H.T No: | | | | | | | | | | | **R18** **Course Code: A36205**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech V Semester Supplementary Examinations May-2023

Course Name: CRYPTOGRAPHY & NETWORK SECURITY

(CSC)

Date: 09.05.2023 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Find gcd (24140, 16762) using Euclid's algorithm? 2 M
2. Define Euler's theorem and it's application. 2 M
3. Compare stream cipher with block cipher with example. 2 M
4. Enumerate design parameters of feistel cipher structure. 2 M
5. Differentiate RSA and Diffie-Hellman Algorithm. 2 M
6. Discuss CMAC. 2 M
7. Describe digital signatures with an example. 2 M
8. Describe public key infrastructure. 2 M
9. State alert codes of TLS protocol. 2 M
10. Differentiate PGP and MIME types. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Explain security attacks, security services and security mechanisms with neat diagrams. 10M

OR

11. B). Discuss the properties that are satisfied by Groups, Rings and Fields. 10M

12. A). i) Consider the plaintext: "PROTOCOL" Secret key: "NETWORK" What is the corresponding cipher text using play fair cipher method? 5M

ii) Explain various types of transposition techniques. 5M

OR

12. B). i) What are the different modes of operation in DES? Explain. 6M

ii) Write down the purpose of S-Boxes in DES. 4M

13. A). What is meant by authentication? Explain the HMAC authentication algorithm with authentication codes. 10M

OR

13. B). Explain the need of hash function. Discuss in detail about Secure Hash Algorithm (SHA). 10M

(P.T.O..)

14. A). Define authentication service? Explain x.509 authentication services in a detail manner. 10M

OR

14. B). Describe the roles of the different servers in Kerberos protocol. How does the user get authenticated to the different servers? 10M

15. A). Define S/MIME? Explain in detail about the importance of S/MIME in E-mail security. 10M

OR

15. B). Explain in detail about architecture of IP Security. 10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A31201**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech V Semester Supplementary Examinations May-2023

Course Name: AUTOMATA & COMPILER DESIGN

(Common for IT & CSC)

Date: 11.05.2023 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Draw the finite machine model. 2 M
2. List out any three properties of regular expressions. 2 M
3. Define handle pruning. 2 M
4. Difference in between inherited attribute and synthesized attribute. 2 M
5. Define type expression. 2 M
6. What is overloading functions? 2 M
7. Classify the storage allocation strategies. 2 M
8. What is use of flow graph? 2 M
9. What is absolute code? 2 M
10. Define dead code elimination with an appropriate example. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). i) Design Finite Automata for the regular Expression 0(10+01)*11 5M

ii) Construct DFA's Equivalent to the NFA's ({p,q,r,s },{0,1},δ, p,{s}) δ is given in the following table. 5M

State \ Input	0	1
p	q,s	q
q	r	q,r
r	s	p
s	-	p

OR

11. B). What is an ambiguous grammar? Show that the grammar 10M

$S \rightarrow iEtSS_1 / a$

$S_1 \rightarrow eS / \epsilon$

$E \rightarrow b$ is ambiguous or not.

Design a predictive parsing table and test whether the above grammar LL(1) or not .

(P.T.O..)

12. A). Develop LALR parsing table for the following grammar 10M
S → AA
A → aA
A → b

OR

12. B). Parse the input string int id,id; using shift-reduce parser for the following grammar 10M
S → TL;
T →int | float
L →L,id | id

13. A). Discuss in detail about Chomsky hierarchy of languages. 10M

OR

13. B). Describe about type checking and type conversions. 10M

14. A). Demonstrate the Access to Nonlocal Data on the Stack. 10M

OR

14. B). Illustrate the peephole optimization techniques. 10M

15. A). Explain simple code generation algorithms. 10M

OR

15. B). Summarize the machine independent code optimization. 10M

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H.T No: | | | | | | | | | | | **R18** | **Course Code: A30528**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech V Semester Supplementary Examinations May-2023

Course Name: DATA WAREHOUSING & DATA MINING

(Common for CSE & CSC)

