Coding-Decoding

- Coding means to hide the meaning of any message and decoding means to understand the actual meaning of that message.
- In this type of questions, a set of letters or numbers is given in code which have to be deciphered or decoded. In other words, here letters or alphabets do not stand for themselves but for some other letters i.e., they have an artificial or code value. These artificial or code values are given according to some set principle or pattern. By applying the same principle, one can decode the coded identity.
- To solve the questions based on coding-decoding, it is necessary to remember the following points
- Position of letters in English alphabet

Forward 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
Backward Position	26	25	24	23	22	21	20	19	18	17	16	15	14
Forward 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
Backward Position	13	12	11	10	9	8	7	6	5	4	3	2	1

- By using 'EJOTY' formula, we can easily remember the position of English Alphabets.

5	10	15	20	25
E	J	O	T	Y

- Opposite letter of each letter in English alphabet.

  A ↔ Z, B ↔Y, C ↔ X, D ↔ W, E ↔ V

  F ↔ U, G ↔ T, H ↔ S, I ↔ R, J ↔ Q

  K ↔ P, L ↔ O, M ↔ N,

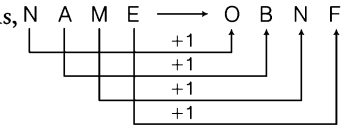
Letter Coding

In this type of questions, a group of letters is replaced or coded by another set of letters by following a certain rule or pattern. You are required to identify the pattern and accordingly answer the question asked.

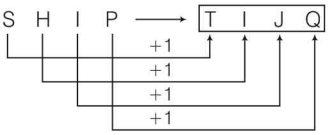
Example 1 In a certain code language 'NAME' is written as 'OBNF'. How will 'SHIP' be written in that code?

(a) JITQ (b) TSIQ (c) IJTQ (d) TIJQ

Sol. (*d*) As,



Similarly,



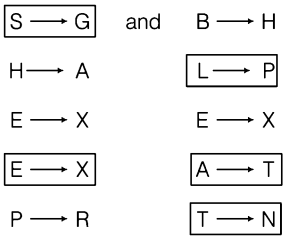
Example 2 In a certain coding system, 'SHEEP' is written as 'GAXXR' and 'BLEAT' is written as 'HPXTN'. How can 'SLATE' be written in that same coding system?

(a) GPTNX (b) GPTXN (c) GPXNT (d) PTGXN

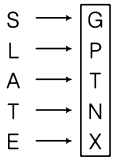
(e) None of these

Sol. (*a*) In both the words 'SHEEP' and ''BLEAT', the letter E is common and code for E is X.

Hence, using direct letter coding method, we have,



Similarly, using the direct codes



Example 3 If in a certain code language, 'BROWSER' is written as 'RESWORB' then how 'TEACHER' be coded is that same language?

(a) REHCEAT

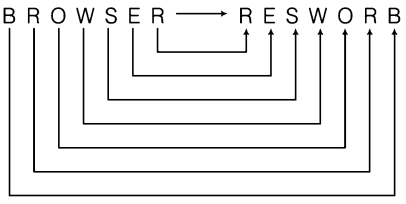
(b) REHCAET

(c) REHCTEA

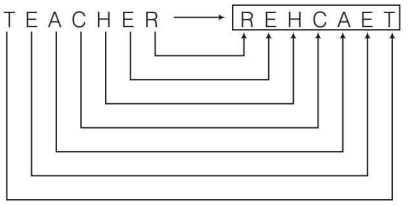
(d) AHRCTEA

Sol. (*b*) Here, all letters are coded is reverse order.

As,



Similary



Number/Symbol Coding

In such type of questions, a group of letters/numbers are replaced or coded either by a number or by a symbol. You are required to decipher the code for the given set and answer the question.

Example 4 In a certain code language 'ORAL' is written as '3196'. How will 'WRITTEN' be written in that code?

(a) 5529295

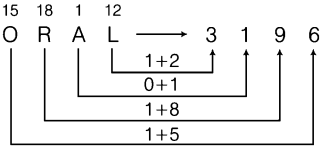
(b) 5522959

(c) 5992255

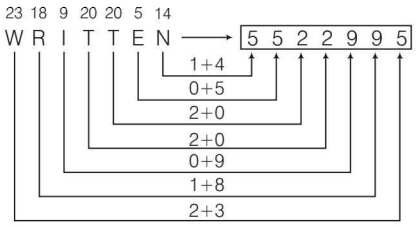
(d) 5522995

Each letter is coded with the digits sum of its letters positions in English alphabet.

Sol. (*d*) As,



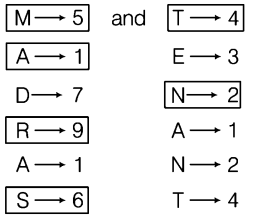
Similarly,



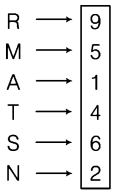
Example 5 If MADRAS is coded as 517916 and TENANT is coded as 432124, then how would you encode RMATSN?

