

In this segment of commonsense reasoning, secret messages or words have to be decoded. They are coded as per a definite pattern/ rule which should be identified 1st. Then the same is applied to decode another coded word. Under this segment you come across two types of coding letter coding and number coding. Based on these two types of coding-decoding various types of problems come your way. This chapter makes you familiar with every types of problems based on coding-decoding.

TYPE I (CODING BY LETTER SHIFTING)

Pattern 1: Coding in forward sequence

Example: If 'GOOD' is coded as 'HPPE', then how will you code 'BOLD'?

Explanation: Here, every letter of the word 'Good' shifts one place in forward alphabetical sequence. Let us see:

$$\begin{array}{cccc} G & O & O & D \\ +1\downarrow + 1\downarrow + 1\downarrow + 1\downarrow \\ H & P & P & E \end{array}$$

Similarly, every letter in the word 'BOLD' will move one place in forward alphabetical sequence as given below:

$$\begin{array}{cccc} B & O & L & D \\ +1\downarrow + 1\downarrow + 1\downarrow + 1\downarrow \\ C & P & M & E \end{array}$$

∴ Code for 'BOLD' will be 'CPME'.

Pattern 2: Coding in backward sequence.

Example: If 'NAME' is coded as 'MZLD', then how will code SAME?

Explanation: Here, every letter of the word 'MZLD' moves one place in backward alphabet sequence. Let us see:

$$\begin{array}{cccc} N & A & M & E \\ -1\downarrow - 1\downarrow - 1\downarrow - 1\downarrow \\ M & Z & L & D \end{array}$$

Similarly, every letter of the word 'SAME' will move one place in backward alphabet sequence. Let us see:

$$\begin{array}{cccc} S & A & M & E \\ -1\downarrow - 1\downarrow - 1\downarrow - 1\downarrow \\ R & Z & L & I \end{array}$$

∴ Code for 'SAME' will be 'RZLD'

Pattern 3: Coding based on skipped sequence.

Example: If the word 'FACT' is coded as 'IDFW'; then how will you code 'DEEP'?

Explanation: Here, you see that 2 letters are omitted in alphabetic sequence. The following diagram gives you the more clear picture:

$$\begin{array}{cccc} F & A & C & T \\ +3\downarrow + 3\downarrow + 3\downarrow + 3\downarrow \\ I & D & F & W \end{array}$$

Clearly, 'F' (skip 2 letters) 'I'

'A' (skip 2 letters) 'D'

'C' (skip 2 letters) 'F'

'T' (skip 2 letters) 'W'

Similarly, 'DEEP' can be coded. Let us see.

$$\begin{array}{cccc} D & E & E & P \\ +3\downarrow + 3\downarrow + 3\downarrow + 3\downarrow \\ G & H & H & S \end{array}$$

∴ Code for 'DEEP' will be 'GHHS'.

TYPE II (CODING BY ANALOGY)

Example: If 'RPTFA' stands for 'BLADE', how will you code 'BALE'.

Explanation: Here, 'BLADE' has been coded as 'RPTFA'. You will see that all the letters in the word 'BALE', which have to be coded, are also there in the word 'BLADE'. Hence, all that needs to be done is to choose the relevant code letters from the code word 'RPTFA'. Therefore, B becomes R, A becomes T, L becomes P, and E becomes A. Therefore, 'BALE' will be coded as 'RPTA'. - Correct answer is 'RPTA'.

TYPE III (CODING BY REVERSING LETTERS)

Example: If 'TEMPERATURE' is coded as 'ERUTAREPMET' then how will you code 'EDUCATION' following the same scheme.

Explanation: Here, the word 'TEMPERATURE' has been reversed. Hence, the code for 'education' will be 'NOITACUDE',

A	E	E	C	D	TYPE IV (CODING IN
1	5	5	3	4	

FICTIONS LANGUAGE)

In some cases of coding-decoding, fictions language is used to code some words. In such questions, the codes for a group of words is given. In such types of problems, codes for each can be found by eliminating the common words.

Example: In a certain code language ‘over and above’ is as ‘da pa ta’ and, ‘old and beautiful’ is written as ‘Sa na pa’ is ‘over’ written in that code language?

Explanation: Over and above = da Pa ta
Old and beautiful = Sa na Pa

Clearly, ‘and’ is common in both and a common code is ‘Pa’.

Code for ‘and’ must be ‘Pa’.

Code for ‘over’ = ‘da’ or ‘ta’.

Code for above = ‘da’ or ‘ta’.

Code for old = ‘Sa’ or ‘na’

Code for beautiful = ‘Sa’ or ‘na’

We can’t certainly say what will be exact code for ‘over’. But it is sure that code for ‘over’ must be either ‘da’ or ‘ta’.

TYPE V (CODING BASED ON NUMBERS)

Pattern 1: When numerical values are given to words.

Example: If in a certain language A is coded as 1, B is coded as 2, C is coded as 3 and so on, then find the code for AEEDC. **Explanation:** As given the letters are coded as below:

A	B	C	D	E	F	G	H	I
1	2	3	4	5	6	7	8	9

Now,

∴ Code for AEEDC = 15534

Pattern 2: When alphabetical code value are given for numbers.

Example: In a certain code 3 is coded as ‘R’, 4 is coded as ‘D’ 5 is coded as ‘N’, 6 is coded as ‘P’, then find the code for ‘53446’.

Explanation: As per the given condition

3	4	5	6
R	D	N	P

Now,

5	3	4	4	6
N	R	D	D	P

∴ Code for 53446 = NRDDP.

TYPE VI (MATHEMATICAL OPERATIONS WITH THE POSITION NUMBERS OF LETTERS)

Example: In a certain code, if ‘TALE’ is written as 38, then how will you code ‘CAME’ using the same coding scheme?

Explanation: Look at the numbered alphabet and write down the number corresponding to the letters of the word ‘TALE’.

T	A	L	E
20	1	12	5

The fact that the code for ‘TALE’ is 38, gives you a clue that the code is probably obtained by performing an arithmetical operations of the numbers of each other. Let us see:

20+1 + 12+5 = 38

Thus, the code for ‘CAME’ is CAME 3 + 1 + 13 + 5=22
Code for ‘CAME’=22

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