

# IS

## Unit - 1

- ① Use Hill Cipher <sup>play fair</sup> to Encipher the Message with steps
- ② Explain S-DES algo with block diagram
- ③ List & explain X.800 Security Services
- ④ Compare active & passive attacks
5. basic functions used in encryption algos, Essential ingredients of a Symmetric Cipher.
6. Define Diffusion, Confusion, Differential Cryptanalysis, Linear Cryptanalysis
7. Strengths of DES & ways of Cryptanalysis of DES
8. Explain 2 methods of encrypting plain Text
9. Find sub Keys K1 & K2

## Unit - 2

- ① Explain RSA algo and apply the same to encrypt & decrypt
- ② SHA-512 algo
- ③ Explain Diffie-Hellman Key Exchange Algo, how it is vulnerable to man-in-middle attack
- ④ Elliptic Curve Cryptography  $\rightarrow$  zero point. Explain
- ⑤ HMAC  $\rightarrow$  Design objectives, diagram with algo
6. Compare Symmetric & Assymmetric Cryptography

## Unit-3

- ① Port Scanning → explain
- ② Explain TCP/IP protocol stack
- ③ Functions of ICMP
4. Short note on Detecting live Systems. List operators used in google hacking
- ⑤ Significance of OS fingerprinting
- ⑥ How google can be used to mine sensitive info
- ⑦ Short note on Domain ownership
8. Note on WHOIS
9. Steps involved in password cracking
10. What is dumpster diving, WarDriving & WarDialling



## Unit-4

- ① Firewall design principles
- ② Significance of attack & penetration tools
3. Salient features of Metasploit
- ④ Different types of firewalls and config
- ⑤ Short note on Evolving threats, Viruses, Worms & Trojan
6. Factors to be considered while deciding what type of tool.
7. Different types of virus infection's phases
8. Discuss Nessus Client/Server Model

## Unit-5

- ① What are Intrusion Detection Systems (IDS). Discuss its 2 types in detail first & Second generation
- ② Security aspects of Wi-fi
- ③ process of encrypting using WEP & what are its problems
- ④ IDS engines and its 2 types
- ⑤ Components of IDS
- ⑥ Snort rules → Structure & how they are built
- ⑦ Wireless LAN threats
- ⑧ NetStumbler and the details of providers