

Course & Sem: B. Tech. (8<sup>th</sup> Sem)

Max Marks: 40

Min Marks: 14

Branch: CSE (A+B+C+D+E+F)

Time: 2Hours

Note: Attempt all questions. Parts (a) are compulsory & attempt any two parts from (b), (c) & (d).

Q. No.		Questions	M	CO	BL	PI
1	a	What do you mean by Cyber Crime?	2	CO1	L2	1.3.1
1	b	Explain types of cyber-crimes.	6	CO2	L2	1.3.1
1	c	Write a brief note on cyber crime against women's and children.	6	CO3	L2	1.3.1
1	d	Write short notes on (1) Financial fraud (2) Social Engineering attack.	6	CO3	L1	2.1.2
2	a	What do you mean by malware?	2	CO2	L3	2.1.3
2	b	What do you mean by Ransome ware? Explain Ransome ware attack with example.	6	CO4	L2	1.3.1
2	c	Explain zero day and zero click attacks.	6	CO5	L2	1.3.1
2	d	Write a brief note on IT act 2000.	6	CO2	L3	2.1.3
3	a	What do you mean by Botnet?	2	CO3	L2	1.3.1
3	b	Explain types of malwares.	5	CO1	L3	1.3.1
3	c	Write short notes on (1) Warxing (2) Smishing.	5	CO5	L1	2.1.2
3	d	Write the necessary steps to prevent being a victim of cyber crime.	5	CO6	L2	1.3.1

<b>Subject Code</b>	D022811(022)
<b>Subject Name</b>	Cyber Law & Intellectual property

Course & Sem: B. Tech. (8<sup>th</sup> Sem)

Max Marks: 40

Min Marks: 14

Branch: CSE (A+B+C+D+E+F)

Time: 2Hours

Note: Attempt all questions. Parts (a) are compulsory & attempt any two parts from (b), (c) & (d).

Q. No.		Questions	M	CO	BL	PI
1	a	What do you mean by Social networks?	2	CO1	L2	1.3.1
1	b	Explain security issues related to social media.	6	CO2	L2	1.3.1
1	c	Explain laws related to posting inappropriate content in social media.	6	CO3	L2	1.3.1
1	d	Explain social media marketing in detail.	6	CO3	L1	2.1.2
2	a	What do you mean by IPR?	2	CO2	L3	2.1.3
2	b	Write a brief note on IPR Tool Kit.	6	CO4	L2	1.3.1
2	c	Explain emerging areas of IPR.	6	CO5	L2	1.3.1
2	d	Write short notes on (1) copyright (2) Neighboring rights.	6	CO2	L3	2.1.3
3	a	What do you mean by patents?	2	CO3	L2	1.3.1
3	b	Explain laws related to patents in India.	5	CO1	L3	1.3.1
3	c	Write a brief note on patent appellate board.	5	CO5	L1	2.1.2
3	d	Write a short note on ownership & transfer.	5	CO6	L2	1.3.1

Sl. No.	Question	Marks
1	<p>a) <b>What do you mean by cyber crime of millenium? Discuss with help of <u>example</u></b></p>	(4)
	<p>b) <b>What are the three pillars of security concepts? Discuss with help of suitable example</b></p>	(8)
	<p>c) <b>How do you categorize cyber crime? Discuss the different types of cyber crimes</b></p>	(8)
	<p>d) <b>Briefly discuss the different types of cyber criminals based on their criminal activities.</b></p>	(8)
2	<p>a) <b>What do you mean by Rogue Antivirus? How it is use for any cyber attack?</b></p>	(4)
	<p>b) <b>What do you mean by Anti Forensics? Discuss the different anti forensics techniques</b></p>	(8)
	<p>c) <b>Give short note on:-</b>            a) Botnet            b) Phishing</p>	(8)
	<p>d) <b>What do you mean by Proxies? Justify the statement Proxies act as server to the clients and as a client for server?</b></p>	(8)

**Subject: Cyber Law and Intellectual Property****Time: 2 Hrs.****Maximum Marks: 60**

**Note:** Attempt all questions. Part (a) of each question is compulsory and carries 04 marks; attempt any two parts from (b), (c) and (d) carrying 08 marks.

