14 \frac{6}{7}$$

$$(4) 18 \times 6 - 7 \div 5 + 2 = 108 \frac{3}{5}$$

From option (2),

$$18 \div 6 \times 7 - 5 + 2 = 3 \times 7 - 5 + 2$$

$$= 21 - 5 + 2 = 23 - 5 = 18$$

16. 1; After changing signs according to the question, the new equations will be:

$$(1) 6 - 20 + 12 \times 7 - 1 = 70$$

$$(2) 6 \times 20 \div 12 - 1 + 1 = 4$$

$$(3) 6 \div 20 - 12 \times 7 \times 1 = -4 \frac{7}{10}$$

$$(4) 6 \times 20 \times 12 - 7 \div 1 = 3$$

From option (1),

$$6 - 20 + 12 \times 7 \div 1$$

$$= 6 - 20 + 12 \times 7$$

$$= 6 - 20 + 84 = 90 - 20 = 70$$

17. 3; Remaining Amount.

$$= R - \left( \frac{7R}{100} + 3000 \right)$$

$$= R @ (R + 7 \# 100 \$ 3000)$$

18. 3; Sum of five continuous even numbers

$$= S + S + 2 + S + 4 + S + 6 + S + 8$$

$$= 5S + 20 = 5(S + 4)$$

$$\text{Average} = \frac{5(S + 4)}{5} = S + 4$$

$$= S + 4 = \$ 4$$

19. 2;  $\therefore$  In Rs. 5, 6 lemons can be purchased  
 $\therefore$  In Rs. 100, the number of lemons can be purchased

$$= \frac{6}{5} \times 100 = 100 * 6 \# 5$$

20. 4; Area of total 21 circles =  $21\pi r^2$

$$= 21 \times \frac{22}{7} \times r \times r$$

$$= 22 \times 3 \times r \times r$$

$$= 66 \times r \times r = 66 \# r \times r$$

21. 5; After changing signs according to the question, the new equation will be:

$$95 \div 19 \times 11 - 28 + 17$$

$$= 5 \times 11 - 28 + 17 = 55 - 28 + 17$$

$$= 55 + 17 - 28 = 72 - 28 = 44$$

22. 5; After changing signs according to the question, the new equation will be:

$$18 \div 3 \times 9 - 8 + 6$$

$$= 6 \times 9 - 8 + 6 = 54 - 8 + 6$$

$$= 60 - 8 = 52$$

23. 1; After changing signs according to the question, the new equation will be:

$$27 + 81 \div 9 - 8 \times 2$$

$$= 27 + 9 - 16 = 36 - 16 = 20$$

24. 5; After changing signs according to the question, the new equation will be:

$$12 - 12 \times 28 \div 7 + 15$$

$$= 12 - 12 \times 4 + 15 = 12 - 48 + 15$$

$$= 27 - 48 = -21$$

25. 2; After changing signs according to the question, the new equation will be:

$$24 \times 12 + 18 \div 9$$

$$= 24 \times 12 + 2 = 288 + 2 = 290$$

26. 2; After changing signs according to the question, the new equation will be:

$$16 + 4 \times 5 - 72 \div 8$$

$$= 16 + 4 \times 5 - 9$$

$$= 16 + 20 - 9 = 36 - 9 = 27$$

27. 5; We have

$$[(217 \times 310) + (190 + 114)] \times 190] - 100 \div 50$$

After changing signs according to the instruction in the question part, the new equation will be:

$$[(217 \div 310) - (190 - 114)] \div 190] \times 100 + 50$$

$$= \left[ \left\{ \frac{217}{310} - 76 \right\} \div 190 \right] \times 100 + 50$$

$$= \left[ \frac{-753}{10} \div 190 \right] \times 100 + 50$$

$$= -\frac{753}{1900} \times 100 + 50 = -39\frac{12}{19} + 50 = 10\frac{7}{9}$$

28. 3; After changing signs according to the question, the new equation will be:

$$14 \div 2 \times 7 - 25 + 1$$

$$= 7 \times 7 - 25 + 1 = 49 - 25 + 1$$

$$= 49 + 1 - 25 = 50 - 25 = 25$$

29. 1; After changing signs according to the question, the new equation will be:

$$6 + 3 - 2 \times 2 \div 5$$

$$= 6 + 3 - 2 \times \frac{2}{5} = 6 + 3 - \frac{4}{5} = 9 - \frac{4}{5}$$

$$= \frac{45 - 4}{5} = \frac{41}{5} = 8\frac{1}{5}$$

30. 3; After changing signs according to the question, the new equation will be:

$$18 \times 12 \div 4 + 5 - 6$$

$$= 18 \times 3 + 5 - 6$$

$$= 54 + 5 - 6 = 59 - 6 = 53$$

31. 2; After changing signs according to the question, the new equation will be:

$$14 \div 3 + 11 \times 3 - 101$$

$$= \frac{14}{3} + 33 - 101 = -63\frac{1}{3}$$

$$= -63.3333\dots = -63.\bar{3}$$

32. 3; After changing signs according to the question, the new equation will be:

$$25 - 5 + 3 \times 4 \div 6$$

$$= 25 - 5 + 3 \times \frac{2}{3} = 25 - 5 + 2$$

$$= 25 + 2 - 5 = 22 - 5 = 22$$

33. 4; From equation (4), After changing signs according to the question, the new equations will be:

