



RAS

Rajasthan Administrative  
Services

Rajasthan Public Service Commission (RPSC)

Reasoning & Mental Ability



# विषयसूची

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# 1

## CHAPTER

# Coding - Decoding

The process of writing a letter / word / sentence in a sign language is called encoding or coding and the process of converting a letter / word / sentence written in a sign language into its value or real meaning is called decoding or decoding. Generally, the encoding is based on the English alphabet and their corresponding numbers.

### Question Types -

#### Type 1 – Encoding a word or a group of letters into a group of letters

In this type of questions, the word or letter group is encoded by the replacement of letters/letter group by the opposite letters or other letters of the alphabet.

1. In this type of questions, a group of letters is given, whose order of letters is changed to write the code language. In this type of encoding, there is complete similarity in the number and type of letters of the root word or real word and the words of the code language, but there is a change in the places of the letters.

(i) All the letters of the word are written in reverse order

#### Example - 1

If in a code language DEMOCRACY is coded as YCARCOMED, then how will PRESIDENT be written in that code language?

- (a) EIETPRSDN      (b) NDSRPTEIE  
(c) TNEDISERP      (d) RSDNPEIET

**Ans. (c)**

#### Solution -

Just as,

D E M O C R A C Y → Y C A R C O M E D  
1 2 3 4 5 6 7 8 9      9 8 7 6 5 4 3 2 1

Similarly,

P R E S I D E N T → T N E D I S E R P  
1 2 3 4 5 6 7 8 9      9 8 7 6 5 4 3 2 1

(ii) When the letters of the word are written by dividing them into different parts or by changing the order separately.

#### Example - 2

If in a sign language PUBLIC is written as LICPUB, then how will TROPHY be written in that sign language?

- (a) PHYTRO      (b) PHTYRO  
(c) PHYTOR      (d) ORTPHY

**Ans. (a)**

#### Solution -

Just as,

P U B L I C → L I C P U B  
1 2 3 4 5 6      4 5 6 1 2 3

Similarly,

T R O P H Y → P H Y T R O  
1 2 3 4 5 6      4 5 6 1 2 3

(iii) When each letter of the word is written at a certain place.

#### Example - 3

If in a sign language RIGHT is written as GHRTI, then how will BIRTH be written in that sign language?

- (a) TIRBH      (b) RITBH  
(c) RTBIH      (d) RTBHI

**Ans. (d)**

**Solution -**

Just as,

R I G H T → G H R T I  
1 2 3 4 5                      3 4 1 5 2

Similarly,

B I R T H → R T B H I  
1 2 3 4 5                      3 4 1 5 2

2. Encoding in the form of other letters -  
Under this, a group of letters is given,  
which is encoded or encoded in the form  
of other letters.

**(i) Forward sequence method** - In the  
forward sequence, each letter of a letter  
group word is coded in ascending order  
of the English alphabet.

**Example - 4**

Just as B E H K can be written as D G J M.  
Similarly which of the following can be  
written as N Q T W?

- (a) P R T V                      (b) O R T V  
(c) P S V Y                      (d) P R U X

**Ans. (c)**

**Solution** – Just as,

B E H K → D G J M  
+2 +2 +2 +2

Similarly,

N Q T W → P S V Y  
+2 +2 +2 +2

**(ii) Backward order system** - In the  
backward order, each letter of a letter  
group or word is encoded in the  
decreasing order of the English alphabet.

**Example - 5**

If in a sign language FLOWER is written as  
ZGKTCQ, then how will NATURE be written  
in what sign language?

- (a) H P V R P D                      (b) H V P R P D  
(c) P R D V H P                      (d) Q Z N P R S

**Ans. (b)**

**Solution** – Just as,

F L O W E R → Z G K T C Q  
-6 -5 -4 -3 -2 -1

Similarly,

N A T U R E → H V P R P D  
-6 -5 -4 -3 -2 -1

Therefore, NATURE = H V P R P D

**(iii) Fixed Sequence System (Forward and  
Backward)**

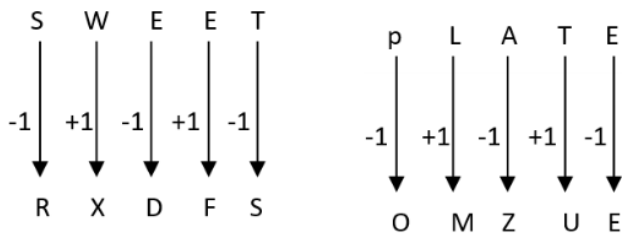
**Example - 6**

In a code language, SWEET is coded as  
RXDFS and PLATE is coded as OMZUD, how  
will TRAIN be written in that code  
language?

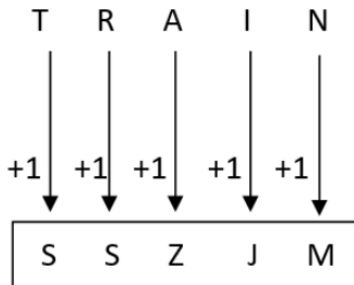
- (a) S S Z J M                      (b) S Q Z H M  
(c) U Q B H O                      (d) U S B J O

**Ans. (a)**

**Solution -** Just as,



Similarly,



**(iv) Encoding the letters by the letters to its left and right -**

**Example - 7**

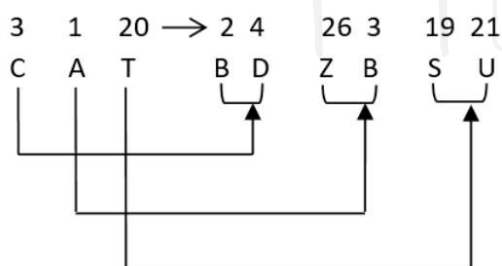
If in a sign language CAT is written as BDZBSU, then how will DOG be written in that sign language?

