

SEM-VII (OLD) (Comp)

System Security

16/16.

QP Code : 30030

(3 Hours)

[Total Marks : 100

N.B. : (1) Question no.1 is compulsory.

(2) Solve any four questions out of remaining six questions.

(3) Assume suitable data whenever required but justify the same.

(4) Assumption made should be clearly stated.

- 1 (a) What are different security goals? Explain. 5
(b) Differentiate between Vulnerability, threats and controls 5
(c) What are the different types of malicious codes? 5
(d) What are the different types of IP-Spoofing? 5
- 2 (a) How does ESP header guarantee of confidentiality and integrity for packet payload ? 10
(b) What is Bell-La Padula? How Bell-La Padula model works? 10
- 3 (a) Explain the structures of DES. 10
(b) What is SHA-1? Explain different steps of working of SHA-1. 10
- 4 (a) What are the different types of firewalls? Explain design, configuration, and limitations of firewalls? 10
(b) Describe block ciphers? Explain any one with example. 10
- 5 (a) What are the various ways for memory and address protections? 10
(b) How does Kerberos work? Explain with example. 10
- 6 (a) Explain how threat precursors are used for reconnaissance of network. 10
(b) What are the various types of port scan? 10
- 7 Write short note on the following
- (a) Covert Channel 5
(b) Multilateral Security 5
(c) Digital Rights Management 5
(d) CAPCHA 5

Instructions: - 1) Question No 1 is compulsory; solve any 4 questions from remaining 6 question.

2) Assume suitable data wherever necessary.

3) Figures to the right indicate full marks.

Q 1) a) List and explain the features of traditional TCP that influence the efficiency of TCP in Mobile environment. (10 Marks)

b) Explain the operations of CDMA with timing diagram. (10 Marks)

Q 2) a) Discuss the IP reverse tunneling. (10 Marks)

b) Name the main difference Adhoc Network and other networks what advantages do other network offers? Explain in detail with suitable example. (10 Marks)

Q 3) a) What are the general problems of mobile IP regarding security and support of quality of service? (10 Marks)

b) What is meant by WATM? Describe WATM reference model, location management, services and QOS. (10 Marks)

Q 4) a) Name the main elements of GSM system architecture and describe their functions. What are the advantages of specifying not only the radio interface but also the internal interfaces of the GSM system? Explain the inter-BSC, intra-MSC handover process in the GSM system using typical signals and a message sequence chart. (10 Marks)

b) Discuss the role of WWW in support for mobility. (10 Marks)

Q 5) a) Discuss the IP reverse tunneling.? (10 Marks)

b) What are mobile agents? Discuss their primary advantages over other approaches. (10 Marks)

Q 6) a) What are the major difference between WAP 2.0 and WAP 1.x? What influenced the WAP 2.0 development? (10 Marks)

b) Distinguish between HSCSD and GPRS? How is GPRS made possible over GSM? Explain? (10 Marks)

Q 7) Write short notes on any two. (20 Marks)

a) Wireless Telephony applications.

b) M-Commerce

c) Name the inefficiencies of mobile IP regarding data forwarding from a correspondent node to a mobile node. What are optimizations and what additional problems do they cause?