

**Final Year (CST) (Cr) (Part-4)-Sem-8** 4047  
**EXAMINATION March/April -2024**  
**Sub. Name: Mobile Computing**  
**Sub. Code: 94519 / 94815**

**Day and Date : Friday, 03-05-2024**

**Total Marks : 100**

**Time : 10.30 a.m. to 01.30 p.m.**

**Instructions :**

- Figures to the right indicate full marks

**Special Inst. : Attempt Any Five Questions**

**Q.1) a) Explain the need and applications of wireless communication. (10) [20]**

**b) Explain digital modulation techniques ASK and FSK (10)**

**Q.2) a) with the help of a block diagram explain FHSS. (10) [20]**

**b) What are the main reasons for using cellular systems? How SDM does is realized for multiplexing (10)**

**Q3) a) Analyze classical and slotted aloha (10) [20]**

**b) With a neat diagram explain hidden and exposed and near and far terminals (10)**

**Q.4) a) Draw and explain GSM system architecture. (10) [20]**

**b) Explain mobile originated call (10)**

**Q.5) a) Explain the basic structure of IEEE 802.11 MAC packet structure. (10) [20]**

**b) Explain Hand over WATM (10)**

**Q.6) a) Explain traditional TCP in detail. (10) [20]**

**b) Draw and explain agent discovery for mobile IP. (10)**

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**March-April 2024 Examination**  
**Final Year B. Tech (CST) (CR) Part-4 Sem-8 (Revised)**  
**Information Security**  
**Sub. Code:94520**

Day and Date : Thursday, 09-05-2024  
Time : 10:30 am to 01:30 pm

Total Marks : 100

**Instructions :**

- 1) Solve any five questions.
- 2) Figures to right indicate full marks.

Q. No.	Questions	Bloom's Level	CO	Marks
Q.1 A)	Explain the OSI security architecture	Understand	CO1	10
Q.1 B)	Explain the concept of polyalphabetic ciphers. Encrypt the following plaintext using the Caesar cipher encryption technique. PlainText: " <u>Information security requires a balance between security, usability and available resources.</u> ". Key (k)=6	Understand and apply	CO1	10
Q.2 A)	List and explain in detail DES design criteria	Apply	CO2	10
Q.2 B)	Discuss and ECB and CBC in detail with diagram	Understand and Apply	CO2	10
Q.3 A)	i. Using Fermat's theorem, find $4^{225} \text{ mod } 13$ ii. Determine gcd(3486, 10292)	Evaluate	CO3	10
Q.3 B)	State and explain requirements of public key cryptosystem. Explain applications of public key cryptosystem.	Apply	CO3	10
Q.4 A)	State authentication requirements. Explain basic uses of Message Encryption	Apply	CO4	10
Q.4 B)	What is Hash function? With a neat diagram explain basic uses of Hash function	Analyze	CO4	10

Q.5 A)	State and explain in detail the Diffie-Hellman key exchange algorithm with example	Apply	CO4	10
Q.5 B)	State different techniques for the distribution of public keys. Explain any two techniques in detail	Apply	CO5	10
Q.6 A)	With neat diagram explain IPSec document overview	Understand	CO6	10
Q.6 B)	Give overview of MIME	Understand	CO6	10

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 6, 71

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**March-April 2024 Examination**  
**Final Year B. Tech (CST) (CR) Part-4 Sem-8 (Revised)**  
**Soft Computing**

**Subject Code : 94521**

Day and Date : Saturday, 11-05-2024  
Time : 10:30 am to 01:30 pm

Total Marks : 100

**Instructions :**

- 1) Solve any five questions.
- 2) Figures to right indicate full marks.

Q. No.	Questions	Bloom's Level	CO	Marks
Q.1 A)	Demonstrate the Fuzzy-Genetic Hybrid system.	Understand	CO1	10
Q.1 B)	State and explain with diagram different types of neuron connection architectures.	Understand	CO1	10
Q.2 A)	Design Madaline model to implement Logical OR function.	Create	CO3	10
Q.2 B)	Define the following w.r.t. ANN i) Weights ii) Bias iii) Threshold iv) Learning rate	Understand	CO2	10
Q.3 A)	Design McCulloch Pitts neuron model to implement Logical XOR function	Create	CO2	10
Q.3 B)	Illustrate fuzzy decision-making process.	Apply	CO4	10
Q.4 A)	Demonstrate the schema theorem in genetic algorithm.	Apply	CO5	10
Q.4 B)	Differentiate between traditional algorithm and genetic algorithm.	Analyze	CO5	10
Q.5 A)	Demonstrate genetic algorithm based internet search techniques.	Apply	CO6	10
Q.5 B)	Design Multilayer perceptron (MLP) and explain its operation.	Create	CO3	10
Q.6 A)	Design Back propagation network training with equations.	Create	CO3	10
Q.6 B)	Demonstrate the process of fuzzification.	Apply	CO4	10

