

Unit-2

- 1) Construct a Playfair matrix with the key "*largest*".
- 2) What are two problems with the one-time pad?
- 3) Differentiate between a monoalphabetic cipher and a polyalphabetic cipher.
- 4) Distinguish between a substitution cipher and a transposition cipher.
- 5) What is "Symmetric encryption":
- 6) Briefly define the Caesar cipher.
- 7) Briefly define the monoalphabetic cipher.
- 8) Briefly define the Playfair cipher.
- 9) Construct a Playfair matrix with the key "*occurrence*". Make a reasonable assumption about how to treat redundant letters in the key.
- 10) What is encryption and decryption?
- 11) Differentiate between Transposition Cipher and Substitution Cipher. Apply two stage (Double) transposition cipher on the text "meet me soon".
- 12) Discuss the substitution techniques?
- 13) Describe the monoalphabetic ciphers in detail.
- 14) Explain the symmetric cipher model.
- 15) What is Vigenere Ciphers?
- 16) Discuss about the Hill Ciphers?
- 17) a). Use the Vigenere cipher with keyword "HEALTH" to encipher the message "Life is full of surprises".
b). The cipher text "VHFUHW" has been generated with the Caesar cipher. Determine the plain text with the key $k=3$.
- 18) Use the Playfair cipher to encipher the message "The key is hidden under the door pad". The secret key can be made by filling the first and part of the second row with the word "GUIDANCE" and filling the rest of the matrix with the rest of the alphabet.
- 19) Encrypt the message "meet me" using the Hill cipher with the key $\begin{pmatrix} 9 & 4 \\ 5 & 7 \end{pmatrix}$. Show your calculations and the result.
- 20) Use the Hill cipher with matrix $\begin{pmatrix} 3 & 2 \\ 13 & 1 \end{pmatrix}$ to encrypt the message "*GOLD*".

