CHAPTER 3
Small & Capital Letters/ Numbers Coding-Decoding and Classification

TYPE - I

Coding is a secretive language which is used to change the representation of the actual term/word/value. This coded language can be framed by *(i)* moving the letters one or more steps forward or backward; *(ii)* substituting numbers for letters and vice–versa; *(iii)* writing the letters of the given word in reverse order in part or in whole; and *(iv)* replacing the letters in their natural series by the same positioned letters in their reverse series.

Alphabet in natural series are :

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
↓   ↓   ↓   ↓   ↓   ↓
1st   5th   10th   15th   20th   25th

Alphabet in reverse series are :

Z Y X W V U T S R Q P O N M L K J I H G F E D C B A
↓   ↓   ↓   ↓   ↓   ↓
1st   5th   10th   15th   20th   25th

Note : On reaching Z, the series restarts from A and on reaching A, it restarts from Z.

SOLVED EXAMPLES
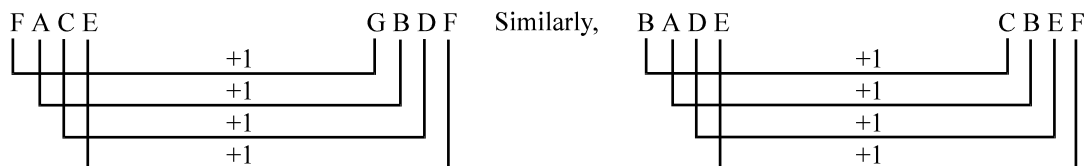
1. If FACE is coded as GBDF, then BADE will be coded as :
   (*a*) CBEF   (*b*) CEBF   (*c*) CFBE   (*d*) CBFE

   Ans. *(a)* : The word is coded by moving the letters one step forward.

   F A C E   G B D F   Similarly,   B A D E   C B E F
   +1   +1
   +1   +1
   +1   +1
   +1   +1

2. If RESULT is coded as 798206, LET will be coded as :
   (*a*) 680   (*b*) 092   (*c*) 096   (*d*) 086

   Ans. *(c)* : The letters are coded by numbers, and to code the given word, select the respective coded numbers.

   R E S U L T   →   letters
   7 9 8 2 0 6   →   code

   So, code for LET will be

   L E T   →   letters
   0 9 6   →   code

12

MULTIPLE CHOICE QUESTIONS

Directions : *In the following questions select the right option which indicates the correct code for the word or letter given in the question.*

1. If CHAIR is coded as FKDLU then RAID is coded as :
   (a) ULGD   (b) ULKG
   (c) ULDG   (d) UDLG

2. If CONDEMN is coded as CNODMEN, then TEACHER is coded as :
   (a) TEACHER   (b) TAEECHR
   (c) TCAEEHR   (d) TAECEHR

3. In a code language COME is written as XLNV and ABLE as ZYOV. How will MOLLY be written in that code?
   (a) NLOBO   (b) NLBOO
   (c) LNOOB   (d) NLOOB

4. In a certain code PROFESSION is written as EFORPNOISS. In the same code DICTIONARY will be written as :
   (a) YRANOITCID   (b) ITCIDYRANO
   (c) ITCIDYRNAO   (d) ITCDIYARNO

5. JUNE is coded as NXPF, how will STAY be coded in the same manner?
   (a) WWCZ   (b) WVCZ
   (c) WWDB   (d) VWZC

6. If in a certain code GENIUS is coded as IGPKWU, then IDIOT will be written in the same code as :
   (a) JEJPU   (b) KFKQV
   (c) LGLRW   (d) HCHNS

7. If ACTION is coded as ZXGRLM, then HEALTH will be coded in the same way as :
   (a) SVZOGS   (b) TVZOGT
   (c) RUZPGR   (d) QVGOZQ

8. If THOUSAND is coded as SGNTRZMC, then FUMING will be coded as :
   (a) GVNJOH   (b) ETHLMF
   (c) EVLJMH   (d) ETLHMF