$$(1) 36 - 12 + 6 - 3 \times 4 = -3$$

$$(2) 43 + 7 - 5 \times 4 \div 8 = 47\frac{1}{2}$$

$$(3) 36 + 4 \div 12 \times 5 - 3 = 34\frac{2}{3}$$

$$(4) 52 - 4 \times 5 + 8 \div 2 = 36$$

From option (4),

$$52 - 4 \times 5 + 8 \div 2$$

$$= 52 - 4 \times 5 + 4 = 52 - 20 + 4$$

$$= 52 + 4 - 20 = 56 - 20 = 36 \text{ (True)}$$

34. 5; After changing signs according to the question, the new equation will be:

$$72 \times 9 - 45 \div 5 + 42 \div 6$$

$$= 72 \times 9 - 9 + 7 = 648 - 9 + 7$$

$$= 655 - 9 = 645$$

35. 3; After changing signs according to the question, the new equation will be:

$$8 \times 7 + 30 \div 15 - 10$$

$$= 8 \times 7 + 2 - 10 = 56 + 2 - 10$$

$$= 58 - 10 = 48$$

36. 5; After changing signs according to the question, the new equation will be:

$$120 \div 15 \times 5 + 16 - 22$$

$$= 8 \times 5 + 16 - 22 = 40 + 16 - 22$$

$$= 56 - 22 = 34$$

37. 4; After changing signs according to the question, the new equation will be:

$$800 \div 20 \times 4 + 40 - 10$$

$$= 40 \times 4 + 40 - 10$$

$$= 160 + 40 - 10 = 200 - 10 = 190$$

38. 5; After changing signs according to the question, the new equation will be:

$$180 \div 15 - 11 + 8 \times 10$$

$$= 12 - 11 + 8 \times 10$$

$$= 12 - 11 + 80 = 92 - 11 = 81$$

39. 4; From equation (4) After changing signs according to the question, the new equations will be:

$$(1) 265 - 11 \times 2 \div 14 = 263\frac{3}{7}$$

$$(2) 2 - 14 \times 4 \div 11 = 16$$

$$(3) 46 - 10 + 10 \times 5 = 92$$

$$(4) 66 \div 3 \times 11 - 12 = 230$$

From option (4):

$$66 \div 3 \times 11 - 12$$

$$= 22 \times 11 - 12 = 242 - 12$$

$$= 230 \text{ (True)}$$

40. 5; After changing signs according to the question, the new equation will be:

$$154 \div 14 - 7 \times 3 + 25$$

$$= 11 - 7 \times 3 + 25 = 11 - 21 + 25$$

$$= 36 - 21 = 15$$

# 4

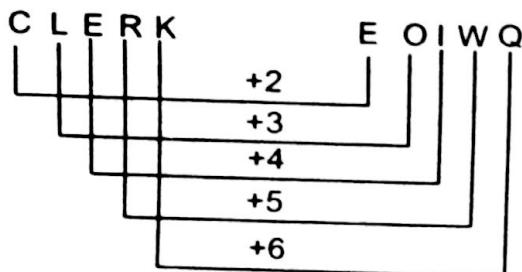
## CODING-DECODING

**CODING-DECODING :-** Coding-Decoding is a secret language, which is used to change the representation of the actual terms or value of given words/letters/digits. The language of coding-decoding can be of different types.

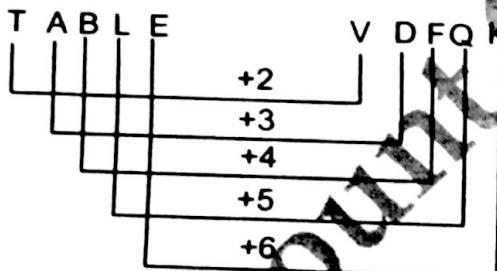
**Example (1)** In a certain language CLERK is written as EOIWQ. How is TABLE written in that code?

- (1) VCDNG
- (2) VCDGN
- (3) VDFQK
- (4) VDFOK

**Sol. (3):**



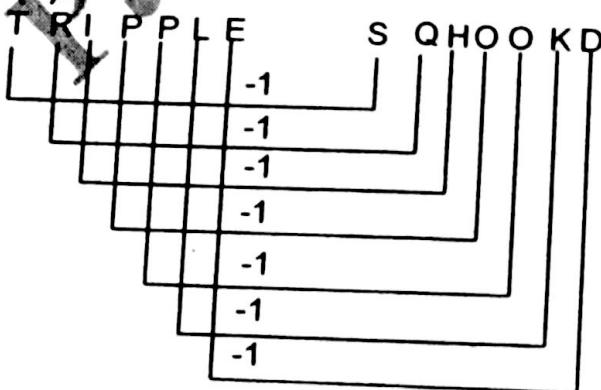
Similarly,



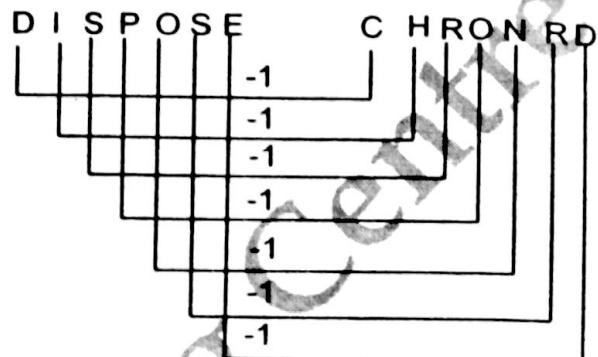
**Example (2)** In a certain language TRIPPLE is written as SQHOOKB. How is DISPOSE written in that code?

