

Hall Ticket Number :									
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R-19

Code: 19A552T

III B.Tech. I Semester Supplementary Examinations March/April 2023

Computer Networks

(Computer Science and Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)

UNIT-I

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|----|--|-----|---|----|
| 1. | Distinguish between guided and unguided media. Explain various guided media being in use today | 14M | 1 | L2 |
|----|--|-----|---|----|

OR

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|----|--|-----|---|----|
| 2. | Explain the characteristics of WAN? Why a WAN is required and what objectives are achieved by having a WAN | 14M | 1 | L2 |
|----|--|-----|---|----|

UNIT-II

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|-------|--|----|---|----|
| 3. a) | What are services provided by the data link layer to its upper layer in the OSI protocol stack? | 6M | 2 | L2 |
| b) | Hamming code is used for 16 bit message transmission. How many check bits are needed to ensure that the receiver can detect and correct single bit errors? Show the bit pattern transmitted in the message 1101001100110101. | 8M | 2 | L3 |

OR

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|-------|--|----|---|----|
| 4. a) | Describe the principles of Go-Back-n ARQ protocol. | 8M | 2 | L3 |
| b) | What is 'collision'? Explain the method of avoiding collisions | 6M | 2 | L2 |

UNIT-III

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|-------|---|----|---|----|
| 5. a) | Define fragmentation and explain why the IP4 and IP6 protocols need to fragment some packets. | 7M | 3 | L2 |
| b) | What is need of Congestion Control Algorithms in data communication? | 7M | 3 | L2 |

OR

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|-------|---|----|---|----|
| 6. a) | State the Design Issues of Network layer | 7M | 3 | L2 |
| b) | Give Outline of an IP address? Discuss the class field in IP address. | 7M | 3 | L2 |

UNIT-IV

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|----|--|-----|---|----|
| 7. | Explain the steps to establish and release TCP connection management using finite state transition diagram | 14M | 4 | L2 |
|----|--|-----|---|----|

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|-------|---|----|---|----|
| 8. a) | Why is UDP faster than TCP? Differentiate between UDP and TCP | 7M | 4 | L3 |
| b) | Justify the performance issues in transport layer protocols. | 7M | 4 | L3 |

UNIT-V

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|-------|---|----|---|----|
| 9. a) | Summarize the resource record types specified in DNS. | 7M | 5 | L2 |
| b) | Explain how the actual computer systems are identified using DNS. | 7M | 5 | L2 |

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|--------|--|----|---|----|
| 10. a) | Summarize how SMTP transfers message from one host to another host with suitable illustration. | 7M | 5 | L5 |
| b) | Compare and contrast between the POP3 and IMAP protocols. | 7M | 5 | L3 |

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R-19

Code: 19A55CT

III B.Tech. I Semester Supplementary Examinations March/April 2023

Cryptography and Network Security

(Computer Science and Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)

UNIT-I

- | | Marks | CO | BL |
|---|-------|-----|----|
| 1. a) What are the two approaches to attacking a cipher? Explain. | 7M | CO1 | L2 |
| b) Differentiate passive attack from active attack with example. | 7M | CO1 | L2 |

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|---|----|-----|----|
| 2. a) Write the requirements of Cryptography. | 7M | CO1 | L1 |
| b) Explain the various active attacks? What security mechanisms are suggested to counter attack active attacks? | 7M | CO1 | L2 |

UNIT-II

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|--|----|-----|----|
| 3. a) Mention the strengths and weakness of DES algorithm | 7M | CO2 | L1 |
| b) Identify the possible threats for RSA algorithm and list their counter measures | 7M | CO2 | L1 |

OR

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|---|----|-----|----|
| 4. a) User A and B exchange the key using Diffie-Hellman algorithm. Assume $q=11$ $X_A=2$ $X_B=3$. Find the value of Y_A , Y_B and k . | 7M | CO2 | L3 |
| b) Explain about Block cipher design principles – Block cipher mode of operation. | 7M | CO2 | L2 |

UNIT-III

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|--|----|-----|----|
| 5. a) What is the role of compression function in hash function? | 7M | CO3 | L2 |
| b) Identify the security services provided by digital signature | 7M | CO3 | L2 |

OR

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|---|----|-----|----|
| 6. a) Enumerate the properties of Hash Function. | 7M | CO3 | L2 |
| b) Explain the process involved in message digest generation and processing of single block in SHA-512. | 7M | CO3 | L2 |

UNIT-IV

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|--|----|-----|----|
| 7. a) Describe in detail about S/MIME | 7M | CO4 | L2 |
| b) Write and explain various PGP cryptographic functions and services in detail. | 7M | CO4 | L1 |

OR

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| 8. a) What are the key features of SET? | 7M | CO4 | L2 |
| b) Explain about Security Associations in detail. | 7M | CO4 | L2 |

UNIT-V

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|--|----|-----|----|
| 9. a) Draw and discuss the Architecture of IPSec | 7M | CO5 | L2 |
| b) Explain ESP Header of IP Sec | 7M | CO5 | L2 |

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|---|----|-----|----|
| 10. a) What is a worm? Name some known worms. | 7M | CO5 | L2 |
| b) Explain how firewalls help in the establishing a security framework for an organization. | 7M | CO5 | L2 |

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Code: 19A551T

III B.Tech. I Semester Supplementary Examinations March/April 2023

Advanced Java Programming
(Computer Science and Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)

		Marks	CO	BL
UNIT-I				
1. a)	Explain JavaFx application skeleton with an example program.	14M	1	2
OR				
2. a)	Describe Button class and its event handling in JavaFX programming with suitable example program.	10M	1	3
b)	Differentiate among Stage, Scene and Node objects.	4M	1	4
UNIT-II				
3. a)	Explain constructors and methods of Image and ImageView.	7M	2	2
b)	How can you add images to Label.Explain with an example program?	7M	2	2
OR				
4. a)	Write a JavaFX program to demonstrate RadioButton control.	7M	2	3
b)	Write a JavaFX program to demonstrate ListView control.	7M	2	3
UNIT-III				
5. a)	Write a JDBC application to insert rows into a database table.	7M	3	3
b)	Write a JDBC application to update rows into database table.	7M	3	3
OR				
6.	Discuss the following			
	i) Statement interface			
	ii) PreparedStatement interface			
	iii) Connection interface	14M	3	2
UNIT-IV				
7. a)	What is servlet? Explain interfaces from javax.servlet and javax.servlet.http packages.	7M	4	1
b)	Explain GenericServlet in detail.	7M	4	1
OR				
8. a)	Explain servlet life cycle.	7M	4	2
b)	Explain cookies session tracking.	7M	4	2
UNIT-V				
9. a)	What is JSP? How JSP application works?	7M	5	1
b)	Explain JSP scripting elements with syntax.	7M	5	2
OR				
10.	What is java bean? Develop a java bean and explain how it is called from a jsp page. Demonstrate with an example program.	14M	5	2
