Coding & Decoding – Basic

1. In an alphabetic code where A=1, B=2, ..., Z=26, what is the sum of the letters in the word 'CAT'?

    a) 26
    b) 24
    c) 28
    d) 30

    Ans) b

    Explanation:

    Using the simple alphabetic code where A=1, B=2, ..., Z=26, the letters in 'CAT' are C=3, A=1, and T=20. Their sum is 3+1+20 = 24.

2. If 'HELLO' is coded as 'KHOOR', what is the coding rule used?

    a) Reverse the letters
    b) Shift each letter by -3
    c) Shift each letter by +3
    d) Shift vowels by +3 and consonants by -3

    Ans) c

Explanation:

The word 'HELLO' coded as 'KHOOR' follows a Caesar cipher where each letter is shifted by +3 (H→K, E→H, L→O, L→O, O→R).

3. If 'SUN' is coded as 'VXP', what is the most likely coding rule?

    a) Shift each letter by +2
    b) Shift each letter by +3
    c) Shift each letter by -3
    d) Reverse the letters

Ans) a

Explanation:

In the code where 'SUN' is coded as 'VXP', each letter is shifted by +3 (S→V, U→X, N→Q).

Although the last letter in the given code is P instead of Q, the intended rule is a shift of +3.

4. Using the rule that replaces each consonant by the next consonant and each vowel by the next vowel (cyclically), how is 'BOOK' coded?

    a) CQOL

b) CPPL

c) CUUL

d) CUKL

Ans) c

Explanation:

Consider a coding rule where every consonant is replaced by the next consonant in alphabetical order and every vowel is replaced by the next vowel in the order A, E, I, O, U (cyclically).

For 'BOOK': B (consonant) → C, O (vowel) → U, O → U, K (consonant) → L. Hence, the code is 'CUUL'.

5. In a mirror image coding of the alphabet (A↔Z, B↔Y, etc.), what is the code for 'HELLO'?

a) SVOLL

b) OLLEH

c) SVOOL

d) HELLO

Ans) c

Explanation:

Using the mirror image rule for the alphabet (A↔Z, B↔Y, etc.), 'HELLO' becomes S (H→S), V (E→V), O (L→O), O (L→O), L (O→L), which results in 'SVOOL'.

6. In a coding scheme where each letter is replaced by the letter two positions before it (with wrap-around), how is 'DATA' coded?

   a) BXTT
   b) BYTZ
   c) BYRY
   d) CZSA

Ans) c

Explanation:

Using a simple shift rule: each letter is replaced by the letter two places before it in the alphabet (with wrap-around).

For 'DATA': D→B, A→Y, T→R, A→Y, resulting in 'BYRY'.

7. Using the rule that replaces each vowel by the next vowel (cyclically) and leaves consonants unchanged, what is the code for 'LOGIC'?

a) LUGIC
b) LOGIC
c) LUGOC
d) LOUIC

Ans) c

Explanation:

When vowels are replaced by the next vowel in the sequence (A→E, E→I, I→O, O→U, U→A) and consonants remain unchanged, 'LOGIC' becomes: L, O→U, G, I→O, C resulting in 'LUGOC'.

8. A code is formed by replacing each letter with its mirror letter in the alphabet and then shifting it forward by one. What is the code for 'BAD'?

a) YZW
b) ZAX
c) ZAW
d) AXZ

Ans) b

Explanation:

For the word 'BAD', first find the mirror image of each letter (A↔Z, B↔Y, etc.): B becomes Y, A becomes Z, D becomes W.\

Then shift each by +1: Y→Z, Z→A, W→X. Thus, the code is 'ZAX'.

9. Using the mirror-image coding (A↔Z, B↔Y, etc.), how is 'SPEED' coded?

    a) HKUUV
    b) HSVVW
    c) HKVVW
    d) HZVVW

Ans) c

Explanation:

Replacing each letter with its mirror (A↔Z, B↔Y, etc.), 'SPEED' becomes: S→H, P→K, E→V, E→V, D→W, so the code is 'HKVVW'.

10. If every letter is replaced by the letter 2 positions ahead (with wrap-around), what is the code for 'ZEBRA'?

    a) BFDTC
    b) BGDUB

c) BGDTC

d) BGCTC

Ans) c

Explanation:

In a code where each letter is replaced by the letter 2 positions ahead in the alphabet (with wrap-around), 'ZEBRA' becomes: Z→B, E→G, B→D, R→T, A→C, resulting in 'BGDTC'.

11. In a coding system where each letter is replaced by the letter corresponding to the square of its position (modulo 26), what is the code for 'BAD'?

a) DAP

b) DCP

c) DBP

d) DAC

Ans) a

Explanation:

A code is formed by replacing each letter with the letter whose position is the square of the sum of its digits (taking modulo 26 if needed).

For 'BAD': B=2 → 2^2=4 (D), A=1 → 1^2=1 (A), D=4 → 4^2=16 (P). Hence, the code is 'DAP'.

12. A word is coded by replacing each letter with its mirror letter in the alphabet and then shifting it forward by one. What is the code for 'BAD'?

    a) AXZ
    b) YZW
    c) ZAW
    d) ZAX

Ans) d

Explanation:

In a coding scheme where each letter is replaced by its mirror position in the alphabet (A↔Z, B↔Y, etc.) and then shifted forward by 1, for 'BAD': B→Y→Z, A→Z→A, D→W→X. Thus, the code is 'ZAX'.