9. If EARTHQUAKE is coded as MOGPENJOSM, then EQUATE will be coded as :
   (a) MENOPM   (b) MENOMP
   (c) MJOGPM   (d) MNJOPM

10. In a certain code language HJIZT code is deciphered as MONEY, in the same way NOVGZ will be deciphered as :
    (a) STUMP   (b) STALE
    (c) STICK   (d) SPIRE

11. If in a certain code JOSEPH is coded as FKOALD, then GEORGE will be coded in the same way as :
    (a) CBJNCA   (b) CANKCA
    (c) CAKNCA   (d) CAKCNA

12. If COUNTRY is coded in a certain way as EMWLVPA, ELECTORATE will be coded in the same manner as :
    (a) CJCEVQPYWC   (b) GJGERQTYVG
    (c) CNCERQPCRG   (d) GJGAVMTYVC

13. In a certain code PORTUGESE is written as ESEGUTROP, MALAYALAM will be written in the same code as :
    (a) MALAYALAM   (b) MALYALAM
    (c) MALAYALM   (d) MALAYLAM

14. If PHILOSOPHY is coded as HPLISOPOYH, ORNAMENTAL will be coded as :
    (a) ROANEMNTLA   (b) ONRAMNEALT
    (c) ROANEMTNLA   (d) ROANEMNATL

15. If SABOTAGE is coded as UADOVAIE, how will EMERGENCY be coded in the same manner?
    (a) GMGRIEPCA   (b) GMGRGEPCA
    (c) BNBQFDOBZ   (d) EOETGGNEY
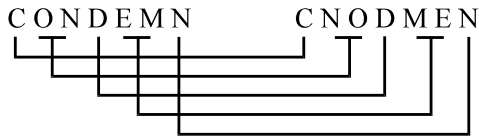
EXPLANATORY ANSWERS

1. (d) **:** The word is coded by moving the letters three steps forward.
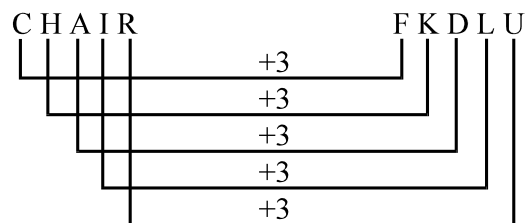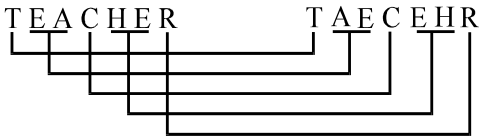

Similarly,
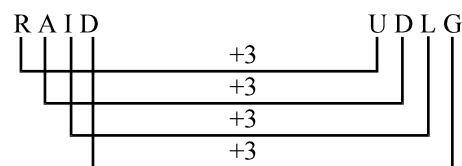
2. (d) **:** In this word, the second and third letters interchange their places and the fifth and sixth letters do the same. Other letters retain their position.

CONDEMN   CNODMEN

Similarly,

TEACHER   TAECEHR

3. (d) : The letters of the word are coded by their represented letters in the reverse series.

C	O	M	E	→ letters in natural series
X	L	N	V	→ letters in reverse series
↓	↓	↓	↓	
3rd	15th	13th	5th	→ position of letters

A	B	L	E	→ letters in natural series
Z	Y	O	V	→ letters in reverse series
↓	↓	↓	↓	
1st	2nd	12th	5th	→ position of letters

Similarly,

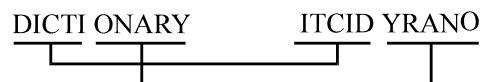| M | O | L | L | Y | → letters in natural series |
N	L	O	O	B	→ letters in reverse series
↓	↓	↓	↓	↓	
13th	15th	12th	12th	25th	→ position of letters

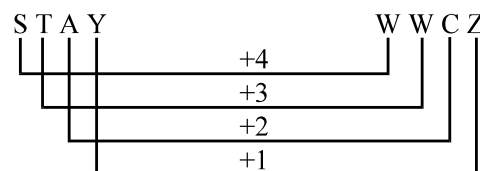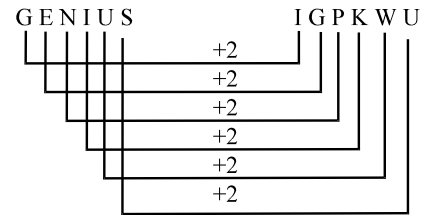**4. (b) :** The word is divided into two equal parts and the letters of each part are written backwards.