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**Final Year B.Tech SEM-VIII**  
**Examination, March/April, 2024**  
**Subject- Elective: Data Mining and Warehousing**  
**Subject Code : 94527**

**Day and Date : Friday, 17-05-2024**

**Time : 10.30 a.m. to 1.30 p.m.**

**Total Marks : 100**

**Instructions:**

1. Solve any 5 questions
2. Draw neat diagram wherever necessary

	Questions	Bloom's Level	CO	Marks
✓	a. What is data pre-processing .What is the need of pre-processing? How to handle noisy data with pre-processing?	Understand	1	<b>10</b>
✓	b. Explain the method of Normalization. Use this method to normalize the following group of data: 200, 300, 400, 500, 600, 800, and 1000.Calculate the value with- <ol style="list-style-type: none"> <li>a. min-max normalization with min=0 and max=1</li> <li>b. z-score normalization using mean absolute deviation instead of standard deviation.</li> <li>c. Normalization by decimal scaling.</li> </ol>	Understand, Apply	2	<b>10</b>
✓	a. What is the difference between agglomerative and divisive hierarchical clustering? Explain in detail K means clustering.	Knowledge, Apply	2	<b>10</b>
✓	b. Differentiate in between OLTP and OLAP. Discuss OLAP operations with an example.	Understand, Apply	4	<b>10</b>
✓	a. Explain Regression by division method. Let a training data is $\{1.6, 1.9, 1.88, 1.7, 1.85, 1.6, 1.7, 1.8, 1.95, 1.9, 1.8, 1.75\}$ .With division method classify the data into two different classes.	Understand, Apply	3	<b>10</b>
✓	b. Discuss decision tree based algorithm for classification. Explain advantages and disadvantages.	Understand	3	<b>10</b>
✓	a. What is Association rule? What are the Applications of Association rule mining? Define support and confidence in Association rule mining. What is the lift for rule?	Knowledge, Understand	4	<b>10</b>
✓	b. Elaborate the concept of Spatial mining in detail.	Understand	5	<b>10</b>
	a. Explain in detail web structure mining.	Knowledge	5	<b>10</b>
	b. With a neat diagram give details of multitier architecture of Data warehouse.	Understand, Knowledge	4	<b>10</b>
✓	a. Describe the KNN classification algorithm with a suitable example.	Knowledge	4	<b>10</b>
✓	b. What are social implications of data mining? Discuss.	Understand	5	<b>10</b>

B.Tech.(Cr.) Sem-VIII  
Exmination, March/April, 2024  
Subject- IT for Engineers  
Subject Code : 94531

Day and Date : Wednesday, 15-05-2024

Time : 10.30 a.m. to 1.30 p.m.

Total Marks : 100

**Instructions:**

1. Solve any 5 questions
2. Draw neat diagram wherever necessary
3. Use Scientific Calculator wherever necessary

Q.1 a. Draw and explain different types of servers. And evaluate the impact of different types of servers on website performance. (10)

b. What are the basics of HTML? List and explain different HTML tags used in website creation compare Static and dynamic website. (10)

Q.2 a. What is the concept of file handling in PHP? Create a PHP script that performs basic operations like read, write, append and delete on a file. (10)

b. List and explain different types of Scripting languages. Define JavaScript? And what is its role in enhancing the interactivity of web pages. (10)

Q.3 a. Describe the functions of MySQL in database management. What are the steps involved in accessing MySQL using PHP. How can PHP be used to access MySQL databases? (10)

b. State and explain DBMS, different types, different data types and indexes in a database. (10)

- Q.4** a. What is a Wireless Local Area Network (WLAN)? Explain the concept of a WLAN in detail along with its advantages over wired networks? (10)
- b. Explain the terms Routing, Switching, modem and repeater? Also give relationship between them. (10)

- Q.5** a. List authoring tools and explain the relationship between authoring tools and website creation. (10)
- b. What are the key steps in creating a simple interactive application, and what technologies and strategies are commonly used in developing social networking applications? (10)

- Q.6** a. What are the key components of a PIS? Explain the steps involved in design and development of information systems. (10)
- b. Explain the process of creating Simple database application. What are the design considerations for multimedia applications? (10)

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