

Coding & Decoding

Reasoning Tricks



BY RAHUL AGRAHARI



What is Coding Decoding?

- **There are various types of coding decoding questions which are asked. These include:**
- **Letter coding**
- **Number coding**
- **Mixed coding**
- **Mixed number coding**
- **Decoding Symbol**

ALPHABETS NUMBERING

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

Opposite
Alphabet
of
Each
Alphabet

QUESTION

- In a certain code "SHORE" is coded as "QFMPC", then how to code "WNKGL"?

EXPLANATION

- S(19) -2 Q(17)
- H (8) -2 F (6)
- O (15) -2 M (13)
- R (18) -2 P (16)
- E (5) -2 C (3)

- W (23) -2 U (21)
- N (14) -2 L (12)
- K (11) -2 I (9)
- G (17) -2 O (15)
- L (12) -2 J (10)

QUESTION

- In a certain code if **BANKER** is written as **CZMLTC**, what will be written as **MARKER**?

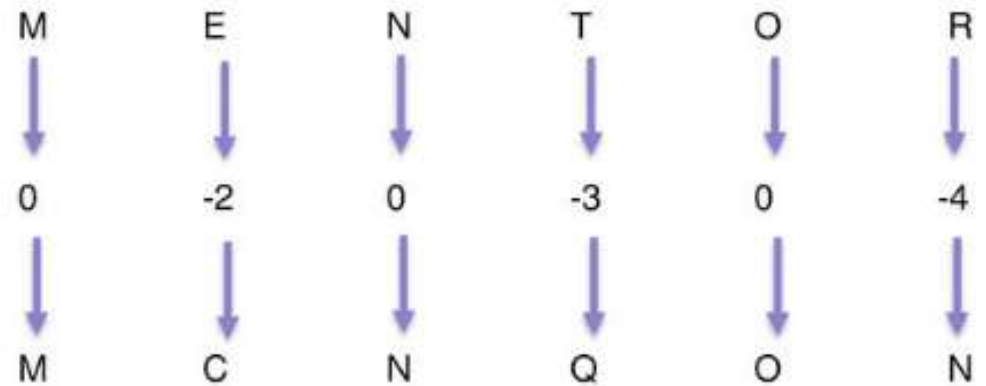
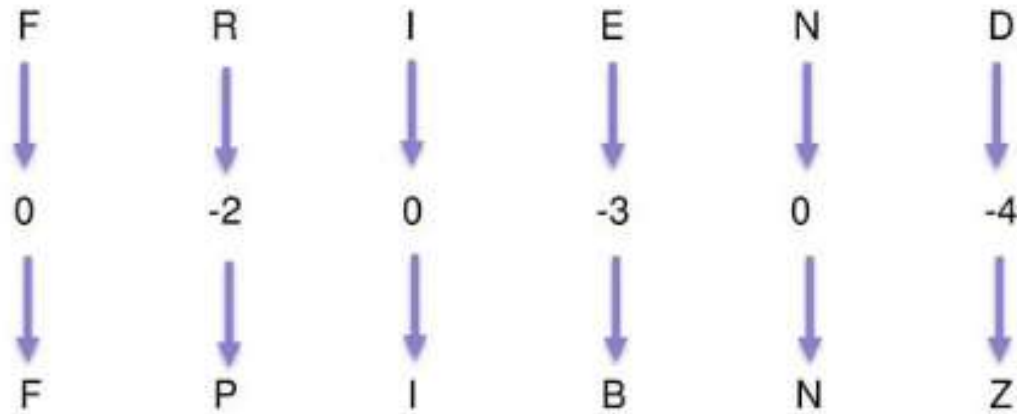
EXPLANATION

QUESTION

- Find the Missing code -

FRIEND : FPIBNZ :: MENTOR : ?

EXPLANATION



QUESTION

- In a certain code "ECAM" is written as "\$*%&" and "IRA" is written as "?^*". How can "ICECREAM" be written in that code?

EXPLANATION

- E : @

M: &

C: \$

I: ?

A: *

R: ^

ICECREAM : ?\$@\$^@*&

QUESTION

Given below are codes for a few alphabets, based on the coding answer the following questions:

alphabet	T	N	P	C	G	A	S	E	H	K	I
symbol	\$	%	^	&	*	?	@	+	#	£	A

If the code for T is exchanged with I, code for N is exchanged with K and so on, what will be the code for word “SKIP”?