PROFE SSION   EFORP NOISS

Similarly,

DICTI ONARY   ITCID YRANO

5. (a) : The word is coded by moving the letters +4, +3, +2, and +1 steps respectively.

JUNE   NXPF
+4
+3
+2
+1

Similarly,

STAY   WWCZ
+4
+3
+2
+1
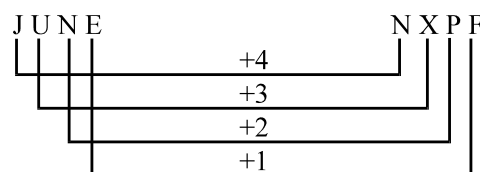
6. (b) : The word is coded by moving the letters two steps forward, *i.e.,*

GENIUS   IGPKWU
+2
+2
+2
+2
+2
+2

Similarly,

IDIOT   KFKQV
+2
+2
+2
+2
+2
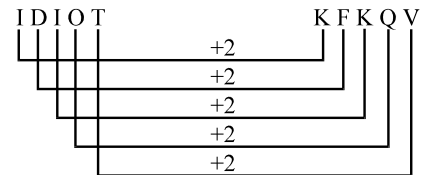
7. (a) : The letters of the word are coded by their represented letters in the reverse series.

A	C	T	I	O	N	→ letters in natural series
Z	X	G	R	L	M	→ letters in reverse series
1st	↓	20th	↓	15th	↓	position of letters
	3rd		9th		14th	

Similarly,

H	E	A	L	T	H	→ letters in natural series
S	V	Z	O	G	S	→ letters in reverse series
8th	↓	1st	↓	20th	↓	→ position of letters
	5th		12th		8th	

8. (d) : The word is coded by moving the alphabet one step backwards, *i.e.,*

THOUSAND   SGNTRZMC
−1
−1
−1
−1
−1
−1
−1
−1

Similarly,

FUMING   ETLHMF
−1
−1
−1
−1
−1
−1
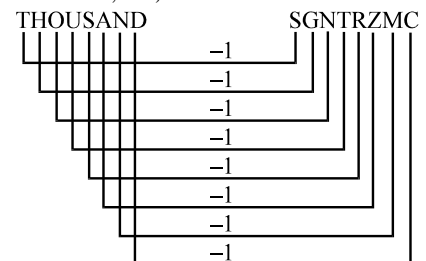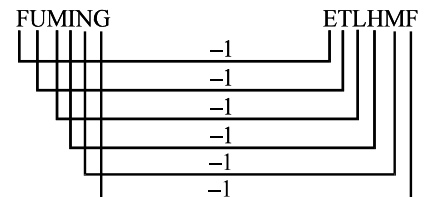
9. (d) : The alphabet in word EQUATE are taken from the given word EARTHQUAKE. Tally the letters from the coded word to get the answer code.
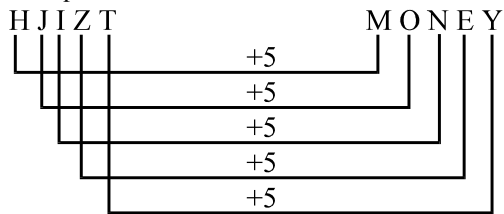
E A R T H Q U A K E → letters
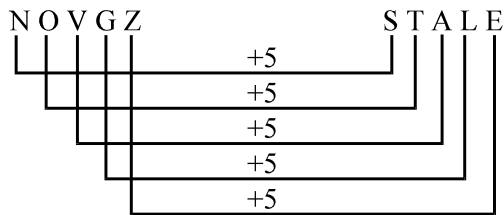M O G P E N J O S M → codes
E Q U A T E → letters to be coded
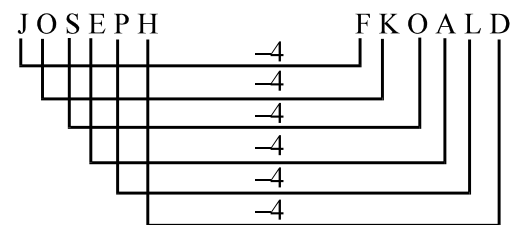M N J O P M → answer codes

