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RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU)

V Semester B. E. Examinations March / April-2023

Computer Science and Engineering

NETWORK PROGRAMMING AND SECURITY

Time: 03 Hours ***Maximum Marks: 100***

Instructions to candidates:

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. In Part B question number 2, 7 and 8 are compulsory. Answer any one full question from 3 and 4 & one full question from 5 and 6

PART-A

1	1.1	To perform network I/O, the first thing a process must do is call the _____ function.	01
	1.2	TCP socket, the _____ function initiates $TCP's$ three way handshake.	01
	1.3	We want to handle multiple clients at the same time. The simplest way to write a concurrent server under Unix is to _____ a child process to handle each client.	01
	1.4	Entries in the DNS are known as _____ .	01
	1.5	Short lived ports of clients are normally termed as _____ .	01
	1.6	TCP process may not write and read data at the same speed. So we need _____ for storage.	01
	1.7	The _____ function assigns a local protocol address to a socket.	02
	1.8	List the actions performed when listen function is called by TCP server.	01
	1.9	_____ is an example for connectionless protocol.	01
	1.10	The _____ is used primarily to map between host names and IP address	01
	1.11	The factoring problem in RSA is an example for _____ attack.	01
	1.12	Asymmetric algorithms rely on _____ number of keys for encryption and decryption.	01
	1.13	The key sharing algorithm which uses public key cryptography is _____.	01
	1.14	In Deffie – Hellman key exchange Alice compute secret key by using _____ of BoB.	01
	1.15	In typical DES how many rounds are followed?	01
	1.16	List the two services provided for SSL connection by SSL Record protocol.	02
	1.17	What is the access point (AP) in a wireless LAN?	02

PART-B

2	a	With a neat sketch explain the working of TCP state transition diagram.	08
	b	Explain $IPv4$ socket address structure.	08
3	a	Explain connect function and bind function with syntax.	08
	b	Establish the relationship among six exec functions with a neat diagram.	08
		OR	
4	a	Explain a C program to implement TCP echo server.	08
	b	Explain listen function used by TCP server and also show the working of two queues maintained by TCP for listening socket.	08
5	a	Explain getsockopt and setsockopt functions.	06
	b	Explain recvfrom and sendto functions.	06
	c	Demonstrate the working of simple echo client/server using UDP.	04
		OR	
6	a	Explain gethostbyname function and hostent structure briefly.	08
	b	Explain freeaddrinfo function and host_serv function.	08
7	a	Using neat sketch explain the Feistel cipher model.	08
	b	Explain a single round of data encryption standard algorithm with a neat diagram.	08
8	a	With a neat diagram demonstrate the working of SSL handshake protocol.	06
	b	Explain the benefits of Transport Layer Security(TLS)	04
	c	With a neat diagram explain the different phases of operations in $IEEE802.11i$.	06