1. A£%#
2. ?@£\$
3. +?# \$
4. %^&#
5. *%\$#

QUESTION

- The data given below represents a coded language for different colours, analyse it and answer the questions following it:
- “black orange yellow purple blue” is written as “set jet let get bet”
- “grey green red purple” is written as “get pet wet vet”
- “purple blue red silver” is written as “vet set get tet”
- “grey orange pink” is written as “ bet ret pet”

QUESTIONS

Q 1. Based on the information given above, what is the code for red?

- | | | |
|---------------|---------------|---------------|
| A. Vet | B. Pet | C. Ret |
| D. Wet | E. Get | |

Q 2. What will be the code for “Orange is Red”?

- | | | |
|-----------------------|-----------------------|-----------------------|
| A. bet ret vet | B. bet vet zet | C. Wet get jet |
| D. Jet let vet | E. Pet set vet | |

Q 3. Which colour has been coded as “set”?

- | | | |
|------------------|-----------------|-----------------|
| A. Yellow | B. Black | C. Green |
| D. Grey | E. Blue | |

Q 4. What is the code for the colour “Grey”?

- | | | |
|---------------|---------------|---------------|
| A. Set | B. Jet | C. Let |
| D. Pet | E. Wet | |

Q 5. Which of the given combinations is correct?

- | | | |
|----------------------|----------------------|--------------------|
| A. Green-set | B. Orange-bet | C. Grey-set |
| D. Purple-bet | E. Purple-pet | |

EXPLANATION

Black	jet/ let
Orange	bet
Yellow	jet/ let
Purple	get
Blue	set
Grey	pet
Green	wet
wet	vet
Silver	tet
Pink	ret

ANSWER

1- vet

2- bet vet zet

3- Blue

4- pet

5- Orange bet

QUESTION

In a certain code language

‘given time simple plan’ was written as

‘@E4 &N4 %N5 #E6’

‘tired solution plant great’ was written as

‘#N8 @D5 %T5 &T5’

‘sick point good turn’ was written as

‘#K4 %D4 @N4 &T5’

‘garden sister phone team’ was written as

‘&E5 #R6 %N6 @M4’

EXPLANATION

1. What will be the code for 'translate'?

#E8

@E9

@E8

#T9

#T8

2. What will be the code for 'plan'?

%N5#E6

@E4

&N4

%N5

None of these

3. What does '%D4' stands for?

Sick

turn

point

Good

None of these

EXPLANATION

Answer 1: B

Step I: First count the alphabets in the word 'translate' which is 9, put 9 at the end.

Step II: Put the last alphabet of 'translate' before the digit 9 so now the code is E9 till now.

Step III: As observed above in all phrases, the alphabet 't' is represented by the code '@'.

So now put '@' at the beginning of the code so the answer is – @E9 that is option B.

Answer 2: C

Code for the word 'plan' –

Step I: First count the alphabets in the word 'Plan' which is 4, put 4 at the end.

Step II: Put the last alphabet of 'plan' before the digit 4 so now the code is N4 till now

Step III: As observed above in all phrase the alphabet 'p' is represented by the code '&'. So now put '&' at the beginning of the code so the answer is – &N4 that is option C.

Answer 3: D

The decoded word for '%D4'

Step I: The last number is 4, therefore, the word consists of 4 words ' _ _ _ _ '.

Step II: The Middle code defines the last alphabet of the word which is 'D' so put the last alphabet of the word as d, so now the word is ' _ _ _ d ' till now.

Step III: As observed above in all phrase the code '%' is used to represent the alphabet 'G'. So now put 'G' at the beginning of the word so the word is – 'G _ _ d' which matches option d, so the word is Good, option D.

QUESTION

- In a certain code, NEWYORK is written as 111, how is NEWJERSEY written in that code?

EXPLANATION

- In NEWYORK

$N = 14, E = 5, W = 23, Y = 25, O = 15, R = 18,$
 $K = 11$

$\text{Total} = 14 + 5 + 23 + 25 + 15 + 18 + 11 = 111$

In NEWJERSEY

$\text{Total} = 14 + 5 + 23 + 10 + 5 + 18 + 19 + 5 +$
 25
 $= 124$

QUESTION

- In a certain code, HARYANA is written as 8197151, how is DELHI written in that code?