- (1) CHROMRD
- (2) CHROMSD
- (3) CHRONRD
- (4) CHROORD

**Sol. (3):**



Similarly,



**Example (3)** In a certain language TWENTY is written as 863985 and ELEVEN is written as 323039. How is TWELVE written in that code?

- (1) 863230
- (2) 863303
- (3) 836203
- (4) 863203

**Sol. (4):**

T W E N T Y  
8 6 (3) 9 8 5 ... (I)  
(E) L (E) V (E) N  
(3) 2 (3) 0 3 9 ... (II)

Here, according to equation (I) and (II), two letters E and N are common and the place value of E and N is 3 and 9. So the place value of other letters will be as follow : T = 8, W = 6, E = 3, N = 9, T = 8, Y = 5, L = 2, V = 0. Then, TWELVE = 863203.

**Example (4)** In a certain language ROPE is written as %57\$, DOUBT is written as 35#8\* and LIVE is written as @24\$. How is TROUBLE written in that code?

- (1) \*%5#8@\$
- (2) \*%#58@\$
- (3) \*%5#8@4
- (4) \*%#58\$@

**Sol. (1):**

R O P E      D O U B T      &      L I V E  
↓ ↓ ↓ ↓ ,      ↓ ↓ ↓ ↓ ↓      ↓  
% 5 7 \$ ,      3 5 # 8 \*      @ 2 4 \$

Therefore,

T R O U B L E  
↓ ↓ ↓ ↓ ↓ ↓  
\* % 5 # 8 @ \$

**Example (5)** In a certain language 'tom kun sud' means 'dogs are barking', 'kun jo mop' means 'dogs and horses' and 'mūt tom ko' means 'donkeys are mad'. Which word in that language means 'barking'?

- (1) sud      (2) kun  
 (3) hi      (4) tom

**Sol. (1):** In the first and second statements, the common code-word is 'kun' and the common word is 'dogs'. So 'kun' means 'dogs'.

In first and third statements, the common code-word is 'tom' and the common word is 'are'. So, 'tom' means 'are'. Thus in the first statement, 'sud' means 'barking'.

**Example (6)** If 'cages' are called 'rockets', 'rockets' are called 'traps', 'traps' are called 'planets', 'planets' are called 'aeroplanes', 'aeroplanes' are called 'cycles' and 'cycles' are called 'cars', what is Earth?

- (1) cycles      (2) rockets  
 (3) planet      (4) aeroplanes

**Sol. (4):** Earth is a 'planet' and here 'planets' are called 'aeroplanes'. So 'earth' will be called aeroplane.

**Example (7)** In each question below is given a group of letters followed by four combinations of digits/symbols numbered (a), (b), (3) and (d). You have to find out which of the combinations correctly represents the group of letters based on the following letter coding system and mark the number of that combination as the answer.

Letter : D L E G Z K R U B W F H I A P

Digit/symbol: 4 8 \$ 1 # 5 7 © 2 6 % \* 3 9 @

#### Conditions:

- (i) If the first letter is a vowel and the last is a consonant both are to be coded as the code of the consonant.
- (ii) If both first and the last letters are consonants, both are to be coded 'δ'
- (iii) If first letter is a consonant and last is a vowel the codes for first and last letters are to be interchanged.
- (i) ELBGPU (1) \$821@© (2) ©821@\$  
 (3) \$821©@ (4) \$812@©
- (ii) UHRKLZ (1) ©\*758© (2) ©\*758#  
 (3) #\*758# (4) \$%3462
- (iii) BFIDWE (1) 2%346\$ (2) %3426\$  
 (3) \$%3426 (4) \$2%634
- (iv) WKGLBA (1) 951862 (2) 651829  
 (3) 651892 (4) 951826

- (v) ZEFHIR (1) #\$\$%\*37 (2) δ \$\$%\*3δ  
 (3) 7\$\$%\*3# (4) #%%\*37

**Sol 7(i)-(1):** 
$$\begin{array}{ccccccc} & E & L & B & G & P & U \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ \$ & 8 & 2 & 1 & @ & © & \end{array}$$

Here, Condition (I) follows.

**(ii)-(3):** 
$$\begin{array}{ccccccc} & U & H & R & K & L & Z \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ # & * & 7 & 5 & 8 & # & \end{array}$$

Here, Condition (I) follows.

**(iii)-(4):** 
$$\begin{array}{ccccccc} & B & F & I & D & W & E \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ \$ & % & 3 & 4 & 6 & 2 & \end{array}$$

Here, Condition (III) follows.

**(iv)-(4):** 
$$\begin{array}{ccccccc} & W & K & G & L & B & A \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 9 & 5 & 1 & 8 & 2 & 6 & \end{array}$$

Here, Condition (IV) follows.

**(v)-(2):** 
$$\begin{array}{ccccccc} & Z & E & F & H & I & R \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ \delta & \$ & % & * & 3 & \delta & \end{array}$$

Here, Condition (II) follows.

