

CHAPTER – 2

CODING AND DECODING

Before looking at the different types of questions and some of the codes that can be used with the help of examples, let us first understand what we mean by *coding* and *decoding*. When we say *coding*, a particular code or pattern is used to express a word in English language as a different word or in a different form. The coded word itself does not make any sense unless we know the pattern or code that has been followed. *Decoding* refers to the process of arriving at the equivalent English word from the code word given.

In the questions, a particular code is given and on the basis of this given code, we have to find out how another word (in English language) can be coded. The correct code for the given word has to be selected from the answer choices on the basis of the code given in the question.

Worked Out Examples:

Directions for questions 2.01 to 2.07: Select the correct alternative from the given choices.

- 2.01.** In a certain code language, if the word 'PARTNER' is coded as OZQSMDQ, then what is the code for the word 'SEGMENT' in that language?
(A) TFHNFOU (B) RDFLDMS
(C) RDELDMS (D) RDFEDNS

Sol. Word : P A R T N E R
Logic : -1 -1 -1 -1 -1 -1 -1
Code : O Z Q S M D Q
Similarly the code for SEGMENT is
Word : S E G M E N T
Logic : -1 -1 -1 -1 -1 -1 -1
Code : R D F L D M S
Choice (B)

- 2.02.** In a certain code language, if the word 'RECTANGLE' is coded as TGEVCPING, then how is the word 'RHOMBUS' coded in that language?
(A) TJQODWV (B) TJQNDWU
(C) TJQODWU (D) TJQOEWU

Sol. Word : R E C T A N G L E
Logic : +2 +2 +2 +2 +2 +2 +2 +2
Code : T G E V C P I N G
Similarly, the code for RHOMBUS is
Word : R H O M B U S
Logic : +2 +2 +2 +2 +2 +2 +2
Code : T J Q O D W U
Choice (C)

- 2.03.** In a certain code language, if the word 'SPHERE' is coded as EREHPS, then how is the word 'EXHIBITION' coded in that language?
(A) NOTITBIHXE (B) NOITIDIHXE
(C) NOITIBIHWE (D) NOITIBIHXE

Sol. Word: S P H E R E
Logic: The letters in the given word are reversed.
Code: E R E H P S
Similarly, the code for EXHIBITION, is
Word: E X H I B I T I O N
Logic: The letters in the given word are reversed.
Code: N O I T I B I H X E Choice (D)

- 2.04.** In a certain code language, if the word 'REJECTION' is coded as SGMHWPWW, then how is the word 'MECHANIC' coded in that language?

(A) NGFLFTPK (B) NGPLFTPK
(C) NGFKFTPK (D) NGPTPKIL

Sol. Word: R E J E C T I O N
Logic: +1 +2 +3 +4 +5 +6 +7 +8 +9
Code: S G M I H Z P W W
Similarly, the code for MECHANIC is
Word: M E C H A N I C
Logic: +1 +2 +3 +4 +5 +6 +7 +8
Code: N G F L F T P K

Choice (A)

- 2.05.** In a certain code language, if the word 'PLAYER' is coded as AELPRY, then how is the word 'MANAGER' coded in that language?

(A) AEAGMNR (B) AAGEMNR
(C) AAEGMNR (D) AAEGNMR

Sol. Word: P L A Y E R
Logic: The letters in the word are arranged in the increasing order of their value as in the alphabet.
Code: A E L P R Y
Similarly, the code for MANAGER is AAEGMNR.
Choice (C)

- 2.06.** In a certain code language, if the number 1 is assigned to all the letters in odd numbered places in the alphabet and the remaining letters are assigned the number 2, then what is the code for the word 'INDIAN'?

(A) 121212 (B) 112212
(C) 121221 (D) 122112

Sol. The code for the word INDIAN is 122112.
Choice (D)

- 2.07.** In a certain code language, if CRICKET is coded as 3923564, ROCKET is coded as 913564 and KETTLE is coded as 564406, then how is LITTLE coded in that language?

(A) 244060 (B) 024406
(C) 020446 (D) 200446

Sol. As we observe that the letters and their corresponding codes are given in order i.e., the code for C is 3, R is 9, I is 2 and so on. Hence, the code for LITTLE is 024406.
Choice (B)

Directions for questions 2.08 to 2.11: In a certain code language, the codes for some words are as follow.

NATION – agvnab
REMOTE – rzgrbe
STAIR – efgnv
FORMAL – bensyz
COMMON – zabzpb
FOR – ebs

Based on the above coding pattern answer the following questions.

- 2.08.** What is the code for 'SCREEN'?