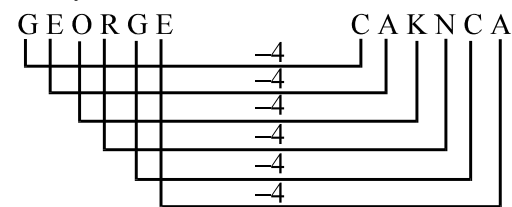**10. (b) :** The coded alphabet are deciphered by moving five steps forward, *i.e.,*

H J I Z T   M O N E Y
+5
+5
+5
+5
+5

Similarly,

N O V G Z   S T A L E
+5
+5
+5
+5
+5

11. (c) : The word is coded by moving the alphabet four steps backward, *i.e.,*

J O S E P H   F K O A L D
–4
–4
–4
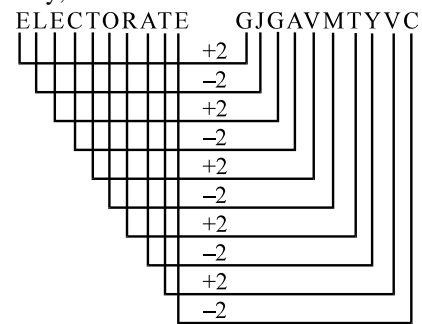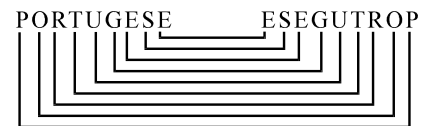–4
–4
–4

Similarly,

G E O R G E   C A K N C A
–4
–4
–4
–4
–4
–4

12. (d) : The word is coded by moving the alphabet two steps forward and two steps backward alternately, *i.e.,*

C O U N T R Y   E M W L V P A
+2
–2
+2
–2
+2
–2
+2

Similarly,

ELECTORATE   GJGAVMTYVC
+2
–2
+2
–2
+2
–2
+2
–2
+2
–2
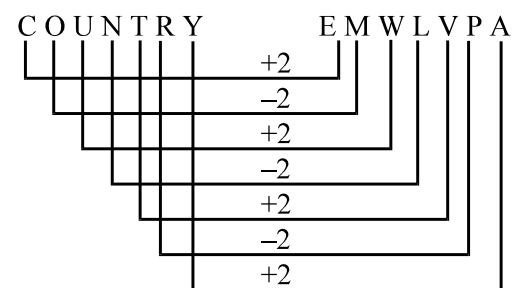
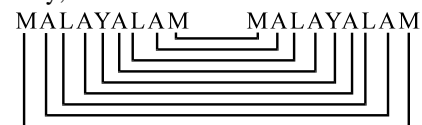**13. (a) :** The coded word is the alphabet of the word written backwards.

PORTUGESE   ESEGUTROP

Similarly,

MALAYALAM   MALAYALAM

14. (c) : The places of two consecutive letters in the word are interchanged to form the coded word.

PH IL OS OP HY   HP LI SO PO YH

Similarly,

OR NA ME NT AL   RO AN EM TN LA
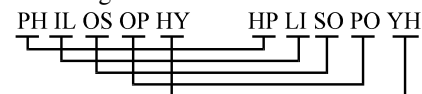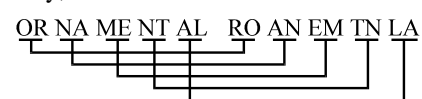
15. (a) : The word is coded by moving only the alphabet at odd positions two steps forward.

