



# Coding-Decoding

Coding means to hide the meaning of any message and decoding means to understand the actual meaning of that message.

In questions based on coding-decoding, a word (basic word) is coded in a particular way and the candidates are asked to code other word in the same way.

To solve the questions based on coding-decoding, first of all it is necessary to remember the positions of all the letters in English alphabetical order.

## Order of the English Alphabet

| Forward order position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|

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

| Forward order position | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|

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

☑ By using EJOTY and CFILORUX formulae, we can easily remember the position of letters of English alphabet.

|   |   |   |    |    |    |    |    |
|---|---|---|----|----|----|----|----|
| 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 |
| ↓ | ↓ | ↓ | ↓  | ↓  | ↓  | ↓  | ↓  |
| C | F | I | L  | O  | R  | U  | X  |

(sounds like a medicine name)

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

(sounds like a girl's name Joti)

Coding-Decoding can be divided into following two types.

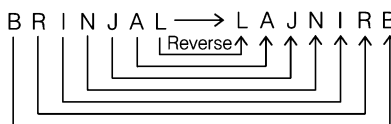
## 1. Letter Coding

In this type of coding, we deal with questions, in which the letters of a word are replaced by certain other letters according to a specific pattern/rule to form a code. You are required to detect the coding pattern/rule and answer the question(s) that are asked, based on that coding pattern/rule.

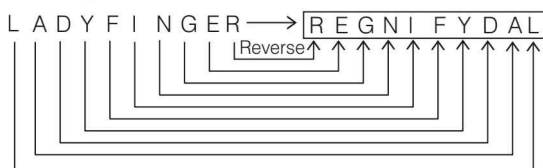
**Example 1** In a coded language, BRINJAL is written as LAJNIRB. How will LADYFINGER be written in that code?

- (a) RNEGIFYDAL
- (b) RINEGFYDAL
- (c) REGNIFYDAL
- (d) RGENIFYDAL

**Sol.** (c) As,



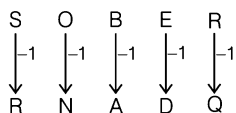
Similarly,



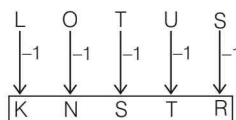
**Example 2** In a certain code, SOBER is written as RNADQ. How LOTUS can be written in that code?

- (a) KNSTR (b) MPUWT  
(c) KMSTR (d) LMRST

**Sol.** (a) As,



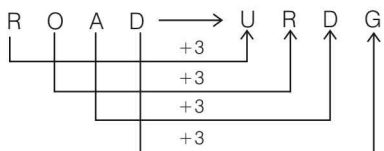
Similarly,



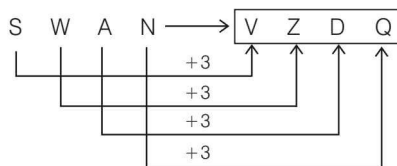
**Example 3** In a certain code, ROAD is written as URDG. How is SWAN written in that code?

- (a) VXDQ (b) VZDQ  
(c) VZCP (d) UXDQ

**Sol.** (a) As,



Similarly,



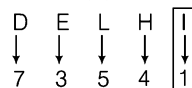
## 2. Number Coding

In this type, we deal with the questions in which the numerical code values are assigned to a word or alphabets according to predefined pattern. Candidates are required to identify the numerical pattern of coding, so that the given word can be transformed in same coding.

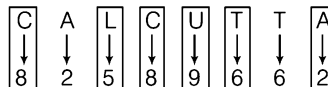
**Example 4** If DELHI is coded as 73541 and CALCUTTA as 82589662, then how can CALICUT be coded?

- (a) 5279431 (b) 5978013  
(c) 8251896 (d) 8543691

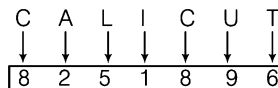
**Sol.** (c) As,



and



Similarly,

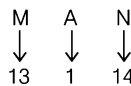


**Example 5** If MAN is coded as 13-1-14, then how, will you code TIME?

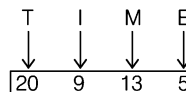
- (a) 20-9-13-5 (b) 19-9-18-5  
(c) 19-18-5-6 (d) 20-8-13-5