#### Exercise:

1. In a certain code, TERMINAL is written as SDQLJOBM. How is CREDIBLE written in that code?  
 (1) BQDCJCMF (2) DSFEJCMF  
 (3) BQDCHAKD (4) DSFEHAKD  
 (5) None of these
2. In a certain code language LABOUR is written as KBAPTS. How is CANDID written in that code language?  
 (1) DBOEJE (2) DZOCJC  
 (3) BBMCHC (4) BBMEHE  
 (5) None of these
3. In a certain code language CONSUMER is written as ERUMNSCO. How will TRIANGLE be written in that code language?  
 (1) LENGIATR (2) ELNGIATR  
 (3) LEGNIATR (4) LEGNAITR  
 (5) None of these
4. In a certain code language BREAKDOWN is written as NWODKAERB. How will TRIANGLES be written in that code language?  
 (1) AIRTGNSEL (2) SELGNTRIA  
 (3) AIRTNSELO (4) SELGNAIRT  
 (5) None of these

5. In a certain code language BREAK, is written as 51342 and KITE is written as 2796. How will RIB be written in that code language ?

- (1) 175      (2) 176      (3) 185  
(4) 135      (5) None of these

6. In a certain code, 'SPRING' is written as '#%@4=' and 'GONE' is written as '=74@'. How would 'SIGN' be written in the same code?

- (1) #@4=      (2) 2@=4      (3) #@=4  
(4) #%=4      (5) None of these

7. In a certain code FIGHT is written as '39%@4' and TEARS is written as '458@\*'. How is STAGE written in that code?

- (1) \*4835      (2) \*48%5      (3) \*84%5  
(4) \*48@5      (5) None of these

8. In a certain code language 'tree is very beautiful' is written as 'ka na da ta' and 'this is strong tree' is written as 'na pa sa ka'. How is 'beautiful' written in that code language?

- (1) da      (2) ta      (3) sa  
(4) Data inadequate      (5) None of these

9. In a certain code language 'si po re' means 'book is thick', 'ti na re' means 'bag is heavy', 'ka si' means 'interesting book' and 'de ti' means 'that bag'. What should stand for 'that is interesting' in that code language?

- (1) ka re na      (2) de si re  
(3) ti po ka      (4) de re ka  
(5) None of these

10. If 'black' is called 'red', 'red' is called 'white', 'white' is called 'brown', 'brown' is called 'yellow', 'yellow' is called 'blue' and 'blue' is called 'green', then what is the colour of milk?

- (1) blue      (2) green      (3) white  
(4) red      (5) None of these

11. If 'green' is called 'white', 'white' is called 'yellow', 'yellow' is called 'blue', 'blue' is called 'pink' and 'pink' is called 'black', then what is the colour of milk?

- (1) green      (2) blue      (3) pink  
(4) yellow      (5) None of these

**Directions:-** In each of these questions a group of letters is given followed by four combinations of digit/symbol numbered (1), (2), (3) & (4). Letters are to be coded as per the scheme and conditions given below. You have to find out the serial number of the combination, which represents the letter group. Serial number of that combination is your answer. If none of the combinations is correct, your answer is (5) i.e. 'None of these'.

**12 - 17:**

Letters : F G A K M E S P L Q B U R I T

Digit/Symbol : 9 % 2 \$ \* 7 @ 8 1 6 5 © 4 # 3

**Conditions:**

- (i) If the first letter is a vowel and the last a consonant, both are to be coded as the code for the vowel.
- (ii) If the first letter is a consonant and the last a vowel, the codes for the first and the last letters are to be interchanged.
- (iii) If both the first and the last letters are consonants both are to be coded as 'δ'.
- (iv) If more than two vowels are there in the group of letters, all vowels are to be coded as £.

**12. TEFSUM**

- (1) δ 79@©δ      (2) 379@©\*      (3) \*79@©3  
(4) δ 79@δ©      (5) None of these

**13. BSQEGU**

- (1) 5@67%©      (2) δ@67%δ      (3) ©@67%©  
(4) 5@67©%      (5) None of these

**14. KAGFUB**

- (1) \$2%9©5      (2) 52%9©\$      (3) \$2%©95  
(4) δ 2%9©δ      (5) None of these

**15. AQUMTE**

- (1) 76©\*32      (2) £6£\*3£      (3) 26©\*32  
(4) 26©\*23      (5) None of these

**16. IPKUSR**

- (1) #8\$©@#      (2) 48\$©@#      (3) #8\$©@4  
(4) #8\$4@      (5) None of these

**17. MGSELI**

- (1) \*%@71#      (2) \*%@17#      (3) #%@71\*  
(4) %#@17\*      (5) None of these

**18 - 22:**

Digits : 9 2 1 7 5 3 6 4 8

Letters : B V M L D P A F R

Conditions for coding the group of digits:-

- If the first as well as the last digits are even, both are to be coded by the code for the first digit.
- If the first as well as the last digits are odd, both are to be coded by the code for the last digit.

18. 397416

- (1) PBLFMP (2) ABLFMA (3) PVLFMA  
(4) PBDFMA (5) None of these

19. 562183

- (1) PAVMRP (2) DAVMRD (3) PAVMRD  
(4) DAVMRP (5) None of these

20. 734192

- (1) DPFMBV (2) LPAMBV (3) LPFMVB  
(4) LPFMBV (5) None of these

21. 812354

- (1) RLVPDF (2) FMVPDF (3) RMVPDR  
(4) RMVADF (5) None of these

22. 627851

- (1) PULRDM (2) AVL RDM (3) AULRDM  
(4) ABLRDM (5) None of these

23 - 30:

Letter : B M K A T R E U N H F I W D P

Digit/Symbol : 7 % 5 © 6 9 8 2 @ # \$ 3 \* 4

Conditions :

- If the first letter is a vowel and the last letter is a consonant, both are to be coded as the code for the vowel.
- If the first letter is a consonant and the last letter is a vowel, codes for these two are to be interchanged.
- If both the first and the last letters are consonants, both are to be coded as the code for the last letter.