EXPLANATION

- We used the number of alphabets here.

$$H = 8$$

$$A = 1$$

$$R = 18 = 1+8 = 9$$

$$Y = 25 = 2+5 = 7$$

For DELHI

$$D = 4$$

$$E = 5$$

$$L = 12 = 1+2 = 3$$

$$H = 8$$

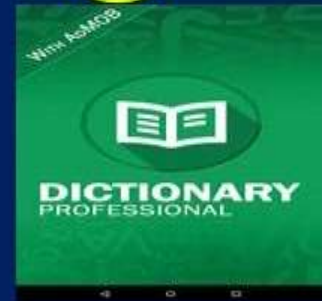
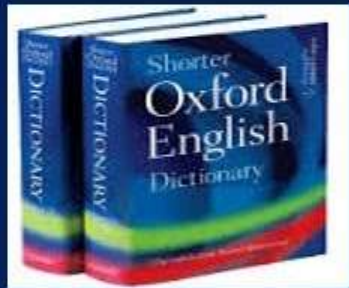
$$I = 9$$

Hence, DELHI is written as 45389

Reasoning

Dictionary-Logical

Orders



(शब्दकोश के अनुसार)

QUESTION

Arrange the following in the order of the dictionary.

1. Scenery 2. Science 3. Scandal 4. School 5. Scatter

(A) 3,5,1,4,2

(B) 3,5,4,1,2

(C) 5,3,4,2,1

(D) 5,3,2,1,4

QUESTION

Which will be the 2nd word from the following in the telephone dictionary?

- (A) SAJEWET**
- (B) SAJEWAT**
- (C) SEGVAN**
- (D) SALWAR**

The background of the slide is a dense, overlapping field of three-dimensional numbers in various sizes and orientations, creating a complex, textured effect. The numbers are rendered in a light blue or white color with soft shadows, giving them a 3D appearance. In the center of the slide, there is a dark blue, rounded rectangular banner containing the title text in white. At the bottom right, the author's name is written in a large, bold, orange font.

HOW TO SOLVE NUMBER SERIES

By Rahul Agrahari

Tips & Tricks To Solve Alphanumeric

- There are a variety of types in which questions may be asked for the alphanumeric series. These include:
- **Missing Series:** Where a series of alphabets and numbers may be given a particular pattern and candidates may be asked to fill in the blank space with the required element
- **Alphabet-Number-Symbol:** These questions may also be asked in a format where a series with alphabets, number and different types of symbols (like &, *, \$, etc.) may be given, and questions may be asked based on them
- **Only Alphabetic Series:** Series with either missing element or questions with sub-parts may be asked which comprise only English Alphabets and no numbers, set in a specific pattern
- **Only Numerical Series:** Series comprising only numbers, set in a specific pattern may be asked the exam. Questions based on this type may be asked in the form of rearrangement of numbers or digits with the number in ascending, descending or any other order.

Alphanumeric Series

Directions (Q1-Q2): Refer to the alphanumeric series given below and answer the following questions:

A * 5 9 I N & E @ # U 1 &

Q 1. How many vowels in the above arrangement are preceded by a symbol?

- a) One
- b) Two
- c) Three
- d) None
- e) Four

Q 2. Which is the second element to the left of the sixth element from the right?

- a) &
- b) @
- c) N
- d) E
- e) 9

EXPLANATION

Answer-1: (2) Two; “E” is preceded by “&” and
“U” is preceded by “#”

Answer-2: (3) N; Sixth element from the right is
E and second to its left is N

Alphanumeric Series

DIRECTIONS : Study the following arrangement carefully and answer the questions given below.

4 K % R T 3 E P # A 7 B 9 D I Q @ 2 8 V U © H J 5 F 1 % 6 M W

❖ How many such consonants are there in the above arrangement, each of which is immediately preceded by a number but not immediately followed by a letter?

- | | | |
|---------|-------------------|----------|
| A. One | B. Two | C. Three |
| D. Four | E. More than four | |

Alphanumeric Series

❖ Which of the following is the third to the left of the tenth from the left end in the above arrangement?

- A. E B. 9 C. B
D. P E. None of these

❖ Four of the following five, are alike in a certain way based on their positions in the above arrangement and so form a group. Which is the one that does not belong to that group?

- A. 2VQ B. JF© C. 165
D. TP% E. H5U

EXPLANATION

❖ Correct option is: C

Number Consonant Symbol/Number

Such combinations are:

4K%, 7B9, 5F1

❖ Correct option is: A

❖ Correct option is: D

$$2 \xrightarrow{+2} V \xrightarrow{-4} Q$$

$$J \xrightarrow{+2} F \xrightarrow{-4} \oplus$$

$$1 \xrightarrow{+2} 6 \xrightarrow{-4} 5$$

$$T \xrightarrow{+3} P \xrightarrow{-5} \%$$

$$H \xrightarrow{+2} 5 \xrightarrow{-4} U$$

QUESTION

Directions : Refer to the numerical series given below and answer the following questions:

