Coding - Decoding

Study Materials for IBPS Exam
INTRODUCTION

Most competitive exams have a dedicated section of Coding – Decoding in Reasoning or Mental Ability. Many of students and readers find difficulty to solve questions based on Coding – Decoding in Mental Aptitude.

CODING DECODING

A 'Code' is a system of conveying a message through signals. It is a method of sending a message between sender and the receiver in such a way that only the sender and the receiver can know its meaning. However 'Coding' is done according a certain pattern in the mind of the sender. Therefore, its meaning can be deciphered by a third person. Only if he carefully studies this pattern. This process is called 'Decoding'. This capability is important in many fields of application.

APPROACH

a) Observe alphabets or numbers given in the code keenly.
b) Find the sequence it follows whether it is ascending or descending.
c) Detect the rule in which the alphabets/numbers/words follow.
d) Fill the appropriate letter/number/word in the blank given.

There are many types of coding :

1. LETTER CODING

In such questions, code values are assigned to a word in terms of the alphabets. There are following types of letter coding.

Type 1

In this category, one word is coded according to a particular pattern and the candidate is asked to give the code letters for another word following the same pattern of coding.

Example 1 : If MADRAS is coded as NBESBT. How is BOMBAY coded in that code?

Solution : We are given that MADRAS is coded as NBESBT. In which the word MADRAS is moved one step forward to obtain the corresponding letter of the code that is M is coded as N, A is coded as B and so on. Therefore,

M A D R A S
NBESBT
↓↓↓↓↓↓
B O M B A Y
CPNCBZ
↓↓↓↓↓↓
Likewise code may be moved one step backward also.
Type 2

Sometimes a full sentence may be coded and the candidates are asked to code a word bearing in mind that code. It is possible that the code may not follow the method of going forward or backward in the alphabetic sequence. Simply a letter of the original sentence may be given a different letter as a code. While solving puzzle, you have to keep that method in mind.

Example 2: In a secret way of writing, GANDHI WAS A GREAT LEADER OF INDIA is written as RUFZOJ SUV U RDTUB QTUZTD EP JFZJU. Keeping in mind, pick the code for STRONG.

Solution: Since we are given that GANDHI WAS A GREAT LEADER OF INDIA is written as RUFZOJ SUV U RDTUB QTUZTD EP JFZJU. Therefore,

\[
\begin{align*}
S & \rightarrow H \\
T & \rightarrow V \\
R & \rightarrow B \\
O & \rightarrow D \\
G & \rightarrow E
\end{align*}
\]

Hence the code for STRONG is VBDEFR

2. LETTER AND NUMERICAL CODING

In these questions either numerical values are assigned to a word or alphabetical code values are assigned to the numbers. The candidate is required to analyze the code according to the directions.

Example 3: In a language A is coded as 1, B is coded as 2, .... then find the code for FACE in that language.

Solution: Since we are given that In a language A is coded as 1, B is coded as 2, .... Therefore,

Thus F is coded as 6, A is coded as 1, C is coded as 3, and E is coded as 5

Hence the code for FACE is 6135

Example 4: If in a language APPLE is coded as 25563, RUNG is coded as 7148. Then find the code for PURPLE in that language.

Solution: Since we are given that Apple is coded as 25563, Rung is coded as 7148. Therefore,

Hence P is coded as 5, U is coded as 1, R is coded as 7, L is coded as 6, and E is coded as 3

Thus the code for PURPLE is 517563.
3. SUBSTITUTION

In this section an object names are substituted with different object names. We should carefully trace the substitution and answer given question. Some examples are given below:

Example 5: ‘Reds’ are ‘blues’, ‘blues’ are ‘whites’, ‘whites’ are ‘yellows’, ‘yellows’ are ‘oranges’, ‘oranges’ are ‘pinks’, then what is the colour of the sky?

Solution: We need to find the colour of the sky and we know that the colour of sky is blue but we are given that blues are whites. So the colour of sky is white.