(A) fepcra (B) fpersa
(C) fpreba (D) fperra

- 2.09.** What is the code for 'RATION'?
- (A) ensvba (B) engvba
(C) engrba (D) engvca
- 2.10.** What is the code for 'CREATOR'?
- (A) prengbc (B) persbgc
(C) perngbe (D) pebryc
- 2.11.** What is the code for 'AMERICAN'?
- (A) nzrevpna (B) nzrespna
(C) nzlespna (D) nzreqpna

Solutions for questions 2.08 to 2.11:

The given words and their codes are as follow.

- (1) NATION – agynab
(2) REMOTE – rzgrbi
(3) STAIR – efgnv
(4) FORMAL – bensyz
(5) COMMON – zabzpb
(6) FOR – ebs

In the 1st word the letter N is repeated and so is the code a. Hence, for N, the code is a. Similarly, from the 2nd word, the code for E is 'r'. In 1st and 6th words the letter o is common and so is the code b. Hence, the code for o is b. In the 5th word the letter m is repeated and so is the code z. Hence, the code form is z. Similarly, the codes for the remaining letters can be determined.

Directions for questions 2.13 to 2.17: These questions are based on the following information.

A sequence of digits and symbols and their respective letter codes are given below.

Digit / Symbol	3	≠	4	\$	7	2	Δ	θ	*	6	9	1	+	8	x
Letter / Codes	g	b	t	l	a	c	d	n	w	p	j	o	f	z	y

Conditions:

- (i) If the second and the last elements of the group are digit and symbol respectively then code both of them as 'J'
(ii) If both the first and the last elements of the group are symbols then code both of them as 'D'.
(iii) If third and fourth elements of the group are digit and symbol respectively then interchange their respective codes.
(iv) If both the last two elements are symbols then code both of them as 'Z'.

Find the codes for the groups of elements given below using digit / symbol and their respective codes according to the above conditions.

- 2.13.** 3 4 Δ 9 8 θ
(A) g j d z n (B) g t d j z z
(C) g j d j z j (D) d t d j z d
- 2.14.** 4 ≠ Δ \$ *
(A) t b d l w (B) t b l d w
(C) t d b z z (D) t b d z z
- 2.15.** + θ 2 6 8 *
(A) d n c p z d (B) n d c p z d
(C) n f c p z w (D) f j c d z j
- 2.16.** Δ + 2 7 9 ≠
(A) d f c a j b (B) d c f a d j
(C) d f c a j d (D) f d c a j d
- 2.17.** \$ 7 4 Δ + 6 3
(A) l a t d f p g (B) l a d t f p g
(C) l a t c f g p (D) l d a t f p g

The letters and their respective codes are as follows.

Letter	A	C	E	F	I	L	M	N	O	R	S	T
Code letter	n	p	R	s	v	y	Z	a	b	e	f	G

- 2.08.** The code for 'SCREEN' is fperra. Choice (D)
- 2.09.** The code for 'RATION' is engvba. Choice (B)
- 2.10.** The code for 'CREATOR' is perngbe. Choice (C)
- 2.11.** The code for 'AMERICAN' is nzrevpna. Choice (A)

Directions for question 2.12: Select the correct alternative from the given choices.

- 2.12.** In a certain code if white is called as black, black as yellow, yellow as blue, blue as red, red as green, green as purple, then what is the colour of blood in that language?
(A) Red (B) Green
(C) Yellow (D) Purple

Sol. The colour of blood is red and in this code Red is called Green. Hence, blood is green in colour in that language. Choice (B)

Solutions for questions 2.13 to 2.17:

- 2.13.** The given group of elements is 3 4 Δ 9 8 θ. This group follows condition (i). Hence the code is g j d j z j. Choice (C)
- 2.14.** The given group of elements is 4 ≠ Δ \$ *. This group follows condition (iv). Hence the code is t b d z z. Choice (D)
- 2.15.** The given group of elements is + θ 2 6 8 *. This group follows condition (ii). Hence the code is d n c p z d. Choice (A)
- 2.16.** The given group of elements is Δ + 2 7 9 ≠. This group follows condition (ii). Hence the code is d f c a j d. Choice (C)
- 2.17.** The given group of elements is \$ 7 4 Δ + 6 3. This group follows condition (iii). Hence the code is l a d t f p g. Choice (B)

Exercise – 2

Directions for questions 1 to 25: Select the correct alternative from the given choices.

