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**BTECH**  
**(SEM IV) THEORY EXAMINATION 2021-22**  
**COMPUTER SYSTEM SECURITY**

**Time: 3 Hours****Total Marks: 100****Note:** Attempt all Sections. If you require any missing data, then choose suitably.**SECTION A****1. Attempt all questions in brief. 2\*10 = 20**

| Qno | Questions   | CO |
|-----|---|----|
| (a) | What are the 3 aspects of security?   | 1  |
| (b) | State the need of Computer Security.  | 1  |
| (c) | What is the difference between Discretionary Access Control and Mandatory Access Control? | 3  |
| (d) | Give three benefits of IPsec?   | 4  |
| (e) | Describe (A) Sniffing (B) Spoofing  | 1  |
| (f) | Explain some of the weakness of Internet security.  | 5  |
| (g) | Explain advanced anti-XSS tools   | 3  |
| (h) | What is the problem of covert channel in VMM security?                                    | 2  |
| (i) | Explain the terms: Cryptography, Cryptanalysis and Cryptology.                            | 4  |
| (j) | In the context of access control, what is the difference between a subject and an object? | 3  |

**SECTION B****2. Attempt any three of the following: 10\*3 = 30**

| Qno | Questions  | CO |
|-----|--|----|
| (a) | Explain any four attacks on Computer System Security.  | 1  |
| (b) | What is intrusion detection system? Explain host based IDS.  | 2  |
| (c) | Define Cross site scripting (XSS).   | 3  |
| (d) | Explain SSL Encryption. What are the steps involved in SSL: server authentication?                                 | 4  |
| (e) | What is firewall? Explain different types of firewalls. And also explain the working of packet filtering firewall. | 5  |

**SECTION C****3. Attempt any one part of the following: 10\*1 = 10**

| Qno | Questions  | CO |
|-----|--|----|
| (a) | What is control hijacking with an example? Explain the term of buffer overflow in control hijacking. | 1  |
| (b) | What is Access Control list (ACL) and also defined what are the technologies used in access control? | 1  |

**4. Attempt any one part of the following: 10 \*1 = 10**

| Qno | Questions            | CO |
|-----|----------------------|----|
| (a) | Write short notes on | 2  |



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|     |   |   |
|-----|---|---|
|     | I. Software fault isolation<br>II. VM based isolation             |   |
| (b) | Define Network based IDS. What are its strengths and limitations. | 2 |

5. Attempt any *one* part of the following: 10\*1 = 10

| Qno | Questions  | CO |
|-----|--|----|
| (a) | Define web server threats? And explain 5 major web server threats in detail. | 3  |
| (b) | Discuss how vulnerabilities can be exploited in web applications.            | 3  |

6. Attempt any *one* part of the following: 10\*1 = 10

| Qno | Questions  | CO |
|-----|--|----|
| (a) | List and explain the key participants in secure electronic transaction | 4  |
| (b) | Explain and compare key exchange algorithm used in IP sec.             | 4  |

7. Attempt any *one* part of the following: 10\*1 = 10

| Qno | Questions   | CO |
|-----|---|----|
| (a) | What is Domain Name System? What is Static and Dynamic DNS Record?                  | 5  |
| (b) | What is an Intrusion Detection System? How Does an IDS Enhance Security Management? | 5  |