435 224 786 823 902

❖ **When all the digits in each of the given numbers are arranged in ascending order, which number becomes the highest?**

a) 435

b) 224

c) 786

d) 823

e) 902

❖ **When the digits within the number are multiplied with each other, the product of which number is the lowest?**

a) 435

b) 224

c) 786

d) 823

e) 902

EXPLANATION

Answer : 786

Solution: When the digits are arranged in ascending order within the number, the new numbers formed are:

435 – 345

224 – 224

786 – 678

823 – 238

902 – 092

Answer : 902; any number multiplied with 0 will give the answer 0, which is the least

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K - 11	→	P - 16
L - 12	→	O - 15
M - 13	→	N - 14

Opposite
Alphabet
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Alphabet

ALPHABET SERIES

❖ **WYB, XUD, YQF, ...**

1. HZM

2. HCZ

3. ZMH

4. ZCH

❖ **NOM, QRP, TUS, ?**

1. WAX

2. HUT

3. WXV

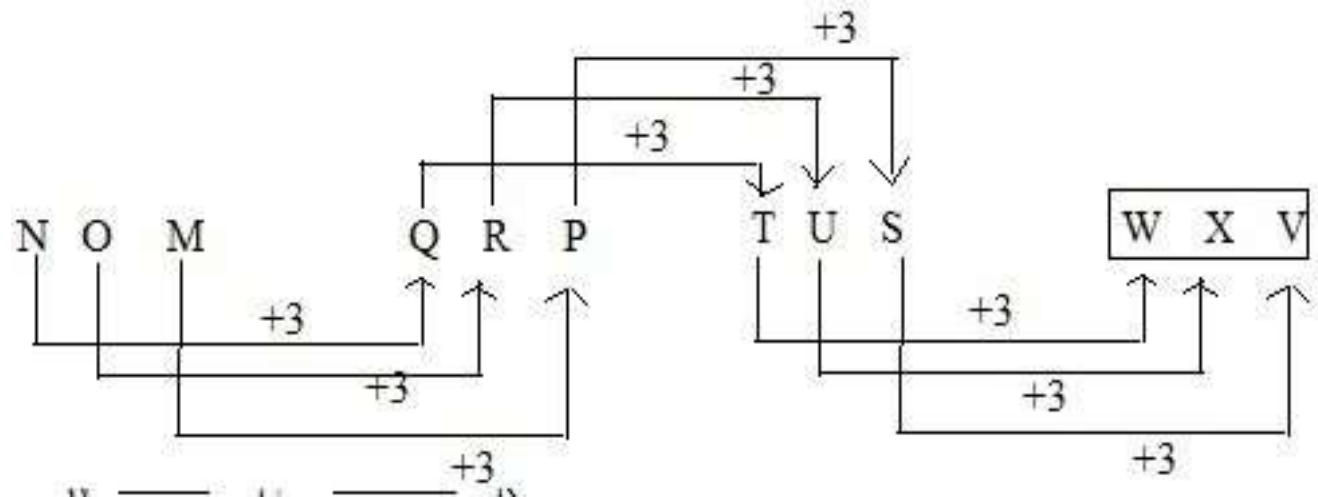
4. HTU

EXPLANATION

- **Sol : Option 3**

Divide each member of series in this way: B D F H and so on (one gap) in ascending order, Y U Q M and so on (three gap) in descending order, WX Y Z and so on (no gap) in ascending order

- **Sol: Option 3**



QUESTION

❖ Four of the following five are alike in a certain way and form a group. Which is the one that does not belong to the group?

a) FDA

c) PRO

b) LJG

d) WUR

EXPLANATION

Consider the first option 'FDA. Here, D is the second letter from F and A is the third letter from D. The same logic is used to form all the terms except option

c) PRO.

QUESTION

❖ B, D, F, I, L, P, ?

a) R

b) S

c) T

d) U

e) P

❖ AZ, GT, MN, ?, YB

a) JH

b) SH

c) SK

d) JQ

e) SG

EXPLANATION

❖ Sol: +2, +2, +3, +3, +4, +4

hence answer is T

❖ Z is opposite of A and this follow

hence answer is SH

QUESTION

❖ **AAZ, BCT, DEN, GGH, ?**

a) **JJB**

b) **KIB**

c) **KCC**

d) **GLB**

EXPLANATION

- A A Z , B C T , D E N , G G H , **K I B**
1 1 26 2 3 20 4 5 14 7 7 8 11 9 2

QUESTION

❖ Which set of letters when sequentially placed at the gaps in the given letter series shall complete it?

bc_b_c_b_ccb

1. cbcb

2. bbcb

3. cbbc

4. bc bc

❖ _qr_srq_p_rs_r_p

1. pqrsss

2. qprsss

3. pspqsq

4. pspqqq

EXPLANATION

❖ **Correct Ans:**cbcb

The series is,
bccb/bccb/bccb.