1. In a certain code language if the word 'IMPRESSION' is coded as IPESOMRSIN, then how will you code the word 'SIGNIFICANT'?
(A) SGIAITINFIN (B) SGIIATINFCN
(C) SGTIAIINFCN (D) SGAITINIFCN
2. In a certain code language, if the word 'GROWTH' is coded as IUXPSH, then how will you code the word AVERAGE?
(A) BWFSBHF (B) FHBSFWB
(C) FHBRFWB (D) FHASFWB
3. In a certain code language if the word 'ARRIVED' is coded as 'DEVIRRA,' then how will you code the word 'PETROLEUM'?
(A) MULEORTEP (B) MUELROTEP
(C) MUELTROEP (D) MUELORTEP
4. In a certain code language, if the word 'SECTOR' is coded as 'CESROT', then how will you code the word 'OPPOSITION'?
(A) SOPPONOITI (B) NOITISOPPO
(C) SOPOPNOITI (D) None of these
5. In a certain code language if the word 'CONCEPT' is coded as DQQGJVA, then how will you code the word 'EXECUTION' in that language?
(A) FZHFZZPW (B) FZHGZPWW
(C) FZHGZZPXW (D) FZHGZZPWW
6. In a certain code language, if 'ADDRESS' is coded as ZCCQDRR, then how will you code the word BUILDING?
(A) ATHKCHMF (B) ATHLCHMF
(C) ATHKDHF (D) ADHKDHNF
7. In a certain code language, if 'ENERGY' is coded as CLCPEW, then how will you code the word FORTUNE?
(A) DMPQSLC (B) DMPRTLK
(C) DMQRSLC (D) DMPRSLC
8. In a certain code language, if 'RESIDENT' is coded as PCQGBCLR, then how will you code the word VILLAGE?
(A) TGJJYEC (B) TGJJYEC
(C) TGJJXEC (D) TGJJYDC
9. In a certain code language, if 'MEASURE' is coded as LFZTTSD, then how will you code the word OCCASION?
(A) NDDDJNO (B) NDBBTJNO
(C) NDBBRJNO (D) NDBBRINO
10. In a certain code language, if 'PUBLIC' is coded as SXEIFZ then how will you code the word NUMBER?
(A) QXPYBO (B) QXJYBO
(C) QRPYBO (D) QXPYHO
11. In a certain code language, if 'CHEER' is coded as 385518 and 'WATER' is coded as 23120518, then how will you code the word EXPRESS?
(A) 524161751919 (B) 524161851919
(C) 523161851919 (D) 524171851919
12. In a certain code language, if 'A' is represented by 1, 'B' by 2, 'C' by 3 and all the multiples of 2 are given a code of 2, the multiples of 3 are given a code of 3, in case of a clash 2 will prevail, and the rest of the letters in the alphabet are given a code of 4, then what is the code for the word 'VOWEL'?
(A) 23432 (B) 24342
(C) 23442 (D) 23424
13. In a certain code language, if the word 'ENERGY' is coded as 786374 and 'REAP' is coded as 1073 then what is the code for the word GREEN?
(A) 78664 (B) 73364
(C) 68874 (D) Cannot be determined
14. In a certain code language, if the value of 'INVADER' = 42 and 'SECURE' = 30, then what is the value of 'SITUATION'?
(A) 81 (B) 90 (C) 63 (D) 72
15. In a certain code language if the value of 'PIONEER' is 70, and 'BRAND' is 50 then what is the value of 'TECHNOLOGY' in that code?
(A) 80 (B) 90 (C) 100 (D) 110
16. In a certain code language, if the value of 'CUSTOM' = 22 and "LABOUR" = 20, then what is the value of the word 'HISTORY'?
(A) 42 (B) 49 (C) 46 (D) 48
17. In a certain code language, if the value of CONSUMER = 24 and DETERGENT = 27, then what is the value of EXPLORATION?
(A) 30 (B) 27 (C) 36 (D) 33
18. In a certain code language, if ANT is coded as 11420, RAN is coded as 18114, then how is the word HIT coded?
(A) 8921 (B) 8920 (C) 9802 (D) 9821
19. In a certain code language, if HER is coded as 8518, FAN is coded as 6114, then how is the word JON coded?
(A) 11514 (B) 101512 (C) 91541 (D) 101514
20. In a certain code language, if MOTIVE is coded as 79 91 121 55 133 31, then how is the word DROWN coded?
(A) 17 73 61 99 57 (B) 23 107 89 137 83
(C) 25 109 91 139 85 (D) 25 109 91 137 83
21. In a certain code language, if February is coded as 06225, MARCH is coded as 13308, how is the word MAY coded?
(A) 13525 (B) 13125 (C) 13325 (D) 130525
22. If in a code language, CRITICAL is coded as 335541627, TRIM is coded as 2158, then how is the word MALI coded?
(A) 5867 (B) 5978 (C) 3465 (D) 3867
23. If INDIA/ CANADA = 1, US/CHINA = 1/2, then RUSSIA/JAPAN = _____
(A) 1 (B) 1.5 (C) 2 (D) 2.5
24. If in a code language, JEANS is coded as LCCLU, how is the word SHIRT coded?
(A) UJKTV (B) QFGPS
(C) QJKTV (D) UFKPV