- (a) CDNPFH (b) CENPFH  
(c) CNEPFH (d) CEMPFH

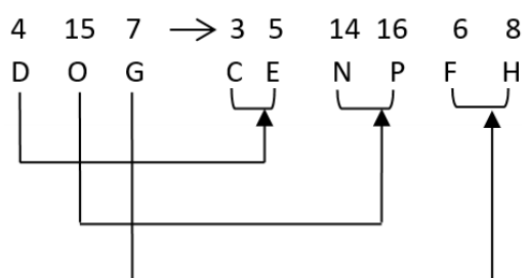
**Ans. (b)**

**Solution -**

Just as,



Similarly,



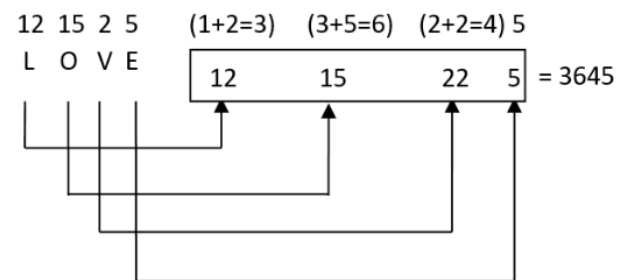
## Type 2 - Encoding a word / letter group in the form of numbers

Under this, each letter of a letter group word is coded in different ways in the form of numbers.

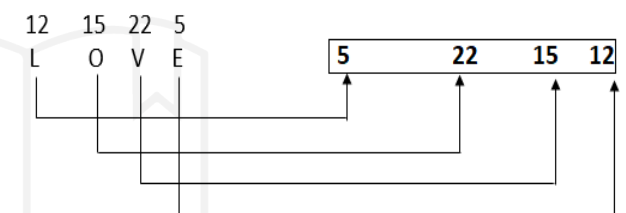
**Example - 8**

The word LOVE can be coded in the following ways.

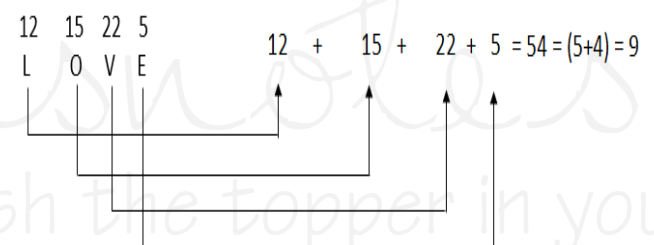
**(i) Solution -**



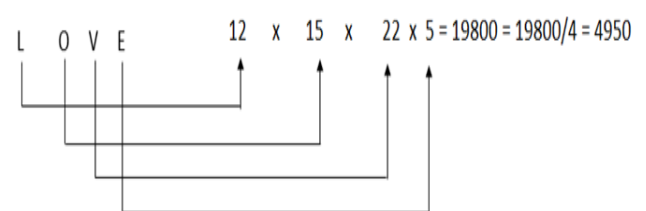
**(ii) Solution -**



**(iii) Solution -**



**(iv) Solution -**



**Example - 9**

In a certain code language, RUN is written as 50 and BUS as 39. How will GUN be written in this code language?

- (a) 37 (b) 38  
(c) 39 (d) 42

**Ans. (c)**

**Solution -**

$$\text{RUN} = 18 + 21 + 14 = 53 - 3 = 50$$

$$\text{BUS} = 2 + 21 + 19 = 42 - 3 = 39$$

Similarly,

$$\text{GUN} = 7 + 21 + 14 = 42 - 3 = 39 \text{ Ans.}$$

**Example - 10**

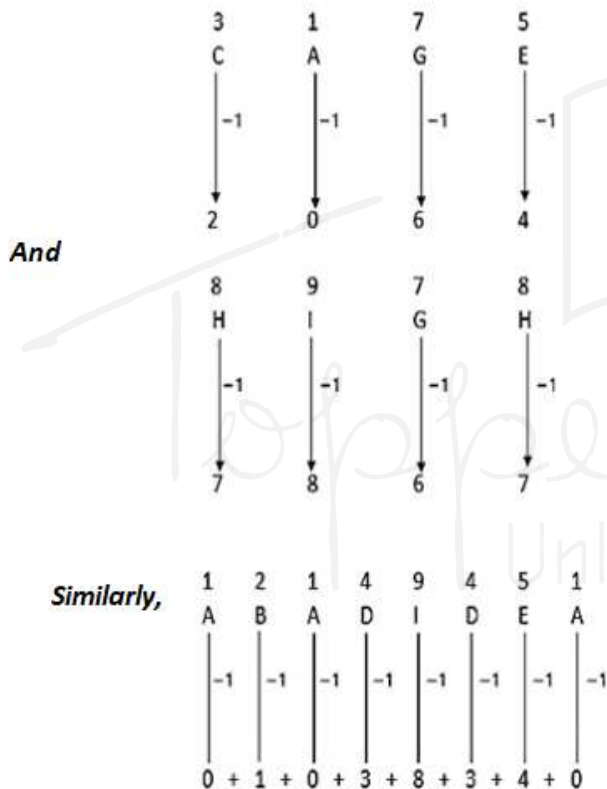
In a code language, CAGE is represented by 2064 and HIGH by 7867. What will be the sum of the digits of the number of ABADIDEA in the same code language?

(a) 37 (b) 24

(c) 18 (d) 19

**Ans. (d)**

**Solution –** Just as,



Hence, the sum of the digits of the number of the word ABADIDEA = 19.

**Type 3 - Encoding in letters/numbers/symbols on the basis of similarity**

Under this, each letter of a letter group word is coded by letters, numbers or symbols on the basis of similarity of two or more given codes.

**Example - 11**

If TABLE CLOTH is coded as XEMRANRIXT, then how HOTEL will be coded in that code language?

(a) RIXAT

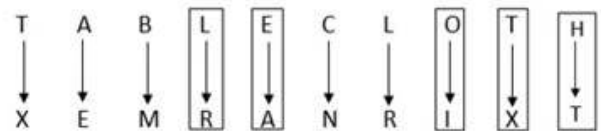
(b) TIXAR

(c) TAXIR

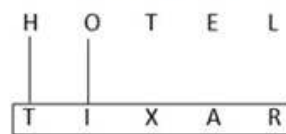
(d) RAXIT

**Ans. (b)**

**Solution -**



Now matching the given code

**Example - 12**

If TOUR is coded as 1234, CLEAR is coded as 5784 and SPARE is coded as 90847, then find the code for CARE.

(a) 1247

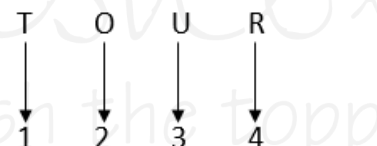
(b) 4847

(c) 5247

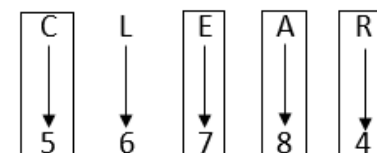
(d) 5847

**Ans. (d)**

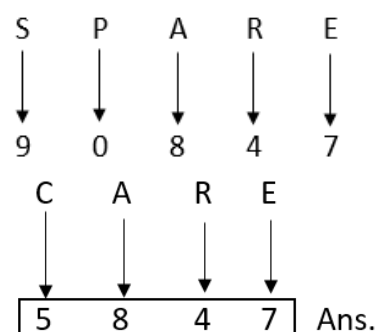
**Solution -**



and



and



Ans.

**Example - 13**

In a code language, P is #, A is %, C is and E is @. How will PEACE be written in that code language?

- (a) # @ % @ #      (b) # @ # Ø @  
(c) % # @ Ø %      (d) # @ % Ø @

**Ans. (d)**

**Solution -**

P	E	A	C	E	
↓	↓	↓	↓	↓	
#	@	%	Ø	@	Ans.

**Type 4 - Encoding by Word Substitution**

Under this, a series of words is given, each of which is coded as another word.

**Example - 14**

If football is called cricket, cricket is called basketball, basketball is called badminton, badminton is called volleyball, volleyball is called hockey, then which of the following sports is not played with a ball.

- (a) Cricket                      (b) Volleyball  
(c) Hockey                      (d) Badminton

**Ans. (b)**

**Solution -** Badminton is not played with a ball, but in the question, badminton is called volleyball, so volleyball is not played with a ball.

**Type 5 - Encoding of word group as letter group/numbers/letters**

Under this, the coding of words is done in the form of words / numbers / letters, in this comparison between the given words is done on the basis of the common elements present in them.

**Example - 15**

In a certain code language Nek, pek, dek means Read my book and dek, sek, wek means a book stand. Which word is used for book in this code language?

- (a) dek                      (b) wek  
(c) sek                      (d) nex

**Ans. (a)**

**Solution -** As per given information.

nek	pek	dek	→	read my	book
dek	sek	wek	→	a	book stand

From equations (i) and (ii) dek → book

**Type - 6 Conditional Encoding**

Under this letters / numbers / symbols are given and codes are given just below it. Some conditions are also given in the question according to which the code of the given word has to be found.

**Example - 16**

Read the following conditions and find the correct code for the letter set.

Letter	A	E	I	O	U	L	M	P	S
Symbol Code	1	2	3	4	5	6	7	8	9

**Terms -**

- (i) If the first and the last letter is a vowel, then both will be coded as \$.  
(ii) If the second letter is a vowel and the third letter is a consonant, the same shall be used and the 2 codes will be given in combination.  
(iii) If the first letter is a consonant and the last letter is a vowel, both are to be coded as #.

How to write the word "APPLE" in that sign language?

- (a) & 5 5 6 #  
(b) & 8 8 6 \$  
(c) \$ 8 8 6 \$  
(d) # 8 8 6 #

**Ans. (c)**

**Solution -**

Letter group	A	P	P	L	E
Numeral Code	1	8	8	6	2

As per condition (i) \$ 8 8 6 \$



## Practice Question

- Q.1** If in a sign language BOND is written as APME, then how will MALE be written in that language?  
 (a) NZMD (b) LBKF  
 (c) NBMF (d) NBKE
- Q.2** If CUSTOM is coded as UCTSMO, then how is PARENT written?  
 (a) TNERAP (b) RAPTNE  
 (c) ERAFTN (d) APERTN
- Q.3** In some sign language SOLID is written as WPSLPIMFHA. What does the code ATEXXQIBVO stand for?  
 (a) EAGER (b) WAFER  
 (c) WAGER (d) WATER
- Q.4** The word STAG is written as HGZT, HORN and SLIM in a special way. How can NORTH be written using the same code?  
 (a) NLGMI (b) MLIGS  
 (c) MGLIS (d) NLGIS
- Q.5** If  $z = 52$  and  $ACT = 48$ , then BAT is equal to which of the following?  
 (a) 23 (b) 46  
 (c) 69 (d) 92
- Q.6** If HONESTY is written as 5132468 and POVERTY as 7192068, then HORSE will be coded as?  
 (a) 50124 (b) 51042  
 (c) 51024 (d) 52014
- Q.7** In a sign language, the code for BOMBAY is 021513020125, then what will be the code for DELHI in that language?  
 (a) 451289 (b) 040512809  
 (c) 0405120809 (d) 04051108
- Q.8** In a particular CODE, BEAM is written as  $5\%*K$  and COME is written as  $\$7K\%$ . How will BOMB be written in that code language?  
 (a)  $5\%K5$  (b)  $75K5$   
 (c)  $\$7K\$$  (d)  $5\%5$

- Q.9** If 'water' is 'blue', 'blue' as 'red', 'red' as 'white', 'white' as 'sky', 'rain', 'rain' as 'green', 'green' as ' If 'Vayu' and 'Vayu' are called 'table', then which of the following will be the color of milk.

(a) Table (b) Wind  
 (c) Rain (d) SKY

- Q.10** If in a sign language '975' means 'Throw away garbage', '528' means 'Give away smoking' and '213' means smoking is harmful, then what is the sign of 'Give'?

(a) 5 (b) 2  
 (c) 8 (d) 9

- Q.11** In a certain code, FEAR is written as  $+x \div *$  and READ as  $*x \div \$$ . What will be written as FADE in the same code?

(a)  $+ \div \$x$  (b)  $x \div + \$$   
 (c)  $\$ \div + *$  (d)  $\div \$ + x$

- Q.12** Read the conditions given below and find the symbolic court of the letter set.

Numbers 3 9 6 2 8 7  
 5 4 1

Letter/Symbol M = S @ P  
 A D V \*

### Terms

- (i) If the first digit is odd and the last digit is even, then the codes of the first and last digit are interchanged.  
 (ii) If both the first and the last are even, then both are coded as the code of the last.  
 (iii) If both the first and the last are odd, then both are to be coded as 'x'.

How to write 285961 in sign language?

(a) @ P D = S \* (b) @ A D = S \*  
 (c) @ P V = S \* (d) @ P D = S V

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### Answer Key

Q.1 (b)

Q.2 (d)

Q.3 (d)

Q.4 (b)

Q.5 (b)

Q.6 (B)

Q.7 (c)

Q.8 (b)

Q.9 (d)

Q.10 (c)

Q.11 (a)

Q.12 (a)



Toppernotes

Unleash the topper in you

## 2 CHAPTER

# Series



The series test series has to be studied carefully to find out whether this series is following the order/rule or not.

The questions asked under this test can be classified into the following categories.

1. Digit series
2. Alphabet series
3. Frequency Series of Digits/Characters

There are a few things to keep in mind while doing chain test.

- A. First try to play the whole chain.
- B. If the chain does not work, then we run it by laughing.
- C. At the very end run the alternate series

### 1. Digit series -

In this, a series of marks is given in the questions asked. This series is based on addition, subtraction, multiplication, division, square, square root, cube, cube root etc.

#### Type - (i) Finding the wrong term in the series.



In the series sequence, a wrong digit is added in place of the digit appearing at a particular place. For this, first of all it should be known that which term is not changing according to that rule, that is the wrong term.

**Ex.1** Which number is missing in the following number series?

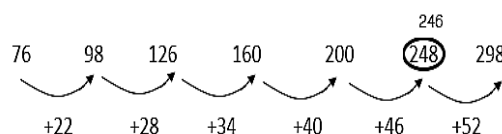
76, 98, 126, 160, 200, 248, 298

- (A) 248 (B) 200  
(C) 160 (D) 298

**Ans. (A)**

**Sol.** After observing the above series carefully, we find that the sixth term of the series is inappropriate

Because the number to be added to each term is 6 digits more than its first number.



So instead of 248, there will be 246.

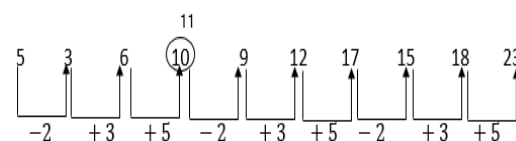
**Ex.2** Which number in the following series is such that it is inappropriate in the series?

5, 3, 6, 10, 9, 12, 17, 15, 18, 23

- (A) 6 (B) 9  
(C) 12 (D) 10

**Ans. (D)**

**Sol.** After observing the above series carefully, we find that the series is decreasing and increasing in the order of -2, +3, +5, -2, +3, +5, -2, +3, +5 .....



In the above series, 11 should come after the digit '6'. Hence the wrong number in the series is 10.

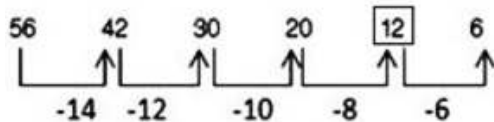
**Directions: Question (1-7) Find the missing number in the following series.**

**Q.1** 56, 42, 30, 20, ?, 6

- (A) 15 (B) 12  
(C) 18 (D) 14

**Ans. (B)**

**Explanation-**



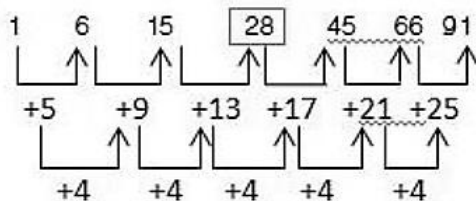
So, ? = 12

**Q.2** 1, 6, 15, ?, 45, 66, 91

- (A) 25 (B) 26  
(C) 27 (D) 28

**Ans. (D)**

**Explanation-**



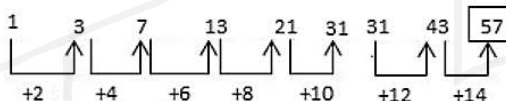
So, ? = 28

**Q.3** 1, 3, 7, 13, 21, 31, 43, ?

- (A) 55 (B) 57  
(C) 59 (D) 61

**Ans. (B)**

**Explanation-**

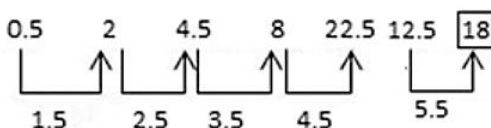


So, ? = 57

**Q.4** 0.5, 2, 4.5, 8, 12.5, ?

- (A) 17 (B) 16  
(C) 16.5 (D) 18

**Ans. (D)**



**Explanation-**

So, ? = 18

**Q.5** 3, 6, 18, 21, 63, 66, ?

- (A) 181 (B) 160  
(C) 147 (D) 198

**Ans. (D)**

**Explanation-**

$3 + 3 = 6, 6 \times 3 = 18$

$18 + 3 = 21, 21 \times 3 = 63$

So,  $63 + 3 = 66$

$? = 66 \times 3 = 198$

**Q.6** 510, 322, 404, ?

- (A) 422 (B) 371  
(C) 629 (D) 819

**Ans. (A)**

**Explanation -**

There are even numbers in the sequence.

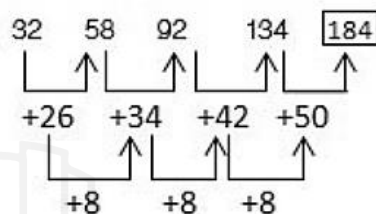
So, ? = 422

**Q.7** 32, 58, 92, 134, ?

- (A) 184 (B) 194  
(C) 156 (D) 169

**Ans. (A)**

**Explanation-**



So, ? = 184

**Type - (II)**



**Completing the series -**

Under this, in the given series sequence, a particular place is left blank or is denoted by the question mark (?), then the candidates are expected to find that sequence and mark the question mark (?). Select the appropriate number to come in place of.

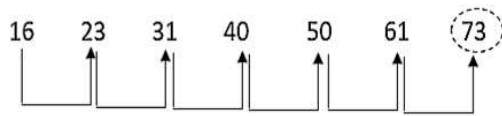
**Ex.3** Which of the given number will come in place of question mark in the series?

16, 23, 31, 40, 50, 61, ?

- (A) 81 (B) 83  
(C) 77 (D) 73

**Ans. (D)**

**Sol.** On observing the above series, we find that the series is increasing in the order of +7,+8,+9,+10.....



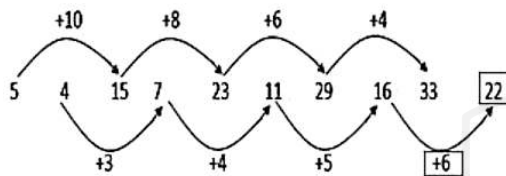
Therefore, the appropriate number to come in place of the question mark will be 73.

**Ex.4 Which number will come in the question place in the above series?**

5a 4a 15a 7a 23a 11a 29a 16a 33a g

- (a) 11 (b) 22  
(b) 29 (d) 34

**Ans. (B)**



Therefore, the appropriate number to come in place of the question mark will be 22.

### Type – III based on series rule

There are 2 types of rules of the category based on the rule of the first category.

1. Arithmetic series
2. Geometric series

**1. Arithmetic Series** - An arithmetic series is called a series in which the difference of two consecutive terms is equal.

The number obtained by subtracting the preceding term from a term of an A.P. is called 'transition'.

If there is the first post of the parallel category and the post is of the post, then there will be an parallel category.

Hence the nth term of the A.P.  $T_n = a + (n-d)$   
(1) d (where, a is the first term and d is the transition)

**Ex.5 What will be the 10th term of 1st series 3, 5, 7, 9.....**

- (A) 15 (B) 20  
(C) 12 (D) 21

**Ans. (D)**

**Sol.** 10th term

$$T_n = a + (n-1) d$$

$$T_{10} = 3 + (10 - 1) \times 2$$

$$T_{10} = 3 + 18$$

$$T_{10} = 21$$

Hence the 10th term is 21

**Ex.6 If the first term of an arithmetic sequence is 5, the second term is 3 and the last term is 80, then find the number of terms.**

- (A) 24 (B) 23  
(C) 26 (D) 29

**Ans. (C)**

**Sol.**  $a = 5, d = 3, T_n = 80, n = ?$

$$T_n = a + (n - 1)d$$

$$80 = 5 + (n - 1) 3$$

$$(n - 1) = 80 - 5/3$$

$$n - 1 = 25$$

$$n = 25 + 1$$

$$n = 26$$

Hence the number of posts is 26

**2. Geometric Series** - Such a series in which the ratio of two consecutive terms is same is called 'Geometric Series'.

This ratio is called the 'common ratio' of the geometric series. The 'common ratio' of a geometric series is obtained by dividing a term by its previous term, i.e.

$$t_2/t_1 = t_3/t_2 = t_4/t_3 = \dots \dots \dots$$

$$= t_n/t_{n-1} = \text{proportionate}$$

$$t_1, t_2, t_3, t_4$$

The middle term is the average of both the terms.

$$t_2 - t_1 = t_3 - t_2 = t_4 - t_3$$

If the first term of a geometric series is  $a$  and the proportion is  $r$ , then the  $n$ th term of that geometric series

$$T_n = a \cdot r^{n-1}$$

**Ex.7 What is the 6th term of the series 3,9,27,81,.....?**

- (A) 729 (B) 243  
(C) 1681 (D) 1747

**Ans. (A)**

**Sol.** First Term  $a = 3$

Common ratio  $d = 9/3 = 3$

6th term  $T_6 = a \cdot r^{n-1}$

$$= 3 \cdot 3^6 - 1$$

$$= 3 \times 3^5$$

$$= 3 \times 243 = 729$$

$$= 3 \times 243 = 729$$

So the 6th term is 729

**Ex.8 What will be the 10th term of the series 7, 14, 28,..... ?**

- (A) 3216 (B) 2736  
(C) 2684 (D) 3584

**Ans. (D)**

**Sol.** First Term  $a = 7$

Common ratio  $= 14/7 = 2$

10th term

$$T_{10} = a \cdot r^{n-1}$$

$$= 7 \times 2^{10-1}$$

$$= 7 \times 2^9$$

$$= 7 \times 512$$

$$= 3584$$

Hence the 10th term is 3584

#### Type-IV

**Q.1 In the following questions, select the odd number pair from the given alternatives.**

- (A) 10.30 (B) 11.33  
(C) 50.150 (D) 13.37

**Ans. (D)**

#### Explanation-

Except the number pair 13-37, in all the other number-pairs, the second number is three times the first number.

$$10 \times 3 = 30$$

$$11 \times 3 = 33$$

$$50 \times 3 = 150$$

but,

$$13 \times 3 - 2 = 37$$

**Q.2 In the following questions, select the odd number pair from the given alternatives.**

- (A) 18 : 37 (B) 24 : 47  
(C) 32 : 65 (D) 48 : 97

**Ans. (B)**

#### Explanation-

Number pair 24: Except 47, in all other number-pairs, the second number is one more than twice the first number.

$$18 \times 2 = 37$$

$$32 \times 2 = 65$$

$$48 \times 2 = 97$$

but,

$$24 \times 2 - 1 = 47$$

#### 3. Alphabet series -

Under this, a series of letters related to the English alphabet is given in the given series, in which one or two letters are omitted, or is represented by a question mark (?) in that place.

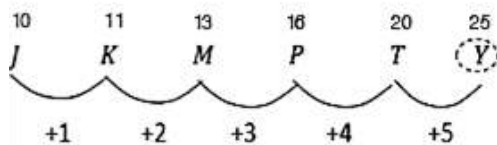
**Ex.9 What will come in place of question mark (?) in the given series?**

J K M P T ?

- (A) X (B) W  
(C) Y (D) none

**Ans. (C)**

Sol.



Hence the appropriate letter coming in place of question mark (?) will be Y.

**Ex.10** L7C, N9F, P12I, R16L, ? What will come at the question mark in this series?

- (A) U21O (B) S21P  
(C) S20O (D) T21O

**Ans. (D)**

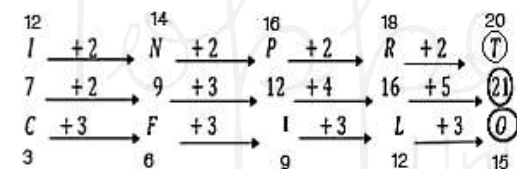
**Sol.** Therefore, in place of the question mark (?), the appropriate number-letter group will be T21O.