Sl No.	Question	Marks
1	<p>a) What is Social Engineering? How client side attack is done using social engineering?</p> <p>b) What is shell code? What is relationship between shell code and exploit order?</p> <p>c) Write short note on            i) War Xing            ii) XSS            iii) Brute Force Attack</p> <p>d) What do you mean by DNS Attack? What are the measures against DNS attack?</p>	(4)    (8)
2	<p>a) What do you mean by Electronic Governance?</p> <p>b) What are the liabilities of network service provider?</p> <p>c) Explain IT Act for legal recognition of digital signature?</p> <p>d) What are the different crimes under IT Act 2000</p>	(4)    (8)
3	<p>a) Write short note on i) Patent Law            [ ii) Trademark Law</p> <p>b) What is difference between Patent Copyright and Trademark</p> <p>c) Write a short Note on            i) ODR ii) ADR</p> <p>d) Explain IT Act for India for Electronic Database Protection</p>	(4)    (8)

**Note: Attempt all questions. Parts (a) are compulsory & attempt any two parts (b), (c) and (d)**

**Course Outcome:**

<b>CO1</b>	Learn Fundamentals of R.
<b>CO2</b>	Covers how to use different functions in R, how to read data into R, accessing R packages.
<b>CO3</b>	Writing R functions, debugging, and organizing data using R functions.
<b>CO4</b>	Cover the Basics of statistical data analysis with examples.
<b>CO5</b>	The whole syllabus will give an idea to collect, compile and visualize data using statistical functions.

<b>Q. No.</b>		<b>Questions</b>	<b>Marks</b>	<b>CO</b>	<b>B L</b>	<b>PI</b>
1	a	What is meant by list in R programming?	4	CO1	L2	1.3.1
1	b	Write short notes on : a.) melt() b.) cast()	8	CO2	L2	1.3.1
1	c	Illustrate the analysis the CSV File using : 1.) summary() 2.) min() 3.) max() 4.) range() 5.) mean() 6.) median()	8	CO3	L2	1.3.1
1	d	Explain dataframe in brief with example.	8	CO3	L1	2.1.2
2	a	What is meant by vector?	4	CO2	L3	2.1.3
2	b	Explain different ways of creating vectors.	8	CO4	L2	1.3.1
2	c	Explain the following function briefly: 1.) dim() 2.) str() 3.) edit() 4.) ncol()	8	CO5	L2	1.3.1
2	d	Illustrate: 1.) Naming of row and column in matrix 2.) Accessing array elements. 3.) Apply operation : Addition, and transpose on Matrix.	8	CO2	L3	2.1.3

**Session: EVEN SEM (2022-23)**

<b>Class Test - I</b>	<b>Course Name: B Tech (CSE )</b>	<b>Semester: 8th</b>
<b>Time: 2 Hours</b>	<b>Subject Name: R Programming</b> <b>Subject Code: D022832</b>	<b>Min Marks: 14</b> <b>Max Marks: 40</b>

**Note: Attempt all questions. Parts (a) are compulsory & attempt any two parts from (b), (c) & (d).**

**Course Outcome:**

<b>CO1</b>	Learn Fundamentals of R.
<b>CO2</b>	Covers how to use different functions in R, how to read data into R, accessing R packages.
<b>CO3</b>	Writing R functions, debugging, and organizing data using R functions.
<b>CO4</b>	Cover the Basics of statistical data analysis with examples.
<b>CO5</b>	The whole syllabus will give an idea to collect, compile and visualize data using statistical functions.