❖ **Correct Ans:**pspqsq

The correct sequence is pqrs/srqp/pqrs/srqp.
And the pattern is pqrs and srqp.

NUMBER SERIES

Missing Number Series

1, 3, 7, 13, 21, 21, 31, ?

5, 5, 7.5, ?, 37.5, 112.5

15, 19, 28, ?, 69, 105

EXPLANATION

- 43

- $5 \times 1 = 5$

$5 \times 1.5 = 7.5$

$7.5 \times 2 = 15$

$15 \times 2.5 = 37.5$

$37.5 \times 3 = 112.5$

- $15 + 2^2 = 19$

$19 + 3^2 = 28$

$28 + 4^2 = 44$

$44 + 5^2 = 69$

$69 + 6^2 = 105$

WRONG ONE OUT

- In the following series, find which of the given number is wrong and does not follow the pattern:
- 564, 282, 140, 70.5, 35.25
- 633, 624, 598, 534, 409, 193
- 17, 85, 425, 2115, 10625, 53125

EXPLANATION

❖ Solution: $564/2 = 282$

$$282/2 = 141$$

$$141/2 = 70.5$$

$$70.5/2 = 35.25$$

❖ Solution: $633 - 2^3 = 625$

$$625 - 3^3 = 598$$

$$598 - 4^3 = 534$$

$$534 - 5^3 = 409$$

$$409 - 6^3 = 193$$

❖ Solution: $17 \times 5 = 85$

$$85 \times 5 = 425$$

$$425 \times 5 = 2125$$

$$2125 \times 5 = 10625$$

$$10625 \times 5 = 53125$$

QUESTIONS

- **88, 87, 89, 80, 144,?**
- **1, 3, 10, 36, 152, 1770,?**
- **4, 18, 48, 100, 180,?**

QUESTIONS

- **17 16 14 12 11 8 8 ?**

- **1 3 2 6 3 11 4 18 5 ?**

EXPLANATION

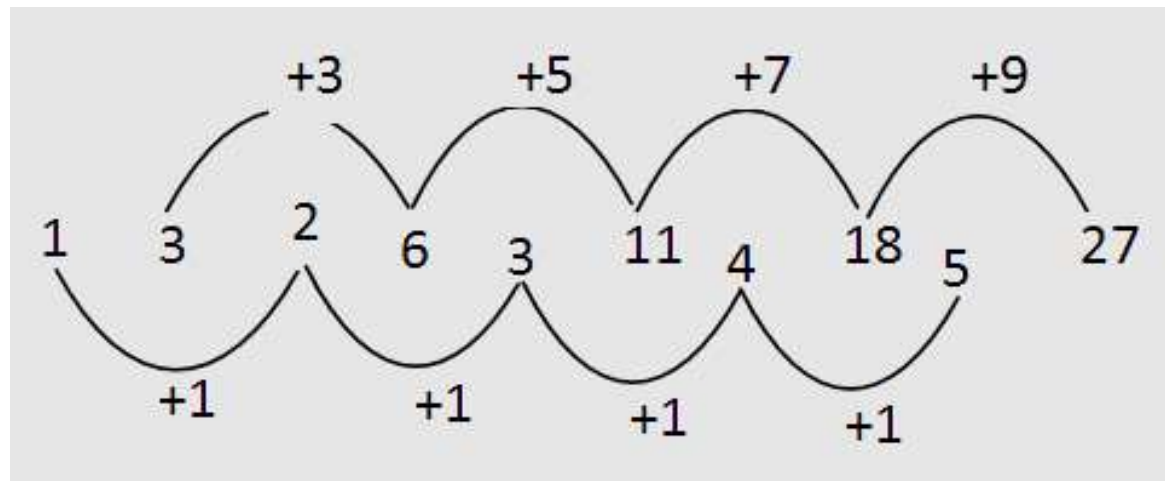
- There are two series:

1st : 17 14 11 8 and 2nd: 16 12 8 ?

In first series, -3 , -3 , -3.....

and in 2nd series , -4 , -4 , -4....

Therefore, next term will be $8 - 4 = 4$.



QUESTION

❖ 0 3/4 8/9 15/16 24/25 ?

A) 29/28

B) 33/32

C) 35/36

D) 37/38

EXPLANATION

The correct answer is $35/36$ (C)

The series in this question follows the pattern:

1- $1/n^2$, $n = 1/1, 1/2, 1/3, 1/4...$

*Thank
you*