Date: 13.05.2023 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Define Data Warehousing. 2 M
2. List the different types of fact tables. 2 M
3. Why is data preprocessing needed? 2 M
4. List four issues in data mining. 2 M
5. Explain Support and Confidence in Association. 2 M
6. Define Apriori property. 2 M
7. Explain the accuracy and error rates of a classifier. 2 M
8. Differentiate the supervisor learning and un-supervisor learning. 2 M
9. Define the Outliers. 2 M
10. Show the time complexities of the K-means clustering algorithm. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Apply star schema to draw a diagram for the data warehouse. Suppose that a data warehouse consists of three dimensions time, doctor, and patient, and the two measures are count and charge, where the charge is the fee that a doctor charges a patient for a visit. 10M

OR

11. B). Compare the Characteristics of Online Transactional Processing (OLTP) and Online Analytical Processing (OLAP). 10M

12. A). Outline the Knowledge Discovery from Data (KDD) process with a neat diagram. 10M

OR

12. B). In real-world data, tuples with missing values for some attributes are a common occurrence. Describe various methods for handling this problem. 10M

13. A). A database has five transactions. Let min_sup =60% and min_conf =80%. Apply the Apriori algorithm to find all frequent itemsets. 10M

TID	*items_bought*
T100	{M, O, N, K, E, Y}
T200	{D, O, N, K, E, Y }
T300	{M, A, K, E}
T400	{M, U, C, K, Y}
T500	{C, O, O, K, I, E}

(P.T.O..)

OR

13. B). Explain the FP-growth algorithm for discovering frequent itemsets with a suitable example. 10M

14. A). Briefly outline the major steps of decision tree classification with suitable example. 10M

OR

14. B). Briefly outline the major steps of Naive Bayesian Classification with suitable example 10M

15. A). Analyze each of the following clustering algorithms in terms of the following criteria: 10M
(i) Shapes of clusters that can be determined; (2) Input parameters that must be specified;
(ii) Advantages and (4) limitations.
(iii) K-Means
(iv) Partitioning Around Medoids (PAM)
(v) Hierarchical

OR

15. B). Suppose that the data mining task is to cluster the following eight points (with (x; y) representing location) into three clusters. 10M
A1(2; 10); A2(2; 5); A3(8; 4); B1(5; 8); B2(7; 5); B3(6; 4); C1(1; 2); C2(4; 9): The distance function is Euclidean distance. Suppose initially we assign A1, B1, and C1 as the center of each cluster, respectively. Apply the k-means algorithm to show only.
i) The three cluster centers after the first round of execution and
ii) The final three clusters.

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H.T No: | | | | | | | | | | | **R18** **Course Code: A36217**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech V Semester Supplementary Examinations May-2023
Course Name: CYBER LAWS & ETHICS
(CSC)

Date: 13.05.2023 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Write salient features of the IT Act, 2000. 2 M
2. Define the term Offence. 2 M
3. What are the amendments to Indian Penal Code? 2 M
4. List any two Jurisdiction issues under IT Act, 2000. 2 M
5. Define E- Taxation. 2 M
6. Write about E- commerce issues. 2 M
7. Define Trademarks in Internet Era. 2 M
8. Define SPDI. 2 M
9. Write about the EU convention on cyber crime. 2 M
10. What are the legal issues of EDI? 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Explain penalties and offences in detail. 10M

OR

11. B). Describe amendments to IT Act, 2000. 10M

12. A). Discuss case laws on cyber space Jurisdiction. 10M

OR

12. B). Explain amendments to Reserve bank of India Act. 10M

13. A). Demonstrate E- Governance concepts and practicality. 10M

OR

13. B). Explain the concept of Cyber Tribunal & Appellate Tribunal. 10M

14. A). Discuss Jurisdiction in trademark disputes. 10M

OR

14. B). i) Discuss about Copyright and WIPO Treaties. 5M

ii) Explain the concept of SPDI reasonable practices-International perspective. 5M

15. A). Describe various Electronic Signature laws of major countries. 10M

OR

15. B). