

**Sample Question Paper:**  
**Maharashtra State Board of Technical Education**  
**Scheme – I**

**Programme Name: Computer/Information Technology Engineering**

**Programme code: CO/IF**

**Semester: VI**

**Course Title: Network and Information Security**

**Marks : 70**

22620

**Time: 3 Hrs.**

**Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

**Q.1) Attempt any FIVE of the following.**

**(10 Marks)**

- a) List any four basic for security.
- b) List any four features of DAC.
- c) Define following terms
  - i) Cryptography
  - ii) Cryptology
- d) Classify following Cybercrime
  - i) Cyber terrorism against a government organization
  - ii) Cyber-stalking
  - iii) Copyright Infringement
  - iv) Email harassment
- e) Give example of Active and Passive attack (Two Each).
- f) State of needs of Firewalls.
- g) Define AS, TGS with respect to Kerberos.

**Q.2) Attempt any THREE of the following.**

**(12 Marks)**

- a) Explain criteria's for information classification.
- b) Define following terms.
  - i) Authentication
  - ii) Authorization
- c) Differentiate between symmetric and asymmetric key cryptography.
- d) Explain stenography technique with suitable diagram.

**Q.3) Attempt any THREE of the following.**

**(12 Marks)**

- a) Describe the working of biometric system with neat sketch.
- b) Consider plain text "INFORMATION" and convert given plain text into cipher text using 'Caesar Cipher' with shift of position three-write down steps in encryption.
- c) Demonstrate the advantages of setting up a DMZ with two firewalls.
- d) Describe the dumpster diving with its prevention mechanism.

**Q.4) Attempt any THREE of the following.**

**(12 Marks)**

- a) Convert the given plain text into cipher text using single columnar technique using following data
  - Plain Text: INFORMATION SECURITY
  - Number of Columns: 06
  - Encryption Key: 326154
- b) State difference between Firewall and Intrusion Detection System?
- c) Describe the host-based intrusion detection system with suitable diagram.
- d) Explain working principle of SMTP.
- e) Find the output of the initial permutation box when the input is given in hexadecimal as: 0x0002 0000 0000 0001

**Q.5) Attempt any TWO of the following.**

**(12 Marks)**

- a) Explain the terms:
  - i) Vulnerability
  - ii) Threats
  - iii) Risks
- b) Describe the following
  - i) Network based IDS
  - ii) Packet Filter Firewall
- c) Describe COBIT framework with neat sketch.

**Q.6) Attempt any TWO of the following.**

**(12 Marks)**

- a) List Need and Importance of Information? State the Information Classification.
  - b) Describe following terms of intellectual property :
    - i) Copyright
    - ii) Patent
    - iii) Trademark
  - c) Describe the DMZ with suitable example.
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**Sample Test Paper I**  
**MSBTE Outcome based Curriculum**  
**Scheme – I**

**Programme Name: Computer Engineering/Information Technology**

**Programme Code: CO/IF**

**Semester: Sixth**

**Course: Network and Information Security**

**Marks: 20**

**22620**

**Time:1 hour**

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**Instructions:**

1. All questions are compulsory
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3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

**Q1. Attempt Any FOUR**

**(08 Marks)**

- a) Define terms i) Confidentiality                      ii) Integrity.
- b) List the any four types of Biometric techniques.
- c) Define the terms      i) Encryption                      ii) Decryption.
- d) Define the service pack (SP).
- e) Describe the term Authentication.
- f) Define symmetric key cryptography with suitable diagram

**Q2. Attempt any THREE**

**(12 Marks)**

- a) Differentiate between the Intruders and Insiders
  - b) Describe the Biometric System with suitable diagram.
  - c) Describe the Single Columnar Technique with suitable example.
  - d) Explain the Information Classification.
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**Sample Test Paper II**  
**MSBTE Outcome based Curriculum**  
**Scheme – I**

**Programme Name: Computer Engineering/Information Technology**  
**Programme Code: CO/IF**  
**Semester: Sixth**  
**Course: Network and Information Security**  
**Marks: 20**

**22620**

**Time:1 hour**

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**Instructions:**

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order.

**Q1. Attempt Any FOUR**

**(08 Marks)**

- a) List the limitation of Firewall.
- b) Define Cyber Crime? List any two cyber crime.
- c) Define the situation where packet filter firewall can be used
- d) Draw the ITIL Framework diagram.
- e) List the components of PKI
- f) List any four types of Cybercrime

**Q2. Attempt any THREE**

**(12 Marks)**

- a) Describe working principle of PGP.
  - b) State the function of application gateways firewall.
  - c) Explain the working of Kerberos with suitable diagram
  - d) Define IDS? Describe any one IDS technique.
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