(a) 851353 (b) 951363
(c) 951462 (d) 941562

Sol. (*c*) As,



Similarly,



Practice Exercise

1. In a certain code language 'AWAKE' is written as 'ZVZJD'. How will 'FRIEND' be written in that code?
   (a) UQHDME
   (b) EQHDEM
   (c) EQHDME
   (d) EQHDMC

2. In a certain code language 'CAT' is written as 'DDY'. How will 'BIG' be written in that code?
   (a) CML (b) CJL (c) CLL (d) CNL

3. If the word 'TABLECLOTH' is coded as 'XEMRANRIXT', then how can 'HOTEL' be coded?
   (a) RIXAT (b) TIXAR
   (c) TAXIR (d) RAXIT

4. In a certain code if DEMOCRACY is written as YCARCOMED, then how will the word PRESIDENT be coded?
   (a) EIETPRSDN
   (b) NOSRPTEIE
   (c) TNEDISERP
   (d) RSDNPEIET

5. If DEMOCRATIC is written as EDMOR-CATCI, then how CONTINUOUS will be written in the same code?
   (a) OCTNNIOUSU (b) OTCNINUOUS
   (c) OCNTNIUOSU (d) OTNCINUOSU

6. In a certain code 'PRISM' is written as 'OSHTL' and 'RUBLE' is written as 'QVAMD'. How will 'WHORL' be written in that code?
   (a) XIPSM (b) VINSK
   (c) UINSK (d) XGPQM

7. If 'CARING' is coded as 'EDVGKC' and 'SHARES' is coded as 'UKEPBO', then how will 'CASKET' be coded as in the same code?
   (a) EDXIBP (b) EDWIAP
   (c) EDWPAI (d) EDWIBP

8. In a certain code, 'TERMINAL' is written as 'NSFUMBOJ' and 'TOWERS' is written as 'XPUTSF'. How is 'MATE' written in that same code?
   (a) FUBN (b) UFNB
   (c) BNFU (d) BNDS

9. In a certain code 'SAME' is written as 'HZNV'. How will 'LOVE' be written in that code?
(a) AJUC (b) MOPL
(c) KNEV (d) OLEV

10. If PALE is coded as 2134, EARTH is coded as 41590, then how is PEARL coded as?
(a) 29530 (b) 24153
(c) 25413 (d) 25430

11. If in a certain code 'DICKINSON' is written as 357950210 and 'DIPP' is written as 3566, then how can 'PICNIC' be written in the same code?
(a) 650757 (b) 657057
(c) 657507 (d) 560757

12. In a certain code, 15789 is written as XTZAL and 2346 is written as NPSU. How will 23549 be written in that code?
(a) NPTUL (b) PNTSL
(c) NPTSL (d) NBTSL

13. In a certain code, BASKET is written as 5$3%#1 and TRIED is written as 14✶#2. How will SKIRT be written in that code?
(a) 3% ✶ 41
(b) 3✶%41
(c) 3%#41
(d) 3#4%1

Directions (Q. Nos. 14 and 15) *In each of the following questions, some letters are given below in first row and numbers are given below them in second row. Numbers are the codes for the alphabets and Vice-Versa. Choose the correct letter code for the given set of numbers.*

C W E A Z X J Y K L
3 9 5 7 4 8 1 0 2 6

14. Given set JWXCLZ
(a) 198364 (b) 198264
(c) 198354 (d) 197354

15. Given set 372510
(a) CAKEXY (b) CAKEYJ
(c) CAEKJY (d) CAKEJY

16. In a certain code 'PEACE' is written as 16-5-1-3-5, then
How will the word 'LOVE' be coded?
(a) 12-15-22-5 (b) 22-5-10-15
(c) 14-4-15-12 (d) 5-7-9-12

17. If A = 1, ACE = 9, then ART = ?
(a) 10 (b) 39 (c) 29 (d) 38

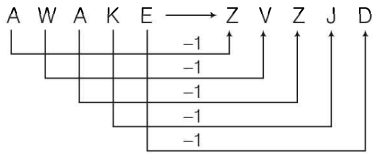
18. If 'bucket' is known as 'tub', 'tub' is known as 'glass', 'glass' is known as 'saucer', 'saucer is known as 'spoon', then which utensil will be used for drinking water?
(a) Tub (b) Saucer (c) Spoon (d) glass

Answers

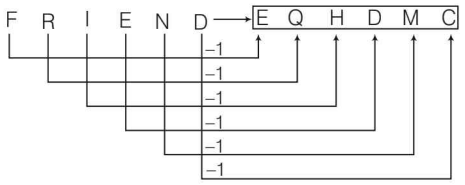
1	*(d)*	2	*(c)*	3	*(b)*	4	*(c)*	5	*(c)*	6	*(b)*	7	*(d)*	8	*(c)*	9	*(d)*	10	*(b)*
11	*(b)*	12	*(c)*	13	*(a)*	14	*(a)*	15	*(d)*	16	*(a)*	17	*(b)*	18	*(b)*				