**Ex.11** What will come in place of the missing letters of the following series?

ab\_\_baabc\_\_aabcb\_\_abcb\_\_

- (A) bcaa (B) cbaa  
(C) abca (D) aacb

**Ans. (B)**

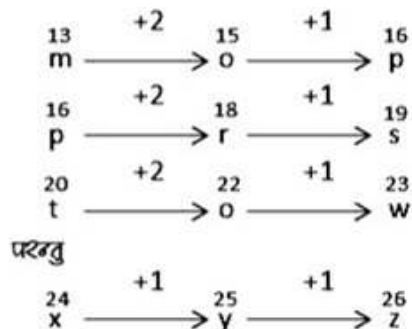


**Q.1** In the following question, select the odd letters from the given alternatives.

- (A) mop (B) prs  
(C) tvw (D) xyz

**Ans. (D)**

**Explanation-**

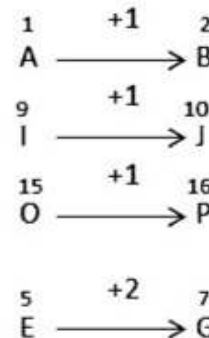


**Q.2** In the following questions, select the odd letters from the given alternatives.

- (A) AB (B) EG  
(C) IJ (D) OP

**Ans. (B)**

**Explanation-**

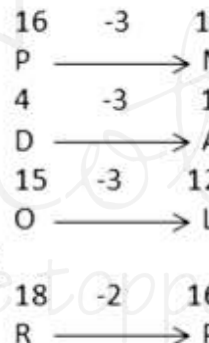


**Q.3** In the following questions, select the odd letters from the given alternatives.

- (A) PM (B) DA  
(C) RP (D) OL

**Ans. (C)**

**Explanation -**

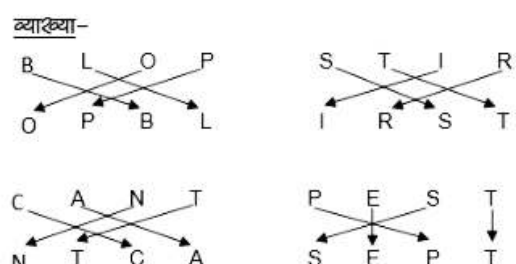


**Q.4** In the following questions, select the odd letters from the given alternatives.

- (A) BLOP-OPBL (B) STIR-IRST  
(C) CANT-NTCA (D) PEST-SEPT

**Ans. (D)**

**Explanation-**





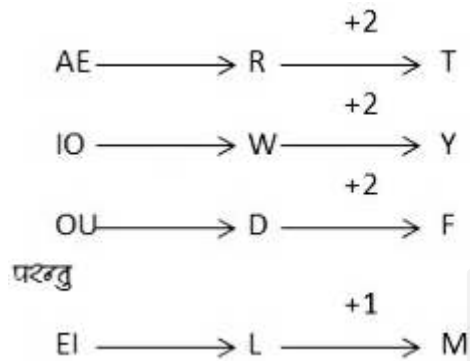
**Q.5** In the following questions, select the odd letters from the given alternatives.

- (A) EI-LM                      (B) AE-RT  
(C) IO-WY                      (D) OU-DF

**Ans. (A)**

**Explanation –**

'Letter-pair' is a letter gap between the letters of the second unit in all other letter-pairs except 'EI-LM'. The first unit has a continuous vowel.

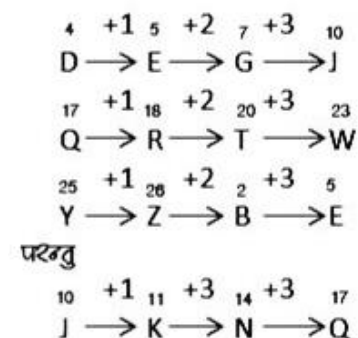


**Q.6** In the following questions, select the odd letters from the given alternatives.

- (A) DEGIJ                      (B) QRTW  
(C) YZBE                      (D) JKNQ

**Ans. (D)**

**Explanation -**

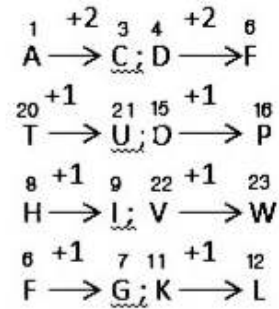


**Q.7** In the following questions, select the odd letters from the given alternatives.

- (A) ACDF                      (B) TUOP  
(C) HIVW                      (D) FGKL

**Ans. (A)**

**Explanation -**



### 3. Frequency series of digits or letters -

Under this, the numbers or letters appear repeatedly in a certain sequence, thus forming a series of numbers / letters in which one or two digits in the middle or end or

Alphabets are lost and candidates have to find out the missing number/letters.

**Ex.12 02487503001024875030010**

- (A) 2,4                      (B) 0,1  
(C) 0,2                      (D) 4,8

**Ans. (A)**

**Sol.** After looking carefully at the given series of numbers, we find that 02487503001 is appearing repeatedly in the sequence.

So the next two digits will be 2 and 4.

**Directions: (1-7) Find the missing term in the following series-**

**Q.1 Y, S, N, J, G, ?**

- (A) F                      (B) E  
(C) H                      (D) I

**Ans. (B)**

**Explanation-**

Hence, the appropriate term coming in place of (?) will be E.

**Q.2 NZ, OY, PX, QW, RV, ?**

- (A) FS                      (B) SU  
(C) UF                      (D) TU

**Ans. (B)**



**Explanation-**

Hence, the appropriate term will come in place of (?) will be SU.

