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IV/IV B.Tech (Supplementary) DEGREE EXAMINATION**March, 2018****Seventh Semester****Time:** Three Hours**Common for CSE & IT****Cyber Security****Maximum:** 60 Marks*Answer Question No.1 compulsorily.*

(1X12 = 12 Marks)

Answer ONE question from each unit.

(4X12=48 Marks)

(1X12=12 Marks)

1. Answer all questions
 - a) What is Cybersecurity?
 - b) What is the difference between Symmetric and asymmetric cipher?
 - c) What is Steganography?
 - d) What are the characteristics of a good security metric?
 - e) Write any two NIST sample metrics.
 - f) What is the use of set toolkit?
 - g) What is Vulnerability?
 - h) What is use of Nessus tool.
 - i) What is the use of metasploit tool?
 - j) What is a Firewall?
 - k) What is MBSA?
 - l) What is Configuration Management?

UNIT I

2. a) Discuss OSI Security architecture in detail. 8M
- b) Explain Hill Cipher with an example. 4M

(OR)

3. a) Discuss DES Encryption algorithm in detail. 12M

UNIT II

4. a) Discuss AES algorithm in detail. 12M

(OR)

5. a) Write about snort tool in detail. 6M
- b) What are iptables? Explain. 6M

UNIT III

6. a) Explain in detail RSA algorithm with an example. 8M
- b) How do you launch payloads using metasploit. 4M

(OR)

7. a) Give any 8 commands of Nmap tool. 8M
- b) Give a short note on vulnerability management. 4M

UNIT IV

8. a) Write a detail note on Configuration management. 12M

(OR)

9. a) Discuss installation and working of MBSA. 12M

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IV/IV B.Tech (Supplementary) DEGREE EXAMINATION

March, 2018

Seventh Semester

Time: Three Hours

Common to CSE & IT

DESIGN AND ANALYSIS OF ALGORITHMS

Maximum: 60 Marks

Answer Question No.1 compulsorily.

(1X12 = 12 Marks)

Answer ONE question from each unit.

(4X12=48 Marks)

1. Answer all questions

(1X12=12 Marks)

- Define program verification and validation?
- State towers of Hanoi problem?
- What is the total number of nodes in a 8-queen state space tree?
- What is the control abstraction?
- What is the difference between greedy and dynamic programming?
- Define live node and E-node?
- Define satisfiability?
- State Dominance rule?
- What are the advantages and disadvantages of randomized algorithms?
- Define articulation point and connected components?
- What are the data structures used for BFS and DFS?
- Define implicit and explicit constraints?

UNIT I

2. a) What do you mean by performance analysis of an algorithm? Explain

6M

b) Explain about Strassen Matrix multiplication.

6M

(OR)

3. a) Explain the general method of divide and conquer. Solve the recursive relation using substitution method:

$$T(n) = \begin{cases} 2 & \text{if } n = 1 \\ 2F(n/2) + n & \text{if } n > 1 \end{cases}$$

5M

b) Write merge sort algorithm and develop computing time of a recursive relation to find T(n)

7M

UNIT II

4. a) What is knapsack problem? Find an optimal solution to the knapsack instance n=7 & m=15, (p1 to p7)={10,5,15,7,6,18,3} and (w1 to w7)={2,3,5,7,1,4,1}

6M

b) What is a single source shortest path problem? Give greedy algorithm to generate shortest paths?

6M

(OR)

5. a) Solve the Travelling salesperson problem as shown in cost matrix for optimal tour using dynamic

$$\text{programming} \begin{bmatrix} 0 & 8 & 16 & 18 \\ 10 & 0 & 19 & 20 \\ 9 & 31 & 0 & 12 \\ 16 & 12 & 7 & 0 \end{bmatrix}$$

6M

b) Discuss about the multistage graph's forward and backward approach with example

6M

UNIT III

6. a) Write a pseudo-code to determine biconnected components and explain?

6M

b) Explain the graph traversal techniques with an example?

6M

(OR)

7. a) Let w={15,7,20,5,18,10,12} and m=35, find all possible subsets of w that sum to m using sum of subsets algorithm. Draw the portion of the state space tree that is generated.

6M

b) Write the general method of backtracking and design an algorithm for N-queens problem?

6M

UNIT IV

8. a) What is a bounding function? Explain how these bounds are useful in Branch & Bound methods?

6M

b) Write comparative note on solving the knapsack problem by i) LCBB ii) FIFOBB

6M

(OR)

9. a) Write short notes on classes NP-hard and NP-complete?

6M

b) State and Explain cook's theorem.

6M

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IV/IV B.Tech (Supplementary) DEGREE EXAMINATION**April, 2018****Electronics & Communication Engineering****Seventh Semester****Mobile Application Development****Time: Three Hours****Maximum : 60 Marks***Answer Question No.1 compulsorily.**(1X12 = 12 Marks)**Answer ONE question from each unit.**(4X12=48 Marks)*1. Answer all questions *(1X12=12 Marks)*

- Define scope and life time of a variable in java.
- Define Method Overloading.
- What is Dynamic Method Dispatch?
- How to set CLASSPATH?
- Define enumeration.
- Differentiation between byte stream and character stream.
- Give the versions of Android.
- What is an emulator?
- What are view groups of Android?
- Define database.
- List web services.
- What is GPS?

UNIT I

- Define Constructor. Write a java program to narrate constructor overloading. 6M
 - What is an interface? Explain the procedure to implement and extend an interface 6M

(OR)

- Differentiate between nested classes and inner classes. Illustrate with an example 8M
 - Explain different parameter passing mechanisms 4M

UNIT II

- List out method in String class. Write a java program to test whether the given string is palindrome or not. 8M
 - Explain in detail about wrapper classes. 4M

(OR)

- Differentiate between the throw and throws in exception handling. Illustrate with suitable examples. 8M
 - Write a java program to illustrate “finally” with the exception “Array Index Out Of Bound Exception”. 4M

UNIT III

- What is Android? Write the different features of Android. 6M
 - Illustrate the procedure to develop an Android Application using Eclipse. 6M

(OR)

- What is an activity? How to apply style and themes to an activity? Explain with suitable example. 8M
 - Write the procedure to use the Picker Views to display lists of items. 4M

UNIT IV

- Explain how to save data using the Shared Preferences object. 6M
 - How to send SMS message programmatically from within an application? 6M

(OR)

- Explain the procedure to display the Google Maps in an application. 6M
 - How to monitor a Location using Location Manager class. 6M