Now based on the above, find out the coded form of the letter groups given in each question.

23. NWDEF

- (1) #@3\*8# (2) #@3\*8# (3) #@3\*89  
(4) #3@8# (5) None of these

24. MATRBW

- (1) %©6973 (2) 3©6973 (3) %©697%  
(4) 3©697% (5) None of these

25. EDPKTA

- (1) 8\*456© (2) ©\*4568 (3)-8\*4569  
(4) 8\*546© (5) None of these

26. ABUHFI

- (1) ©217#\$ (2) ©721#© (3) \$721#\$  
(4) ©72#1\$ (5) None of these

27. WPTMBI

- (1) \$46%73 (2) 346%7\$ (3) 346%73  
(4) \$46%7\$ (5) None of these

28. FHITWU

- (1) #1\$63# (2) 21\$632 (3) #1#632  
(4) 21\$63# (5) None of these

29. HUBRE

- (1) 127\*98 (2) 12\*798 (3) 82\*791  
(4) 8\*2791 (5) None of these

30. IMPNWK

- (1) 5%4@3\$ (2) \$%4@35 (3) \$%4@3\$  
(4) 5%4@35 (5) None of these

31 - 36:

Letter : D L E G Z K R U B W F H I A P

Digit/Symbol : 4 8 \$ 1 # 5 7 © 2 6 % \* 3 9 @

Conditions :

- If the first letter is a vowel and the last is a consonant, both are to be coded as the code of the consonant.
- If both first and the last letters are consonants, both are to be coded as 'δ'.
- If first letter is a consonant and last is a vowel, the codes for first and last letters are to be interchanged.

31. ELBGPU

- (1) \$821@© (2) ©821@\$ (3) \$812©@  
(4) \$812@ (5) None of these

32. UHRKLZ

- (1) ©\*758© (2) ©\*758# (3) #\*758#  
(4) #\*758© (5) None of these

33. BFIDWE

- (1) 2%346\$ (2) %3426\$ (3) \$%3426  
(4) \$2%634 (5) None of these

34. WKGLBA

- (1) 951862 (2) 651829 (3) 651892  
(4) 951826 (5) None of these

35. ABWUPF

- (1) %26©@% (2) %26©@9 (3) 926©@%  
(4) %269@ (5) None of these

36. ZEFHIR

- (1) #\$\$%\*37 (2) δ \$\$%\*3 δ (3) 7\$%\*3#  
(4) #%%\*37 (5) None of these

**Directions (37 - 40):** In certain code language 0 (zero) is coded as  $\square$  and 1 is coded as  $*$ . Numbers do not have any other sign and any number above 1 is written by using either of the two symbols. If the value of 1 is doubled, it itself moves left by one place. In this way-

0 is written as  $\square$

1 is written as \*

2 is written as \* $\square$

3 is written as \*\*

4 is written as \* $\square$  and this continues.

37. If \*\*\* is multiplied with \*\* then the product is -

(1) \* \* \* \* \*    (2) \* \* \* \* \*    (3) \* \* \* \* \*

(4) \* \* \* \* \*    (5) \* \* \* \*

38. How can we code 20% of 45.

(1) \* \* \* \* \*    (2) \* \* \* \*    (3) \* \* \* \*

(4) \* \* \* \* \*    (5) \* \* \* \*

39. How can be code 7 in this code language?

(1) \* \* \* \* \* \* \*    (2) \* \* \* \* \* \* \*    (3) \* \* \* \*

(4) \* \* \* \* \*    (5) \* \* \* \*

40. If \* $\square$  is added to \* $\square$  then the sum is-

(1) \* \* \* \* \*    (2) \* \* \* \* \*    (3) \* \* \* \* \*

(4) \* \* \* \* \*    (5) \* \* \* \* \*

#### Answer with Explanations:

1. 1; T E R M I N A L  
 $\begin{array}{ccccccc} | & -1 & | & -1 & | & -1 & | +1 \\ \hline S & D & Q & L & J & O & B \end{array}$  M

Similary,

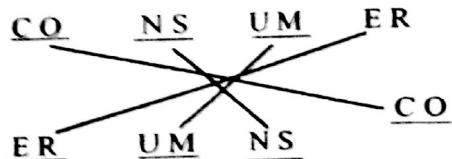
C R E D f B L E  
 $\begin{array}{ccccccc} | & -1 & | & -1 & | & -1 & | +1 \\ \hline B & Q & D & C & J & C & M \end{array}$  F

2. 4; L A B O U R  
 $\begin{array}{ccccccc} | & -1 & | +1 & | -1 & | +1 & | -1 & | +1 \\ \hline K & B & A & P & T & S \end{array}$

Similary,

C A N D I D  
 $\begin{array}{ccccccc} | & -1 & | +1 & | -1 & | +1 & | -1 & | +1 \\ \hline B & B & M & E & H & E \end{array}$