25. If in a code language, ALTERNATE is coded as BKVDUMESK, how is the word CONFUSED coded?
 (A) DNPEXRID (B) DNPEXRIC
 (C) DNPEXQJC (D) DNPEXDIC

Directions for questions 26 to 30: These questions are based on the following information.

In the table given below, a group of words are written in column-I and their respective codes are written in column-II against each group. Each word has a unique code. Compare the group of words and their respective codes and answer the following questions.

Column – I

- (i) Diamonds in Bag.
 (ii) Diamonds are exported.
 (iii) Bag was Black.
 (iv) Black is exported.

Column – II

- ϕ z x
 * z
 + ϕ %
 f + *

26. What is the code for 'Diamond'?

- (A) ϕ (B) + (C) % (D) z

27. What is the code for 'Diamond is Black'?

- (A) ϕ z f
 (B) z f +
 (C) ϕ f +
 (D) Cannot be determined

28. Which of the following is coded as ' ϕ *'?

- (A) Bag Black
 (B) Diamond Bag
 (C) Bag exported
 (D) Black exported

29. What is the code for 'exported'?

- (A) *
 (B) ϕ
 (C) +
 (D) Cannot be determined

30. What is the code for 'was'?

- (A) % (B) x (C) ϕ (D) +

Directions for questions 31 to 35: To answer these questions sequence of digits and symbols, their respective letter codes and the conditions given below.

Digit / Symbol	3	\$	4	@	8	2	x	\neq	ϕ	θ	7	1	5	!	9
Letter / Codes	A	M	N	T	B	D	F	J	C	Z	P	O	H	I	E

Conditions:

- (i) If the 4th and the 6th elements of the group are symbols then code both of them as 'M'.
 (ii) If the 2nd and the last elements of the group are digit and symbol respectively then interchange their respective codes.
 (iii) If the 1st and the 5th elements are digits then code both of them as 'P'.
 (iv) If the 3rd and the 5th elements are digit and symbol respectively then code both of them as 'B'.

31. 4 @ 8 x \neq 7

- (A) N T B F B J (B) N B T F T B
 (C) N T B F B P (D) N T B B F P

32. 5 θ \$ 2 9 \neq

- (A) P T M D E J (B) P Z M D P J
 (C) T Z M D E C (D) P T M D E P

33. ϕ \$ 3 @ 9 ! 5

- (A) C T M A M E T (B) C M A M E M T
 (C) C M A M E M H (D) M C A M E I H

34. \neq 4 8 2 6 9 \$

- (A) J M B D I E P
 (B) P Z A E I P N
 (C) J M B D C E P
 (D) M E Z B D P I

35. 3 \$ ϕ 1 7 3

- (A) A P O M B P
 (B) A M C O P A
 (C) A M C M P M
 (D) P M C O P A

Directions for questions 36 to 40: These questions are based on the following information.

A sequence of digits and symbols and their respective letter codes are given below.

Digit / Symbol	1	*	9	∇	5	4	ϕ	%	\$	2	3	6	Δ	8	δ
Letter / Codes	Z	O	S	T	A	C	E	J	K	N	B	I	Y	W	V

Conditions:

- (i) If the 4th and the 5th elements of the group are digits then code both of them as V.
 (ii) If the 1st and the last elements of the group are symbols then interchange their respective codes.
 (iii) If the 3rd and the last elements of the group are digits then code both of them as K.
 (iv) If the 2nd and the 6th elements are digit and symbol respectively then code both of them as W.

Find the codes for the groups of elements given below using digit / symbol, their respective letter codes according to the above conditions

36. % 9 5 ∇ Δ 4

- (A) J S A T Y K (B) Y S K T J K (C) J S K T Y K (D) J O K T Y K

Triumphant Institute of Management Education Pvt. Ltd. (T.I.M.E.) HO: 95B, 2nd Floor, Siddamsetty Complex, Secunderabad – 500 003.

