

(Time: 3 Hours)

Marks: 80

Note:

1. Question No.1 is compulsory.
2. Attempt any 3 out of the remaining questions.

Q.1 (a) Consider an online Voting System. People will cast their votes through the internet. For this system identify vulnerability, threat and attack. (05)

(b) Differentiate between Multilevel and Multilateral security with the help of example. (05)

(c) Explain different types of malicious attacks. (05)

(d) Differentiate between SSL and IP Sec protocols (05)

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Q.2 (a) Explain Needham Schroeder Authentication Protocol. (10)

(b) What is Digital Signature? Explain how it is created at the sender end and retrieved at receiver end. Differentiate digital signature from digital certificate. (10)

Q.3 (a) Explain non malicious program errors with the help of examples. (10)

(b) What is Digital Right management? Explain DRM in Real world. (10)

Q.4 (a) Explain the role of Firewall in securing a network. Describe different types of Firewall (10)

(b) Explain secure Email and S/MIME. (10)

Q.5 Explain the technique behind following attacks: (20)

(a) ARP spoofing

(b) Packet Sniffing

(c) Session Hijacking

(d) Cross-site request forgery

Q.6 Write Short note on: (20)

(a) Windows Vulnerabilities

(b) Access control policies

(c) Linearization attack

(d) Distributed Denial of Service attack

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**REVISED COURSE
(3 HOURS)**

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[TOTAL MARKS:80]

N.B. 1.Question 1 is compulsory

2.Attempt any three question out of the remaining five question.

Q.1(a) Define Buisness intelligence and decision support systems with examples 10

(b) Explain Data mining as a step in KDD. Give the architecture of typical Data Mining system. 10

Q.2 (a) Explain BIRCH algorithm with example 10

(b) Explain different visualization techniques that can be used in data mining 10

Q.3 (a) Explain Multilevel association rules with suitable examples 10

(b) Define classification , issues of classification and explain ID3 classification with example 10

Q.4(a) Why is Data Preprocessing required? Explain the different steps involved in data preprocessing 10

(b) What is text mining ? Explain different approaches to text mining 10

Q.5 (a) Explain Buisness Intelligence Issues 10

(b) What is clustering? Explain k- means clustering algorithm. Suppose the data for clustering - {2,4,10,12,3,20,11,25}

Consider $k=2$, cluster the given data using above algorithm. 10

Q.6(a) Explain sequence mining in Transactional databases 10

(b) Design a BI system for fraud detection by describing all the steps from Data Collection to Decision Making 10

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