**Q.3 A, E, I, ?, Q**

- (A) O (B) M  
(C) U (D) L

**Ans. (B)****Explanation-**

$$A \xrightarrow{+4} E \xrightarrow{+4} I \xrightarrow{+4} \boxed{M} \xrightarrow{+4} Q$$

Hence, the appropriate term to come in place of (?) will be M.

**Q.4 a d c e b e d f c f e ?**

- (A) h (B) g  
(C) f (D) d

**Ans. (B)****Explanation-**

$$\begin{array}{ccccccc} a & \xrightarrow{+1} & b & \xrightarrow{+1} & c \\ d & \xrightarrow{+1} & e & \xrightarrow{+1} & f \\ c & \xrightarrow{+1} & d & \xrightarrow{+1} & e \\ e & \xrightarrow{+1} & f & \xrightarrow{+1} & \boxed{g} \end{array}$$

Hence, the appropriate term coming in place of (?) would be g.

**Q.5 AAT, BBE, CCP, ?**

- (A) DDA (B) DDB  
(C) DDC (D) DDD

**Ans. (A)****Explanation-**

$$\begin{array}{ccccc} A & \xrightarrow{+1} & B & \xrightarrow{+1} & C \xrightarrow{+1} \boxed{D} \\ A & \xrightarrow{+1} & B & \xrightarrow{+1} & C \xrightarrow{+1} \boxed{D} \\ T & \xrightarrow{-15} & E & \xrightarrow{-15} & P \xrightarrow{-15} \boxed{A} \end{array}$$

Hence, the appropriate term to come in place of (?) will be DDA

**Q.6 BC, GH, LM, ?**

- (A) PQ (B) RS  
(C) QR (D) OP

**Ans. (C)****Explanation-**

$$\begin{array}{ccccc} B & \xrightarrow{+5} & G & \xrightarrow{+5} & L \xrightarrow{+5} \boxed{Q} \\ C & \xrightarrow{+5} & H & \xrightarrow{+5} & M \xrightarrow{+5} \boxed{R} \end{array}$$

Therefore, the appropriate term that comes in place of (?) will be QR.

**Q.7 AC, FH, KM, PR, ?**

- (A) UX (B) TV  
(C) UW (D) VW

**Ans. (C)****Explanation-**

$$\begin{array}{ccccc} A & \xrightarrow{+5} & F & \xrightarrow{+5} & K \xrightarrow{+5} P \xrightarrow{+5} \boxed{U} \\ C & \xrightarrow{+5} & H & \xrightarrow{+5} & M \xrightarrow{+5} R \xrightarrow{+5} \boxed{W} \end{array}$$

Hence, the appropriate term to come in place of (?) will be UW.

**Q.8 In the following questions, select the odd number from the given alternatives.**

- (A) 362 (B) 145  
(C) 26 (D) 625

**Ans. (D)****Explanation-**

Except the number 625, all other numbers are one more than the perfect square of certain natural numbers. The number 625 is a perfect square number.

$$362 = 19 \times 19 + 1$$

$$145 = 12 \times 12 + 1$$

$$26 = 5 \times 5 + 1$$

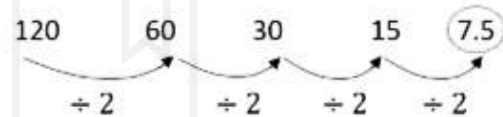
But,

$$625 = 25 \times 25$$

## Practice Questions

1. **4, 10, 22, 46, ? Find the missing number.**  
 (A) 56 (B) 66  
 (C) 76 (D) 94
2. **87, 90, 84, 88, 81, ?, ?**  
 (A) 86,78 (B) 86,88  
 (C) 86,88 (D) 85,93
3. **Which of the following numbers is not correct in the sequence - 3, 6, 10, 16, 21, 28**  
 (A) 10 (B) 3  
 (C) 16 (D) 21
4. **2, 12, 36, 80, 150, ? Find the missing number.**  
 (A) 210 (B) 258  
 (C) 252 (D) 194
5. **Which of the following numbers is not suitable in the sequence? 19, 28, 39, 52, 67, 84, 102**  
 (A) 84 (B) 102  
 (C) 67 (D) 52
6. **Find the missing letter**  
 (A) WYAC (B) WXYA  
 (C) WXYZ (D) WYZA

7. **4E, 8I, 13N, 19T, ? Find the missing term.**  
 (A) 26U (B) 26A  
 (C) 26Z (D) 25X
8. **ab\_\_dbc\_\_ \_\_cda\_\_d\_bcab\_\_d**  
 (A) cdabac (B) cdaabc  
 (C) adabac (D) dadabc
9. **15, 30, 60, 120, ? Find the missing number.**  
 (A) 250 (B) 245  
 (C) 240 (D) 260
10. **120, 60, 30, 15, ? Find the missing number.**  
 (A) 7.5 (B) 5.7  
 (C) 3.0 (D) 8.5



11. **4, 10, ? 82, 244, 730**  
 (A) 218 (B) 28  
 (C) 24 (D) 77

## Answer Key

**Directions - Find out the related words from the alternatives given below.**

- |         |          |          |         |
|---------|----------|----------|---------|
| Q.1 (D) | Q.2 (A)  | Q.3 (C)  | Q.4 (C) |
| Q.5 (B) | Q.6 (A)  | Q.7 (B)  | Q.8 (A) |
| Q.9 (C) | Q.10 (A) | Q.11 (B) |         |