Tel : 040-40088400 Fax : 040-27847334 email : info@time4education.com website : www.time4education.com

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37. 6 9 * % 8
 (A) I S O J W T
 (B) I W O J W W
 (C) W S J O W I
 (D) I S O V V T
38. ϕ 3 4 * 1 \$ %
 (A) E B C O Z K V
 (B) J B C O Z K V
 (C) J W C O W Z E
 (D) J B C O Z K E
39. % ϕ 6 Δ
 (A) W E T I Y
 (B) Y E T I J
 (C) E K I Y K
 (D) J E T V W
40. 2 ∇ ϕ 3 6 Δ
 (A) N T E V W V
 (B) N T E V V W
 (C) N T E V V Y
 (D) None of these

Directions for questions 41 to 45: These questions are based on the information given below.

Study the following two tables carefully and find codes for the given words.

	0	1	2	3	4
0	G	B	W	R	M
1	U	D	N	V	E
2	B	E	O	L	P
3	Y	C	S	A	Q
4	T	N	C	X	I

	5	6	7	8	9
5	U	C	D	B	L
6	H	L	G	M	P
7	I	E	N	U	D
8	S	T	O	H	R
9	A	P	E	Y	S

For example '00' represents letter G, 68 represents letter 'M'.

41. EDUCATION
 (A) 21 11 55 31 34 40 44 22 41
 (B) 14 57 10 42 95 33 75 87 12
 (C) 76 79 78 56 95 40 75 22 12
 (D) 97 11 78 42 33 86 44 41 12
42. TELEPATHY
 (A) 40 21 59 14 96 33 87 66 32
 (B) 86 14 23 76 24 95 40 88 98
 (C) 40 97 66 97 69 33 87 66 31
 (D) 86 76 59 14 24 95 40 99 31
43. PRINTER
 (A) 96 89 75 12 40 14 30
 (B) 24 03 75 77 86 79 89
 (C) 24 89 44 41 86 14 04
 (D) 96 03 75 12 40 97 89

44. ESCAPE
 (A) 76 85 56 33 96 21
 (B) 21 99 31 92 69 76
 (C) 97 32 42 95 99 14
 (D) 14 85 13 33 24 97
45. GLOBE
 (A) 67 66 22 01 41
 (B) 00 66 22 11 44
 (C) 00 23 87 20 12
 (D) 67 59 87 01 97

Directions for questions 46 to 50: These questions are based on the information given below.

Study the following two tables carefully and find codes for the given words.

	0	1	2	3	4
0	P	D	E	H	A
1	B	T	G	K	R
2	U	H	Y	B	O
3	C	A	N	E	D
4	S	R	F	L	T

	5	6	7	8	9
5	N	H	S	A	B
6	A	D	L	U	V
7	E	W	O	C	T
8	G	U	H	D	L
9	S	P	C	H	E

For example '11' represents 'T', '58' represents 'A'.

46. DOUBLE
 (A) 01 24 20 95 89 02
 (B) 66 24 86 59 43 75
 (C) 88 77 68 10 67 88
 (D) 34 77 68 23 76 33
47. BRANCH
 (A) 23 14 58 55 97 12
 (B) 59 41 58 55 97 65
 (C) 10 41 04 55 03 56
 (D) 23 14 31 32 30 87
48. HOSTAGE
 (A) 21 24 57 79 04 42 33
 (B) 03 77 40 79 65 58 02
 (C) 56 24 95 11 31 12 75
 (D) 98 77 04 44 58 85 99
49. LANDSCAPE
 (A) 67 31 55 66 57 78 04 96 33
 (B) 43 58 32 01 40 97 65 01 02
 (C) 89 04 32 88 95 30 13 96 99
 (D) 65 89 55 66 95 97 58 00 75
50. SALT
 (A) 57 04 89 97
 (B) 95 31 67 12
 (C) 40 65 34 79
 (D) 57 31 43 44

Key

Exercise – 2

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|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1. B | 6. A | 11. B | 16. B | 21. A | 26. D | 31. C | 36. C | 41. C | 46. B |
| 2. B | 7. D | 12. C | 17. D | 22. A | 27. B | 32. B | 37. B | 42. B | 47. D |
| 3. D | 8. A | 13. D | 18. B | 23. B | 28. C | 33. C | 38. D | 43. D | 48. C |
| 4. A | 9. C | 14. D | 19. D | 24. D | 29. A | 34. A | 39. B | 44. A | 49. A |
| 5. D | 10. A | 15. C | 20. C | 25. B | 30. A | 35. D | 40. C | 45. D | 50. D |

Triumphant Institute of Management Education Pvt. Ltd. (T.I.M.E.) HO: 95B, 2nd Floor, Siddamsetty Complex, Secunderabad – 500 003.

Tel : 040-40088400 Fax : 040-27847334 email : info@time4education.com website : www.time4education.com

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