**Sol.** (a) Here, the postional value of letters in English alphabet are given.

As,



Similarly,



## Practice Exercise

1. In a certain language, 'TRACK' is coded as 'BATMP'. How is 'KACRT' coded in that language?

- (a) PTMAB (b) OTMAB  
(c) PUMAB (d) PTMAE

2. If in a certain language, 'TIMEN' is coded as 'ACMOG'. How is 'EMTIN' coded in that language?

- (a) ONACG (b) OMACG  
(c) OMACN (d) OMBCG

3. In a certain language, 'LONGE' is coded as 'MNPQT'. How is 'EGNOL' coded in that language?  
 (a) TQPNM (b) PNMTQ  
 (c) TTPMN (d) PQTMN
4. In a certain language, 'MNO PQ' is coded as 'ABCDE'. How is 'QPONM' coded in that language?  
 (a) EDCBA (b) BDCBA  
 (c) CBABD (d) EDBCA
5. In a certain language, 'TARGET' is coded as 'MOPGM'. How is 'RATGT' coded in that language?  
 (a) POTIM (b) POMGM  
 (c) QOTGM (d) POUGM
6. In a certain language, 'REASO' is coded as 'GPTMB'. How is 'AEROS' coded in that language?  
 (a) TGPMB (b) TPGBM  
 (c) GPTBM (d) PTGMB
7. In a certain language, 'TARGET' is coded as 'TEGRAT'. Then, how 'MANOJ' is coded in that language?  
 (a) OONAM (b) JONAN  
 (c) JOMAM (d) JONAM
8. In a certain language, 'NUMBER' is coded as 'UNBMRE'. How is 'GHOSTS' coded in that language?  
 (a) GHOTSS (b) HGSOST  
 (c) HGOTSS (d) HSGOST
9. In a certain language, 'FIRE' is coded as 'DGPC'. How is 'SHOT' coded in that language?  
 (a) PFMR (b) QGMR (c) QFMR (d) QFNR
10. In a certain language, 'GUN' is coded as 'HVO'. Then, the coded form 'IBU' is for which word?  
 (a) G A Q (b) H A T (c) H B T (d) H A Q
11. In a certain language, 'SOCAIL' is written as 'TQFENR', then 'DIMPLE' is coded as  
 (a) EKPTQK (b) AKTPKQ  
 (c) ELPTKQ (d) KQTPKE
12. In a code, 'JUNE' is written as 'NXPF', then what will be the code of 'STAY'?  
 (a) WXCZ (b) WWCZ (c) WXBZ (d) WWCY
13. In a code, 'BOMBAY' is coded as 'CNNABX', then what will be the code of 'DELHI'?  
 (a) EDMJG (b) GMDEJ  
 (c) DEGMJ (d) EDMGJ
14. In a certain language, 'TOUR' is coded as '1234' and 'CLEAR' is coded as '56784' and 'SPARE' is as '90847', then how is 'SCULPTURE' coded in that language?  
 (a) 1453602347 (b) 953401347  
 (c) 85360245 (d) 953601347
15. If 'LINGER' is '123456' and 'FORCE' is '98675', then 'FIERCE' is coded in that language  
 (a) 925675 (b) 915675 (c) 924675 (d) 925665
16. If 'MAGIC' is '45876'. How is 'AICMG' is coded in that language?  
 (a) 57467 (b) 57368 (c) 58448 (d) 57648
17. If 'GIVE' is coded as '5137' and 'BAT' is coded as '924', how is 'GATE' coded?  
 (a) 5427 (b) 5724 (c) 5247 (d) 2547
18. If 'PALE' is coded as '2134', 'EARTH' is coded as '41590', how is 'PEARL' coded in that code?  
 (a) 29530 (b) 24153 (c) 25413 (d) 25430
19. In a certain language, 'OUT' is '152120', then what is the code 'IN'?  
 (a) 915 (b) 918 (c) 814 (d) 914
20. In a certain language, 'ARMY' is coded as 1, 18, 13, 25. How is 'LOVE' coded in that language?  
 (a) 12, 5, 4, 15 (b) 12, 15, 22, 5  
 (c) 4, 5, 15, 22 (d) 13, 15, 22, 6

## Answers

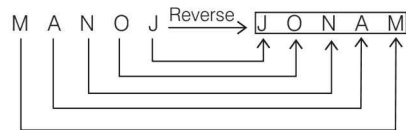
|    |     |    |     |    |     |    |     |    |     |    |     |    |     |    |     |    |     |    |     |
|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|
| 1  | (a) | 2  | (b) | 3  | (a) | 4  | (a) | 5  | (b) | 6  | (b) | 7  | (d) | 8  | (b) | 9  | (c) | 10 | (b) |
| 11 | (a) | 12 | (b) | 13 | (d) | 14 | (d) | 15 | (a) | 16 | (d) | 17 | (c) | 18 | (b) | 19 | (d) | 20 | (b) |

## Hints & Solutions

1. TRACK KACRT  
 $\downarrow\downarrow\downarrow\downarrow \Rightarrow \downarrow\downarrow\downarrow\downarrow$   
 BATMP **PTMAB**
2. TIMEN EMTIN  
 $\downarrow\downarrow\downarrow\downarrow \Rightarrow \downarrow\downarrow\downarrow\downarrow$   
 ACMOG **OMACG**
3. In this question, L = M, O = N, N = P, G = Q, E = T. So, 'EGNOL' will be coded as 'TQPNM'.
4. Here, M = A, N = B, O = C, P = D, Q = E  
 So, QPONM = EDCBA
5. In this question, T = M, A = O, R = P, G = G. So, 'RATGT' will be coded as 'POMGM'.
6. In this question, R = G, E = P, A = T, S = M, O = B. So, 'AEROS' is coded 'TPGBM'.