Q. No.	Questions	Marks	CO	B L	PI
1    a	Write applications of R programming.	2	CO1	L2	1.3.1
1    b	Explain about Special Values functions : NA, Inf and –inf.	6	CO2	L2	1.3.1
1    c	Compare R programming over Other Programming Languages.	6	CO3	L2	1.3.1
1    d	Explain different data structures in R.	6	CO3	L1	2.1.2
2    a	Write about complex objects in R.	2	CO2	L3	2.1.3
2    b	Write about control statements in R. Quote examples.	6	CO4	L2	1.3.1
2    c	Write R code to generate first n terms of a Fibonacci series.	6	CO5	L2	1.3.1
2    d	Explain Loop control statement in R programming.	6	CO2	L3	2.1.3
3    a	What is meant by coercion?	2	CO3	L2	1.3.1
3    b	Explain R Objects with examples.	5	CO1	L3	1.3.1
3    c	Explain different ways of installing packages in R.	5	CO5	L1	2.1.2
3    d	Write syntax of if else in R with a program.	5	CO6	L2	1.3.1

Sl. No.	Question	Marks	CO																		
1	<p>a) i) How to import packages in R? Give examples. ii) what are the special value functions in R?</p>	(4)	CO1																		
	<p>b) Demonstrate about a) All Input-Output functions(Taking input from users – printing output to users) b) Different ways of Assignment (statement/s)</p>	(8)	CO1																		
	<p>c) Analyze the control structures with conditional statements in R with suitable example. Write an R program</p>	(8)	CO1																		
	<p>d) What is Matrix data structure? How to define it and access it? Create a matrix using <u>rbind</u> and <u>cbind</u>. Let two vectors <math>x &lt;- c(1,3, 5)</math> and <math>y &lt;- c(3, 2, 10)</math>, What is size of the expression <u>rbind(x, y)</u> output? Differences between <u>rbind</u> and <u>cbind</u>.</p>	(8)	CO1																		
2	<p>a) Find the output in R: i) If x is defined as <math>x &lt;- \text{list}(2, "a", "b", \text{TRUE})</math>. What does <math>x[[1]]</math> give? ii) If x is defined as <math>x &lt;- \text{List}(2, "a", "b", \text{TRUE})</math>. What does <math>x[[2]]</math> give ? iii) If x, y are two vectors <math>x &lt;- 1:4</math> and <math>y &lt;- 2:3</math>. What is produced by the expression <math>x + y</math>? iv) If x, y are two vectors, <math>x &lt;- 1:4</math> and a vector <math>y &lt;- 2</math>. What is produced by the expression <math>x + y</math>?</p>	(4)	CO2																		
	<p>b) How to create a list and demonstrate all the ways of accessing a list component. Write R script to create and display list object of stores items having:  <math>\{\text{Fruits:}\{\text{orange, mango, apple, watermelon, banana}\}, \text{Juices:}\{\text{appy, fru, ty, slice}\}, \text{Milkshakes:}\{\text{Mango, papaya, sapota, pineapple}\}\}</math>.</p>	(8)	CO2																		
	<p>c) a) R has five “atomic” classes of objects. What are they? How to test the datatype in R? Quote examples. b) Make a comparison of implicit coercion and explicit coercion.</p>	(8)	CO2																		
	<p>d) What is the data frame and how to create a data frame using the following data: Write an R program to prepare the below <u>dataframe</u>.</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Height</th> <th>GPA</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>66</td> <td>8.9</td> </tr> <tr> <td>B</td> <td>62</td> <td>9.1</td> </tr> <tr> <td>C</td> <td>63</td> <td>7.23</td> </tr> <tr> <td>D</td> <td>70</td> <td>8.25</td> </tr> <tr> <td>E</td> <td>74</td> <td>7.01</td> </tr> </tbody> </table> <p>a.) How do we select first three row? b.) How do we select last two column? c.) How do we select last two column of the last three row? d.) What is <u>df[, 3]</u>? e.) What is <u>df[1, ]</u>? f.) What is <u>df[2, 2]</u>?</p>	Name	Height	GPA	A	66	8.9	B	62	9.1	C	63	7.23	D	70	8.25	E	74	7.01	(8)	CO2
Name	Height	GPA																			
A	66	8.9																			
B	62	9.1																			
C	63	7.23																			
D	70	8.25																			
E	74	7.01																			

Time: 2 Hrs.