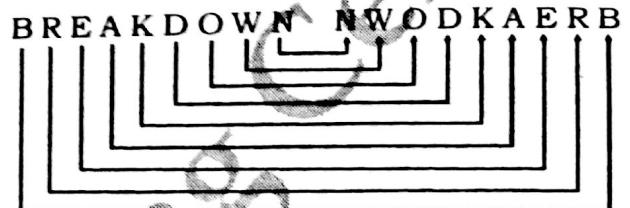
3. 1; Since,



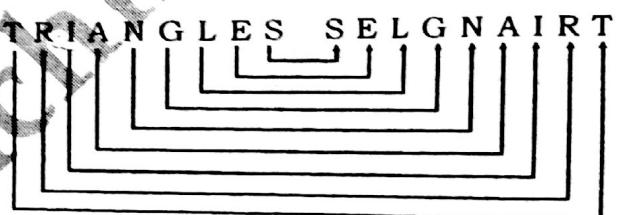
Similary,



4. 4;



Similarly,



5. 1; B R E A K  
 $\begin{array}{ccccc} | & | & | & | & | \\ 5 & 1 & 3 & 4 & 2 \end{array}$

and,

K I T E  
 $\begin{array}{ccccc} | & | & | & | & | \\ 2 & 7 & 9 & 6 \end{array}$

Therefore,

R I B  
 $\begin{array}{ccccc} | & | & | & | & | \\ 1 & 7 & 5 \end{array}$

6. 1; S P R I N G

$\begin{array}{ccccc} | & | & | & | & | \\ \# & 2 \% @ 4 = \end{array}$

and,

G O N E  
 $\begin{array}{ccccc} | & | & | & | & | \\ = & 7 & 4 & \textcircled{C} \end{array}$

Therefore,

S I G N  
 $\begin{array}{ccccc} | & | & | & | & | \\ \# & @ & = & 4 \end{array}$

7. 2; F I G H T

| | | | |  
3 9 % © 4

and,

T E A R S  
| | | | |  
4 5 8 © H

Similary,

S T A G E  
| | | | |  
H 4 8 % 5

8. 4; Tree is very beautiful

$$\Rightarrow \text{ka na da ta} \dots \text{(i)}$$

This is strong tree

$$\Rightarrow \text{na pa sa ka} \dots \text{(ii)}$$

$\therefore$  is  $\Rightarrow$  na /ka

tree  $\Rightarrow$  na /ka

Clearly,

code for 'beautiful' cannot be found.

9. 4; si po re  $\Rightarrow$  book is thick ..... (i)

ti na re  $\Rightarrow$  bag is heavy ..... (ii)

ka si  $\Rightarrow$  interesting book ..... (iii)

de ti  $\Rightarrow$  that bag ..... (iv)

According to equation (i) and (ii), is = re

According to equation (ii) and (iv), bag = ti

So, that = de

According to equation (i) and (iii), book  
= si

So, Interesting = ka

Clearly, code for 'that is interesting' will be 'de re ka'.

10. 5; The colour of milk is white. But here white is called brown.

11. 4; The colour of milk is white. But here white is called yellow.

12. 1

13. 5; (©@67%5)

14. 4 15. 2 16. 1 17. 3 18. 5 19. 1

20. 4 21. 3 22. 2 23. 2 24. 2 25. 1

26. 5 27. 1 28. 4 29. 3 30. 3 31. 1

32. 3 33. 5 34. 4 35. 1 36. 2

$$37. 1; *** \Rightarrow (4 + 2 + 1) = 7$$

$$** \Rightarrow (2 + 1) = 3$$

$$(* *) \times (*) = 7 \times 3 = 21$$

$$= (16 + 0 + 4 + 0 + 1)$$

$$38. 3; 45 \text{ dk } 20\% = 9$$

$$= (8 + 0 + 0 + 1) = ****$$

$$39. 5; 7 = 4 + 2 + 1 = ***$$

$$40. 2; (***) + (****)$$

$$(4 + 2 + 0) + (8 + 0 + 2 + 1)$$

$$= 6 + 11 = 17$$

$$= (16 + 0 + 0 + 0 + 1)$$

$$= * * * *$$

# 5

## PROBLEMS BASED ON ENGLISH ALPHABET

In the alphabet series the position of Alphabets can be explained in a number of ways.

To solve the problems in this chapter we should be well versed with the position of alphabets from the beginning as well as from the end.

**For eg:**

Position From Left: (1, 2.....26)

1 2 3 4 5 6 7 8 9 10 11 12 13

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

26 25 24 23 22 21 20 19 18 17 16 15 14

14 15 16 17 18 19 20 21 22 23 24 25 26

N O P Q R S T U V W X Y Z

13 12 11 10 9 8 7 6 5 4 3 2 1

(26.....1) Position From Right

**Some important facts to solve the problems based on the Alphabet series:-**

1. A → Z = English alphabet series
2. Z → A = Reverse order of English alphabets.
3. A → M = First half of English alphabet
4. M → A = Reverse order of first half of English alphabet series
5. N → Z = Second half of English alphabets.
6. Z → N = Reverse order of second half of English alphabets.
7. Important facts on 'left-right' position of English alphabets.

ABCDEF GH IJKLM NOPQR STUVW XYZ

→ (Left)

← (Right)

(a) From your left means we have to count from left to right.

**For eg:** Which is the 10<sup>th</sup> alphabet from the left in the English alphabet series ?

A B C D E F G H I J K L —————— Z

10th letter form the left

Ans. = J

(b) From your right means have to count from right to left.

**For eg:** Which is the 10<sup>th</sup> alphabet from the right in the English alphabet series?

ABCDEF GH IJKLM NOPQR STUVW XYZ

← 10th letter from the right

Ans. = Q

In the alphabet series for any particular alphabet if we are asked, towards left it implies that we have to count from right to left or from Z to A and towards right it implies that we have to count from left to right or from A to Z.