Example 6: ‘man is coded as ‘woman’, woman is coded as ‘girl’, ‘girl’ is coded as ‘boy’, ‘boy’ is coded as ‘worker’ then 6 years female is known as?

Solution: We know that 6 years female is girl, but we are given that ‘girl’ is coded as ‘boy’. So the 6 year girl’s will be ‘boy’
SOLVED EXAMPLES

Example 1: In a secret way of writing INDIA is written as JOEJB, how would you SPACE in that language?

1. BUTQE  
2. TQBDF
3. UTQED  
4. SUTQD

Answer: 2

Solution: Since we are given that in a secret way of writing INDIA is written as JOEJB. Therefore,

Each letter of the given word is moved one step ahead and this gives us the subsequent letter of its code.

Hence the code for SPACE is TQBDF.

Thus option (2) is correct.

Example 2: In a given code SISTER is coded as 535301, UNCLE as 84670 and BOY as 129. How is RUSTIC written in the code?

1. 633185  
2. 185336
3. 363815  
4. 581363

Answer: 2

Solution: Since we are given that in a given code SISTER is coded as 535301. UNCLE as 84670 and BOY as 129. Therefore, in this code the alphabets are coded as follows

S I S T E R U N C L E B O Y
5 3 5 5 0 1 8 4 6 7 0

If we apply this method, the code for RUSTIC comes out to be 185336.

Hence option (2) is correct.

Example 3: In a certain code REASON is written as 621754 and TRUTH as 86983. Find out the codes for TREASON.

1. 7548261  
2. 8621754
3. 7452861  
4. 2865614

Answer: 2
Solution: Since we are given that in a certain code REASON is written as 621754 and TRUTH as 86983. Therefore,

\[ T = 8; \quad R = 6; \quad E = 2; \quad A = 1; \quad S = 7; \quad O = 5; \quad N = 4 \]

and hence the code for TREASON is 8621754.

Thus option (2) is correct.

Example 4: In a certain code, PAPER is written as SCTGW. How is MOTHER written in that code?

1. POXJIT
2. ORVLGW
3. PQXKJV
4. PQVJGT

Answer: 3

Solution: Since we are given that in a certain code PAPER is written as SCTGW. Therefore, the letters at the odd positions are moved three, four and five steps forward, while the letters at the even positions are each moved two steps forward, hence MOTHER is written as PQXKJV. Thus option (3) is correct.
**EXERCISE**

1. In a certain code, SIKKIM is written as THLJJL. How is TRAINING written in that code?
   
   1. SQBHOHOH  
   2. UQBJOHHO  
   3. UQBHOHOF  
   4. UQBJOHOH

2. If DELHI is coded as 73541 and CALCUTTA as 82589662, how can CALICUT be coded?
   
   1. 5279431  
   2. 5978213  
   3. 8251896  
   4. 8543691

3. In a certain code, COMPUTER is written as RFUVQNPC. How is MEDICINE written in the same code?
   
   1. MFEDJJOE  
   2. EOJDEJFM  
   3. MFEJDJOE  
   4. EOJDJEFM

4. If in a certain language, CALCUTTA is coded as GEFGYXXE, which word would be coded as FSQFCE?
   
   1. BOMBYA  
   2. BOMYAB  
   3. BOMBAY  
   4. BOBAMY

5. If D = 4 and COVER = 63 then BASIS = ?
   
   1. 55  
   2. 54  
   3. 50  
   4. 49

6. In a certain code, RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code?
   
   1. 318826  
   2. 318286  
   3. 618826  
   4. 338816

7. In a certain code, 15789 is written as XTZAL and 2346 is written as NPSU. How is 23549 written in that code?
   
   1. NPTSL  
   2. NPTUL  
   3. NBTSL  
   4. PNTSL
8. In a code language, A is written as B, B is written as C, C is written as D and so on, then how will SMART be written in that code language?