Maximum Marks: 60

Note: Attempt all questions. Part (a) of each question is compulsory and carries 04 marks, attempt any two parts from (b), (c) and (d) carrying 08 marks.



Sl. No.	Question	Marks
1	<p>a) Let two vectors <math>x &lt; c(1, 3, 5)</math> and <math>y &lt; c(3, 2, 10)</math>. What is size of the expression <math>rbind(x, y)</math> output? Differences between rbind and cbind. Create a matrix using rbind and cbind.</p>	(4)
	<p>b) Write the R code for the following a. Calling a function with default arguments b. Calling a function with arguments c. Calling a function without arguments</p>	(8)
	<p>c) How to define a function in R? What is cumulative sum, product, min, max? Explain with example? Write R functions used for this purpose?</p>	(8)
	<p>d) Write about user defined functions in R with suitable example? Write R code to generate first n terms of a Fibonacci series</p>	(8)
2	<p>a) Write a R program to create three vectors numeric data, character data and logical data. Display the content of the vectors and their type</p>	(4)
	<p>b) i. Define Factor ii. How to create a factor and how to access components of a factor? iii. How to modify a factor?</p>	(8)
	<p>c) Create the following a. Creating a list b. Naming list elements c. Check whether a item exist or not</p>	(8)

	<p>d) List out the properties of the following: a. Matrix subtraction b. Matrix Division c. Matrix addition d. Matrix multiplication</p>	
3	<p>a) What are the different ways to read the dataset? How to create and rename a variable in R? What are the read write methods available in R and explain?</p>	(4)
	<p>b) Write a R program to create a data frame using two given vectors and display the duplicated elements and unique rows of the data frame. Explain with a syntax</p>	(8)
	<p>c) Write a R program to create a correlation matrix from a data frame of same datatype. Explain the functions with syntax.</p>	(8)
	<p>d) Create the dataframe <code>data &lt;- data.frame(x1 = 1:6, x2 = c(1, 2, 2, 3, 1, 2), x3 = c("F", "B", "C", "E", "A", "D"))</code> Use the following functions a. Arrange function b. Filter function c. Mutate function d. Pull function e. Rename function f. Sample_n function g. Select function</p>	(8)

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# **Department of Computer Science and Engineering**

**B.Tech. – 3<sup>rd</sup> Year Semester - VIII Session 2022-23 Branch: CSE**

**Class Test-I**  
**Max. Marks: 40**

**Section: A**  
**Subject Name: Blockchain**  
**Min. Marks: 14**

**Note: Attempt all questions.**

## **Unit-I**

<b>Questi on No.</b>	<b>Questions</b>	<b>Mark s</b>	<b>CO</b>	<b>BL</b>	<b>PI</b>
<b>1 a)</b>	What is blockchain give brief overview	4	CO1	1	1.1.2
<b>1 b)</b>	Explain POW and POS	8	CO1	3	1.1.2
<b>1 c)</b>	Explain Blockchain Architechture in detail	8	CO1	1	1.1.2
<b>1 d)</b>	What are the types of blockchain.	8	CO1	6	1.1.2

## **Unit-II**

<b>Quest ion No.</b>	<b>Questions</b>	<b>Marks</b>	<b>CO</b>	<b>BL</b>	<b>PI</b>
<b>2 a)</b>	What is Blockchain Consensus Algorithm?	4	CO1	2	1.1.2
<b>2 b)</b>	What is Zero Knowledge Proof?	8	CO1	4	1.1.2
<b>2 c)</b>	What is Byzantine Fault Tolerance?	8	CO1	3	1.1.2
<b>2 d)</b>	Explain any five Blockchain Consensus Algorithms	8	CO1	4	1.1.1