7. As, T A R G E T  $\xrightarrow{\text{Reverse}}$  T E G R A T
- 

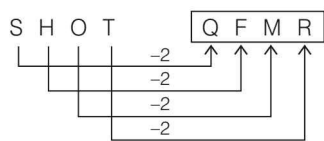
Similarly,



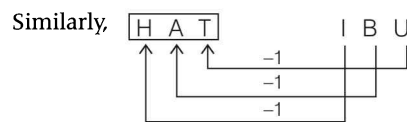
8. As,
- 
- Similarly,
- 

9. As,
- 

Similarly,

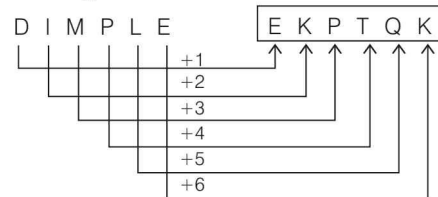


10. As,
- 



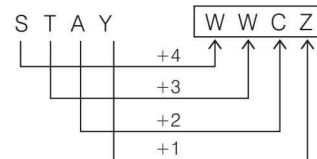
- 11.
- 

Similarly,



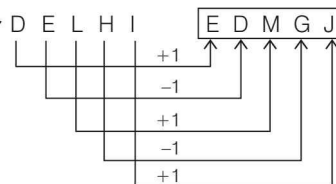
12. As,
- 

Similarly,



13. As,
- 

Similarly,



14. In this question, S = 9, C = 5, U = 3, L = 6, P = 0, T = 1, U = 3, R = 4 and E = 7. So, 'SCULPTURE' is '953601347'.
15. In this question, F = 9, I = 2, E = 5, R = 6, C = 7. So, FIERCE is 925675.

16. In this question, M = 4, A = 5, G = 8, I = 7, C = 6. So, 'AICMG' is '57648'.

17. The alphabets are coded as shown, i.e. G as 5, A as 2, T as 4 and E as 7. So, 'GATE' is coded as 5247.

18. The alphabets are coded as shown, i.e. P as 2, E as 4, A as 1, R as 5 and L as 3. So, 'PEARL' is coded as '24153'.

19. O = 15, U = 21, T = 20 (Positional value) and OUT = 152120. So, IN = 914

20. As,

|   |    |    |    |                   |
|---|----|----|----|-------------------|
| A | R  | M  | Y  |                   |
| ↓ | ↓  | ↓  | ↓  | Positional Values |
| 1 | 18 | 13 | 25 |                   |

Similarly,

|    |    |    |   |
|----|----|----|---|
| L  | O  | V  | E |
| ↓  | ↓  | ↓  | ↓ |
| 12 | 15 | 22 | 5 |



## Try Yourself

1) In a certain code, 'TARUNG' is coded as 'NITEKA'. How is 'GNRUAT' coded in that language?

- (a) NETKAI (b) KAENTI  
(c) AKTEIN (d) AKETNI

2) In a certain language, 'REPEAT' is coded as 'SDQDBS'. How is 'SOURCE' coded in that language?

- (a) DDQVNT (b) TVNDQD  
(c) TNVQDD (d) NTQVDD

3) If 'BROWN' is coded as 'ZPMUL'. How is 'VIOLET' will be coded as

- (a) CRJMGJ (b) TGMJCR  
(c) MJTGCR (d) GMTJCJR

4) If in a code language, 'MADRAS' is coded as 'TBSEBN'. How is 'NEW DELHI' coded in that language?

- (a) JIMFEXFO (b) OXEMFIJ  
(c) MIJEFXOF (d) FEXOFMIJ

5) If 'BEAT' is written as 'GIDV', How is 'SOUP' will coded in that language?

- (a) SXXR (b) XSXR  
(c) XRSY (d) RXXS

6) If 'SYSTEM' is written as 'SYSMET', and 'NEARER' as 'AENRER'. How is 'FRACTION' will coded in that language?

- (a) CARFNOIT (b) NOITCARF  
(c) RAFCNOIT (d) CASFNOIT

7) If 'MEDICO' is coded as 'PBGFFL', then 'DOCTOR' will be coded as

- (a) ROQFLG (b) FLGORQ  
(c) GLFQRO (d) FQLRRO

8) If 'SCIENCE' is coded as 'UFMJ TJM', then 'GENE' will be coded as

- (a) IHRJ (b) IJRH (c) HIRJ (d) JRHI

9) If 'HINDU' is coded as '61257' and 'MAN' is coded as '932', then 'INDIA' will coded as

- (a) 21513 (b) 51232 (c) 12513 (d) 15132

10) If 'ACNE' is coded as '1, 3, 14, 5', then 'BOIL' will be coded as

- (a) 5, 31, 21, 25 (b) 2, 15, 9, 12  
(c) 5, 29, 19, 25 (d) 5, 29, 19, 27

## Answers

- 1 (c) 2 (c) 3 (b) 4 (a) 5 (b)  
6 (a) 7 (c) 8 (a) 9 (c) 10 (b)