**For eg:**

(a) Which alphabet is adjacent to the alphabet 'P' towards left?

ABCDEF GH IJKLM NOPQR STUVW XYZ

'Q' is the alphabet which is towards the left of P.

(b) In the Alphabet series which letter will be adjacent to right of 'P' ?

ABCDEF GH IJKLM NOPQR STUVW XYZ

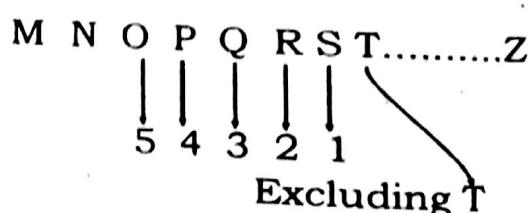
'Q' will be the alphabet to the right of 'P'.

9. Important facts related to the word 'to' and 'from':

Meaning of 'to' – Counting excluding the related Alphabet

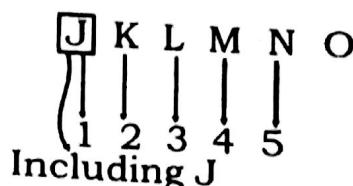
Meaning of 'from' – Counting including the related Alphabet

**For eg:-** 5<sup>th</sup> alphabet to the left of 'T' = ?



Ans. = O

5<sup>th</sup> Alphabet from the right of 'J'=?



Ans. = N

10. Some basic questions based on English alphabet series:

**For eg.** 1. Which will be 7<sup>th</sup> letter to the right of the 8<sup>th</sup> letter from left in English alphabet?

- (1) N                    (2) P                    (3) B  
 (4) O                    (5) None of these

**Sol.**

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

8th letter from the left      7th letter to its right

So, 8<sup>th</sup> letter from the left is 'H' and 7<sup>th</sup> letter to its right is 'O'.

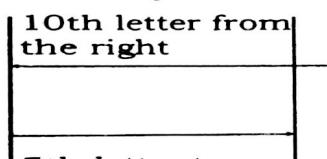
**Ans : (4)**

**For eg.** 2. Which will be the 5<sup>th</sup> letter to the right of 10<sup>th</sup> letter from the right in English alphabet series?

- (1) T                    (2) V                    (3) L  
 (4) M                    (5) None of these

**Sol.**

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



Therefore answer is 'U'.

**Ans : (2)**

**For eg.** 3. Which is the 10<sup>th</sup> letter to the right of the 8<sup>th</sup> letter from the left in the reverse order of alphabet series?

- (1) H                    (2) I                    (3) J  
 (4) B                    (5) None of these

**Sol.**

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

8th letter from the left      10th letter to the right

Therefore answer is 'I'.

**Ans : (2)**

**For eg.** 4. Which letter will be between the 9<sup>th</sup> letter from the left and 12<sup>th</sup> letter from the right?

- (1) K                    (2) L                    (3) M  
 (4) N                    (5) None of these

**Sol.**

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

9th letter from the left      Middle      12th letter from the right

Therefore the Answer is 'L'. **Ans : (2)**

11. Today pattern of questions is changing. Instead of English alphabets questions, the

questions based on symbols / signs / letters are more popular these days. To solve these kind of problems we must strengthen our base which is alphabet series.

**For eg.** Following questions are based on alphabet number and symbols:

A8B6# 7H U%3 \$FVR21 @41 WE9 © L5

Which of the following element is 7<sup>th</sup> to the right of 15<sup>th</sup> element from the right?

- (1) 4                    (2)                    (3) 1  
 (4) W                    (5) None of these

A8B6# 7H U%3 \$FVR21 @41 WE9 © L5

7th letter to the right
15th letter from the right

Here, we have to look for  $(15 - 7) = 8^{\text{th}}$  element from the right end.

Therefore, Answer is '4'. **Ans : (1)**

If all the symbols are removed from the series then 8<sup>th</sup> element from the left will be?

- (1) F                    (2) \$                    (3) U  
 (4) 3                    (5) None of these

**Sol.** After removal of symbols from the above series 8<sup>th</sup> element from the left will be 3.

A 8 B 6 7 H U 3 F V R 2 1 4 1 W E 9 L 5

8th element from the left
15th letter from the right

**Ans : (4)**

12. Apart from the above given questions some more question based on alphabet series are asked .

**For eg.**

How many pairs of letters are there in the word MISTAKE which have as many letters between them as in the English alphabet?

- (1) One                    (2) Two                    (3) Three  
 (4) More than four                    (5) None of these

**Sol.** M I S T A K E



Therefore, the pair will be ST. **Ans : (1)**

How many meaningful words can be formed from the word ESDO by using these alphabets once?

- (1) None                    (2) One                    (3) Two  
 (4) Three                    (5) None of these

**Sol. DOES**

DOSE

- (c) If the alphabets in the word 'FLYING' are arranged according to the alphabet series, how many alphabets will remain at the same position?

- (1) None      (2) Three    (3) One  
 (4) Two      (5) None of these

**Sol.**

F	L	Y	I	N	G
F	G	I	L	N	Y

**Ans : (3)**

- (d) If first, fourth, eighth and eleventh letters of the word INTERMEDIATE are used only once, then how many meaningful words can be formed?  
 (1) One      (2) Two    (3) Three  
 (4) More than three    (5) None

**Sol.** First, fourth, eighth and eleventh letters are I, E, D and T. Meaningful words formed are:- EDIT, TIDE, DIET, TIED.
**Ans : (4)**

- (e) If the below given words are arranged according to their position in the dictionary, then which word will be at second position?  
 (1) delete    (2) defer    (3) demean  
 (4) delirium    (5) delude

**Sol.** After arranging the words according to their position in the dictionary, the word at second place will be 'delete'.  
 defer - delete - delirium -

1      2

Therefore Answer is delete: **Ans : (4)**

- (f) In the question given below some alphabets along with their numeral order are given. Which of the given options forms a meaningful word?