Hints & Solutions

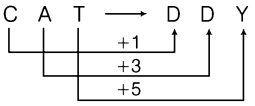
1. (d) As,



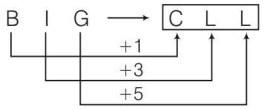
Similarly,



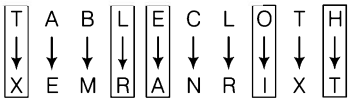
2. (c)



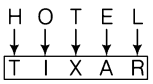
Similarly,



3. (b) As,

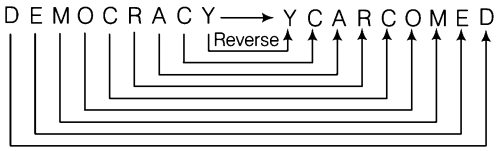


Similarly,

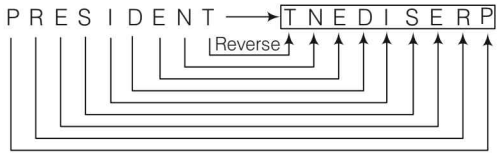


(by direct substitution method)

4. (c) As,

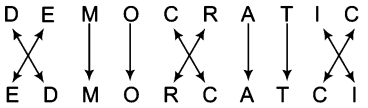


Similarly,

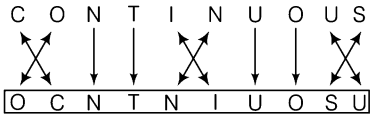


Note *All letters are coded in revese order.*

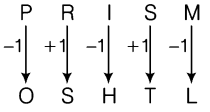
5. (c) As,



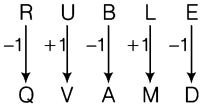
Similarly,



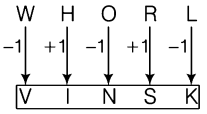
6. (b) Given,



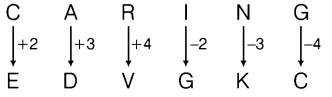
and



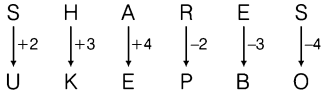
Then,



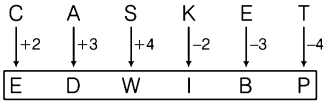
7. (d) As,



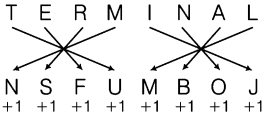
and



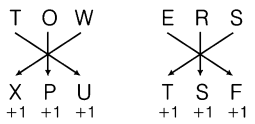
Similarly,



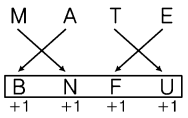
8. (c) As,



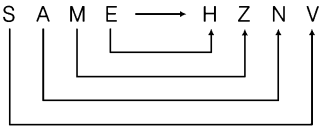
and



Similarly,

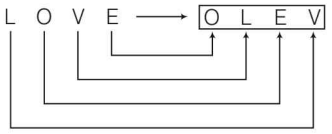


9. (d) As,



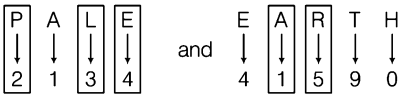
opposite letter in English alphabet

Similary,

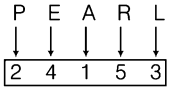


opposite letter in English alphabet

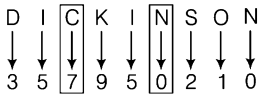
10. (b) As,



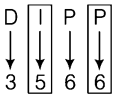
Similarly,



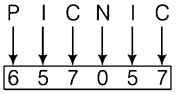
11. (b) As,



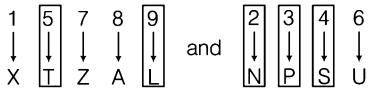
and



Similarly,

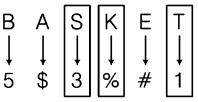


12. (c)



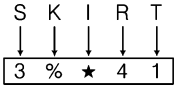
$\therefore$ 2 3 5 4 9 = N P T S L

13. (a) As,

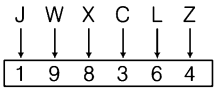


and

Similarly,

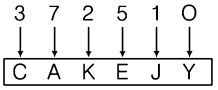


14. (a) Here,



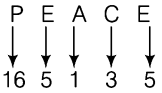
The correct number code for the given set of letters is 198364.

15. (d) Here,



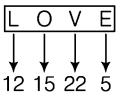
The correct letter code for the given set of numbers is CAKEJY.

16. (a) As,



(positional value in alphabetical order)

Similarly,



17. (b) As, A = 1

(Positional value in English Alphabet)

and ACE = 1 + 3 + 5 $\Rightarrow$ 9

Similarly,

ART = 1 + 18 + 20 $\Rightarrow$ 39

18. (b) Glass is used for drinking water and here glass is called as saucer. So, Saucer will be used for drinking water.