SABOTAGE   UADOVAIE
+2
+2
+2
+2

Similarly,

EMERGENCY   GMGRIEPCA
+2
+2
+2
+2
+2
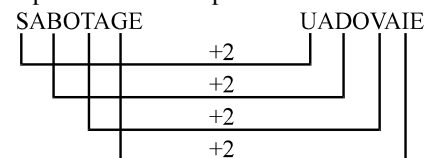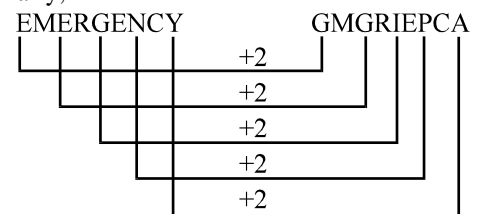
TYPE - II

Column coding is a very complex form of coding. It needs a lot of attention and swift eye movement to decode the code for each letter of the given words. Proper words in capital letters are given in one column and the codes in small letters are given in another column. Based on the information given in both columns the candidate has to arrive at the correct answer option.

MULTIPLE CHOICE QUESTIONS

Directions: *The following questions are based on the column pattern. Understand the coding pattern and answer the questions.*

Column I	Column II
(1) FAMOUS	(a) jcqhxp
(2) SATIRE	(b) hqdbyn
(3) FRIGHT	(c) ybcnke
(4) TANGLE	(d) zewhnd
(5) ROVING	(e) epbmyw
(6) HUNTER	(f) wdnbxk

1. What is the code used for the letter U?
   (*a*) d   (*b*) n
   (*c*) b   (*d*) x

2. What is the code used for the letter N?
   (*a*) e   (*b*) p
   (*c*) m   (*d*) w

3. What is the code used for the letter A?
   (*a*) h   (*b*) q
   (*c*) b   (*d*) n

4. What is the code used for the letter F?
   (*a*) w   (*b*) p
   (*c*) d   (*d*) c

5. What is the code used for the letter E?
   (*a*) d   (*b*) n
   (*c*) b   (*d*) k

Column I	Column II
(1) WRONG	(a) cklxd
(2) GRANT	(b) pdqkc
(3) STEAM	(c) qpuns
(4) CROWS	(d) lxnvk
(5) CEMET	(e) usqvs
(6) TERMS	(f) nukqs

6. What is the code used for the letter N?
   (*a*) c   (*b*) x
   (*c*) l   (*d*) n

7. What is the code used for the letter M?
   (*a*) v   (*b*) q
   (*c*) u   (*d*) s

8. What is the code used for the letter W?
   (*a*) d   (*b*) x
   (*c*) c   (*d*) p

9. What is the code used for the letter G?
   (*a*) k   (*b*) c
   (*c*) s   (*d*) d

10. What is the code used for the letter S?
    (*a*) n   (*b*) s
    (*c*) d   (*d*) k

Column I	Column II
(1) HOUSE	(a) lfyqx
(2) PAGES	(b) pyfgm
(3) LUNGS	(c) nhmzf
(4) PHONE	(d) xqygh
(5) LANDS	(e) hofzp
(6) HOUND	(f) qnoxh

11. What is the code used for the letter O?
    (*a*) h   (*b*) g
    (*c*) q   (*d*) x

12. What is the code used for the letter E?
    (*a*) n   (*b*) y
    (*c*) p   (*d*) m

13. What is the code used for the letter G?
    (*a*) p   (*b*) o
    (*c*) f   (*d*) m

14. What is the code used for the letter N?
    (*a*) l   (*b*) y
    (*c*) x   (*d*) h

15. What is the code used for the letter D?
    (*a*) o   (*b*) z
    (*c*) g   (*d*) p

EXPLANATORY ANSWERS

1. (*d*) : From statements (1) and (6), U = X.

2. (*d*) : From statements (5) and (6), RN = bw. From statement (4), N = w.

3. (*a*) : From statements (2) and (4), ATE = hdn. From statement (6), TE = dn. Therefore, A = h.

4. (*d*) : From statements (1) and (3), F = c.

5. (*a*) : From statements (2) and (4), ATE = hdn. From statement (6), TE = dn. From statement (3), T = n. Hence E = d.