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| N | R | O | C | T | A |
| 1 | 2 | 3 | 4 | 5 | 6 |
- (1) 1, 6, 2, 4, 3, 5  
 (3) 4, 6, 2, 5, 3, 1  
 (5) None of these

**Sol.**

C	A	R	T	O	N
4	6	2	5	3	1

**Ans : (3)****Exercise:**

- How many such pairs of letters are there in the word CREATION each of which has as many letters between them in the word as in the English alphabet?  
 (1) One      (2) Two    (3) Three  
 (4) Four      (5) None of these
  - How many such pairs of letters are there in the word OVERWHELM each of which has as many letters between them in the word as in the English alphabet?  
 (1) One      (2) One    (3) Two  
 (4) Three      (5) More than three
  - How many such letters are there in the word BEACON each of which is as far away from the beginning in the word as when they are arranged in alphabetical order?  
 (1) None      (2) One    (3) Two  
 (4) Three      (5) More than three
  - How many such letters are there in the word DECLARATION each of which is as far away from the beginning of the word as in the English alphabet?  
 (1) One      (2) Two    (3) Three  
 (4) Four      (5) None of these
  - How many meaningful words can be formed by using each letter only once in each word after changing each of the consonants of the word SEAL to the next letter of the English alphabet and keeping the vowels unchanged?  
 (1) None      (2) One    (3) Two  
 (4) Three      (5) More than three
  - How many meaningful English words can be made with the letters VLEI using each letter only once in each word?  
 (1) None      (2) One    (3) Two  
 (4) Three      (5) More than three
- Directions (7 - 11): Study the following information carefully and answer the questions given below:**
- M K K I D N E T T Q O B F H A A G T U U X W L S R I
- Each letter gets a numerical value based on their position in the above arrangement starting from 1 for M and so on.
- The value of which of the following consonants when added to that of the vowel, which follows immediately amounts to 11?  
 (1) H      (2) R    (3) K  
 (4) N      (5) None of these

8. What is the sum of the values of the group of letters ARM?
- (1) 34      (2) 33      (3) 35  
 (4) 32      (5) None of these
9. The sum of values of OB is exactly equal to which of the following?
- (1) U      (2) X      (3) K  
 (4) N      (5) None of these
10. Four of the following five are alike in a certain way based on the above arrangement and form a group. Which is the one that does not belong to that group?
- (1) TTQ      (2) UUT      (3) KKI  
 (4) XWL      (5) WLS
11. Value of A is exactly equal to the total value of which of the following pairs?
- (a) DQ      (b) QE      (c) MH  
 (1) Only (a)      (2) Only (b)      (3) Only (c)  
 (4) Both (a) and (b)      (5) None of these
- Directions (12 - 14): The letters in the word PROTEIN are rearranged in such a way that the consonants are arranged alphabetically and then the vowels are arranged alphabetically.**
12. How many letters will be there between R and I after the rearrangement?
- (1) None      (2) One      (3) Two  
 (4) Three      (5) More than three
13. Which of the following will be the third from right after the rearrangement?
- (1) T      (2) Q      (3) R  
 (4) I      (5) None of these
14. Which of the following will be third from left after the rearrangement?
- (1) R      (2) N      (3) O  
 (4) P      (5) None of these
- Directions (15 - 17): Study the following arrangement carefully and answer the questions given below ?**
- M 2 R D E K 5 7 B J I 4 N P 8 A W 9 V 1 U F 3 H 6
15. Which of the following is the fourth to the right of the tenth from the left end?
- (1) P      (2) N      (3) K  
 (4) 4      (5) None of these
16. Which of the following is exactly in the middle between 7 and A?
- (1) P      (2) N      (3) 4  
 (4) I      (5) None of these
17. Which of the following is third to the left of the ninth from the right end?
- (1) N      (2) K      (3) I  
 (4) P      (5) None of these
18. What should come next in the following letter series?
- A C E G I K M O B D F H J L N A C E G I K  
 M B D F H J L A
- (1) B      (2) C      (3) F  
 (4) D      (5) None of these
19. What should come next in the following letter sequence?
- A A B A B C A B C D A B C D E A B C D E  
 F A B
- (1) D      (2) E      (3) G  
 (4) C      (5) F
- What should come next in the following letter series?
- A Z A B Y A B C X A B C D W A B C D E V  
 A B C D E
- (1) U      (2) T      (3) A  
 (4) G      (5) None of these
21. If it is possible to make only one meaningful word with the second, the third, the sixth and the eighth letters of the word FRAGMENT using each letter only once, which of the following will be the third letter of that word? If no such word can be formed, give 'X' as the answer and if more than one such word can be formed, give 'Y' as the answer.
- (1) A      (2) E      (3) T  
 (4) X      (5) Y
22. How many meaningful English words can be formed with the letters of the word 'STOP' each using only once in a word but in different sequence, starting with the letter P?
- (1) None      (2) Two      (3) One  
 (4) Three      (5) More than three