<b>Class Test - 2</b>	<b>Course Name: B Tech CSE-A,B,C,D,E,F</b>	<b>Semester: 8<sup>th</sup></b>
<b>Time: 2 Hours</b>	<b>Subject Name: BLOCKCHAIN</b> <b>Subject Code:D000818</b>	<b>Min Marks: 14</b> <b>Max Marks: 40</b>

**Note: Attempt all questions. Parts (a) are compulsory & attempt any two parts from (b), (c) & (d).**

**Course Outcome:**

**CO1** Understand a wide variety of learning algorithms.

**CO2** Understand how to evaluate models generated from data

<b>Q. No.</b>	<b>Questions</b>		<b>Marks</b>	<b>CO</b>	<b>B L</b>	<b>PI</b>
1      a	Define <u>Hashing and Digital Signature</u> .		2	CO1	L2	1.3.1
1      b	Describe elliptic curve cryptography.		6	CO2	L2	1.3.1
1      c	Elaborate verifiable random functions?		6	CO3	L2	1.3.1
1      d	Explain Digital Signature Schema and encryption.		6	CO3	L1	2.1.2
2      a	Define BlockChain 2.0 and BlockChain 3.0..		2	CO2	L3	2.1.3
2      b	Describe about Hyperledger and its implementation in Etherium.		6	CO4	L2	1.3.1
2      c	Explain about Smart Contract and Attacks on Smart Contract.		6	CO5	L2	1.3.1
2      d	Brefily explain the about Etherium and EVM.		6	CO2	L3	2.1.3
3      a	Define Bitcoin.		2	CO3	L2	1.3.1
3      b	Elaborate AltCoins.		5	CO1	L3	1.3.1
3      c	Explain about the difficulty in mining the bitcoin.		5	CO5	L1	2.1.2
3      d	Describe fork and double spending.		5	CO6	L2	1.3.1

<b>Q. No.</b>	<b>Question</b>	<b>Marks</b>	<b>CO</b>	<b>BL</b>	<b>PI</b>
1. a)	Define blockchain and its importance	4	1	1	2.1.2
b)	Explain Blockchain header design in details.	8	1	2	1.4.1
c)	What is proof of work explain with a diagram and its properties?	8	1	3	2.1.2
d)	What are the various types of blockchains?	8	1	2	2.1.3
2 a)	Explain consensus algorithms.	4	2	2	2.1.3
b)	What are the various challenges in consensus algorithms?	8	2	4	2.1.2
c)	Explain p-BFT and its importance.	8	2	6	1.4.1
d)	What are the various types of Zero knowledge proof protocol?	8	2	6	2.1.3

# **Subject: Blockchain**

**Time: 2 Hrs.**

**Maximum Marks: 60**

*Attempt all questions. Part (a) of each question is compulsory and carries 4 marks; attempt any two parts from (b), (c) and (d) carrying 08 marks.*

<b>SL No.</b>	<b>Question</b>	<b>Marks</b>
<b>1</b>	<b>a)</b> Define Hashing and its uses.  <b>b)</b> What is digital signature and what are the various schemes  <b>c)</b> Explain about elliptic curve cryptography and its advantages and limitations.  <b>d)</b> Explain Variable random function and its uses in blockchain.	(4) (8) (8) (8)
<b>2</b>	<b>a)</b> Explain Ethereum Virtual Machine (EVM) in brief  <b>b)</b> What are smart contracts and various attacks on smart contracts.  <b>c)</b> What is turing complete in blockchain.  <b>d)</b> Explain Hyperledger fabric and its features	(4) (8) (8) (8)
<b>3</b>	<b>a)</b> Explain about Bitcoin consensus  <b>b)</b> Write shortnotes on: <ul style="list-style-type: none"><li>• transaction verifiability,</li><li>• anonymity,</li><li>• double spending</li></ul> <b>c)</b> What is Merkle tree and its working  <b>d)</b> List out uses of blockchain and explain them in detail.	(4) (8) (8) (8)