6. (*a*) : From statements (1) and (2), N = C.

7. (*c*) : From statements (3), (5) and (6), M = u.

8. (*b*) : From statements (1) and (4), W = x.

9. (*d*) : From statements (1) and (2), G = d.

10. (*a*) : From statements (3), (4) and (6), S = n.

11. (*d*) : From statements (1), (4) and (6), O = x.

12. (*b*) : From statements (1), (2) and (4), E = y.

13. (*d*) : From statements (2) and (3), G = m.

14. (*d*) : From statements (3), (4), (5) and (6), N = h.

15. (*a*) : From statements (5) and (6), D = o.

TYPE - III

There is variety in ways of coding. Coding language is not only for words and numbers but also for hiding a group of words, statements or even sentences. This form of coding pattern may appear to be confusing but after solving only a few questions it is very easy to understand. Questions based on this coding pattern require no moving of steps or straining efforts of calculations, but only quick tallying or comparing ability. The codes can be letters or numbers.

SOLVED EXAMPLE

In a certain code 'ra mei ket' means 'he is rich'; 'rui pha jeu' means 'run for money'; and 'pha rui ket' means 'money for rich'. Which of the following is the code for 'rich'?

(a) ra   (b) pha
(c) ket   (d) jeu

Ans. (c) : The given information is :

Code	Sentence
1. ra mei *ket*	he is *rich*
2. rui pha jeu	run for money
3. pha rui *ket*	money for *rich*

After comparing codes and sentences 1 and 3, it is clear that word 'rich' is common and so is the code 'ket'.

MULTIPLE CHOICE QUESTIONS

Directions : *In the following questions study the coded patterns and then select the right option from the given alternatives.*

1. In a certain language, (a) 'go ju mi' stands for 'plenty of money'; (b) 'pao ju go nei vu' for 'money creates lots of problems'; (c) 'kol vu nei' for 'problems create tension'; and (d) 'sol tun ju haw' for 'still money is needed'. Which of the following words stand for 'money'?
   (a) nei   (b) ju
   (c) haw   (d) go

2. In a certain language, (a) 'FOR' stands for 'old is gold'; (b) 'ROT' stands for 'gold is pure'; (c) 'ROM' stands for 'gold is costly'. How will 'pure old gold is costly' be written?
   (a) TFROM   (b) FOTRM
   (c) FTORM   (d) TOMRF

3. In a certain code '415' means 'milk is hot'; '18' means 'hot soup'; and '895' means 'soup is tasty'. What number will indicate the word 'tasty'?
   (a) 9   (b) 8
   (c) 5   (d) 4

4. In a certain code '643' means 'she is beautiful', '593' means 'he is handsome', and '567' means 'handsome meets beautiful'. What number will indicate the word 'meets'?
   (a) 5   (b) 3
   (c) 7   (d) 6

5. In a certain code language, (a) 'dugo hui mul zo' stands for 'work is very hard'; (b) 'hui dugo ba ki' for 'Bingo is very smart'; (c) 'nano mul dugo' for 'cake is hard', and (d) 'mul ki qu' for 'smart and hard'. Which of the following words stand for 'Bingo'?

   (a) jalu   (b) dugo
   (c) ki   (d) ba

6. In a certain code language, (a) 'pic vic nic' stands for 'winter is cold'; (b) 'to nic re' for 'summer is hot'; (c) 're pic boo' for 'winter and summer' and (d) 'vic tho pa' for 'nights are cold'. Which of the following word is the code for 'summer'?
   (a) nic   (b) boo
   (c) to   (d) re

7. In a certain language, (a) 'mx das sci' means 'good little frock'; (b) 'jm coz sci' means 'girl behaves good'; (c) 'ngv drs coz' means 'girl makes mischief'; and (d) 'das gp coz' means 'little girl fell'. What is the code for 'frock' in this language?
   (a) mx   (b) das
   (c) sci   (d) gp