1. TLBSU  
2. SHBSU  
3. TNBSU  
4. SNBRU

9. If cloud is called white, white is called rain, rain is called green, green is called air, air is called blue and blue is called water, where will the birds fly?

1. Air  
2. Cloud  
3. Blue  
4. Rain

10. If ROSE is coded as 6821, CHAIR is coded as 73456 and PREACH is coded as 961473, what will be the code for SEARCH?

1. 246173  
2. 214673  
3. 214763  
4. 216473

11. In a certain code language, ‘dom pul ta’ means ‘bring hot food’; ‘pul fir sop’ means ‘food is good’ and ‘tak da sop’ means ‘good bright boy’, which of the following does mean ‘hot’ in that language?

1. dom  
2. pul  
3. ta  
4. can’t determined

12. In a certain code, RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code?

a) 318826  
2. 776655  
3. 786543  
4. 156724

13. In a certain code, ‘37’ means ‘which class’ and ‘583’ means ‘caste and class’. What is the code for ‘Caste’?

1. 3  
2. 7  
3. 8  
4. Either 5 or 8

14. If in a certain code, TWENTY is written as 863985 and ELEVEN is written as 323039, how is TWELVE written in that code?

1. 863203  
2. 863584  
3. 863903  
4. 863063

15. In a certain code FLOWER is coded as 36 and SUNFLOWER is coded as 81, then how to code FOLLOWS?
1. 42  
2. 2.49

3. 63  
4. 4. 36

16. In a certain code, 'il be pee' means 'roses are blue', 'sik hee' means 'red flowers' and 'pee mit hee' means 'flowers are vegetables', How is 'red' written in that code?

1. hee  
2. sik

3. be  
4. cannot be determined

17. In a certain code language: 'dugo hui mul zo' stands for 'work is very hard', 'hui dugo ba ki' for 'Bingo is very smart'; 'nano mul dugo' for 'cake is hard'; and 'mul ki gu' for 'smart and hard'. Which of the following word stand for Bingo?

1. Jalu  
2. Dugo

3. Ki  
4. Ba

18. If rain is called water, water is called air, air is called cloud, cloud is called sky, sky is called sea, sea is called road, where do the aeroplanes fly?

1. Water  
2. Road

3. Sea  
4. Cloud

19. If Orange is called Lemon, Lemon is called Flower, Flower is called Fish, Fish is called Tail and Tail is called Pen, what is Rose?

1. Pen  
2. Lemon

3. Flower  
4. Fish

20. If the letters in PRABA are coded as 27595, and THILAK are coded as 368451, how can BHARATHI be coded?

1. 37536689  
2. 57686535

3. 96575368  
4. 96855368

21. If in a certain language, MADRAS is coded as NBESBT, how is BOMBAY coded in that code?

1. CPNCBX  
2. CPNCBZ

3. CPOCBZ  
4. CQOCBZ

22. In a certain code, TRIPPLE is written as SQHOOKD. How is DISPOSE written in that code?

1. CHRONRD  
2. DSOESP
3. ESJPTF  
4. ESOPSID

23. If in a code language, COULD is written as BNTKC and MARGIN is written as LZQFHM, how will MOULDING be written in that code?

1. CHMFINTK  
2. LNKTCMF
3. LNTKCHMF  
4. NITKHCNF

24. In a certain code, MONKEY is written as XDJMNL. How is TIGER written in that code?

1. QDFHS  
2. SDFHS
3. SHFDQ  
4. UJHFS

25. In a certain code, COMPUTER is written as RFUVQNPC. How is MEDICINE written in the same code?

1. EOJDJFM  
2. EOJDEJFM
3. MFEJDOE  
4. MFEDJJOE

26. In a certain code, TOGETHER is written as RQEGRJCT. In the same code, PAROLE will be written as

1. NCPQJG  
2. NCQPJG
3. RCPOJK  
4. RCTQNC

Answers Sheet

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