8. In a certain language 'mu mit es' means 'who is she' and 'elb mu es' means 'where is she'. What is the code for 'where' in this language?
   (a) es   (b) elb
   (c) mu   (d) mit

9. In a certain code language '069' means 'grapes are sweet', '476' means 'very sweet fruit' and '509' means 'grapes are ripe'. Which of the following digits means 'ripe' in that language?
   (a) 0   (b) 5
   (c) 9   (d) 7

10. In a certain code language 'roi ja kyo twa' means 'Moody is writing letters', 'pok ju ja twa' means 'Woody is writing cards', 'trn kyo pos un' means 'they are writing letters', and 'koi rus pok' means 'gifts and cards'. What is the code word for 'Moody'?
    (a) ja   (b) twa
    (c) roi   (d) kyo

EXPLANATORY ANSWERS

1. (b) :

	Code	*Sentence*
1.	go *ju* mi	plenty of *money*
2.	pao *ju* go	*money* creates lots of
	nei vu	problems
3.	kol vu nei	problems create tension
4.	sol tun *ju* haw	still *money* is needed

In 1st, 2nd and 4th codes and their sentences the word 'ju' is repeated and so is 'money'.

2. (a) :

	Code	*Sentence*
1.	FOR	old is gold
2.	ROT	gold is pure
3.	ROM	gold is costly

Therefore,

F	stands	for	old
O	stands	for	is
R	stands	for	gold
T	stands	for	pure
M	stands	for	costly

So, 'pure old gold is costly' will be written as 'TFROM'.

3. (a) :

	Code	*Sentence*
1.	415	milk is hot
2.	18	hot soup
3.	895	soup is *tasty*

From 3rd code and its sentence neither number '9' is repeated nor the word 'tasty'.

4. (c) :

	Code	*Sentence*
1.	643	she is beautiful
2.	593	he is handsome
3.	567	handsome *meets* beautiful

From 3rd code and its sentence, neither number '7' nor the word 'meets' is repeated.

5. (d) :

	Code	*Sentence*
1.	*dugo hui* mul zo	work *is very* hard
2.	*hui dugo* **ba ki**	**Bingo** *is very* smart
3.	nano mul *dugo*	cake is *hard*
4.	mul *ki* qu	*smart* and hard

From 2nd code and its sentence, neither 'ba' nor 'Bingo' is repeated.
(Words repeated are in italics)

6. (d) :

	Code	*Sentence*
1.	pic vic nic	winter is cold
2.	to nic *re*	*summer* is hot
3.	*re* pic boo	winter and *summer*
4.	vic tho pa	nights are cold

The word 'summer' is common in 2nd and 3rd sentences and so is the code 're'.

7. (a) :

	Code	*Sentence*
1.	**mx** *das sci*	good little **frock**
2.	jm coz *sci*	girl behaves *good*
3.	ngv drs coz	girl makes mischief
4.	*das* gp coz	*little* girl fell

Word 'frock' is only in the 1st sentence. The code word 'das' is repeated in 4th sentence and 'sci' in 2nd sentence. So, 'mx' is the code for 'frock'.

8. (b) :

	Code	*Sentence*
1.	*mu* mit *es*	who *is she*
2.	**elb** *mu* es	**where** *is she*

The code words 'mu' and 'es' are repeated in Ist sentence. The only code left is 'elb' which means 'where'.

9. (b) :

	Code	*Sentence*
1.	*069*	*grapes are* sweet
2.	476	very sweet fruit
3.	**5**0*9*	*grapes are* **ripe**

The code numbers '0' and '9' are repeated in 1st and 3rd sentences. The only code remaining is '5' which stands for 'ripe'.

10. (c) :

	Code	*Sentence*
1.	**roi** *ja kyo twa*	**Moody** *is writing* letters
2.	pok ju *ja twa*	Woody *is writing* cards
3.	trn *kyo* pos un	they are writing *letters*
4.	koi rus pok	gifts and cards

'Moody' is in 1st sentence only. The code words 'ja' and 'twa' are repeated in 2nd sentence and 'kyo' in 3rd sentence. Only code word 'roi' remains which stands for 'Moody'.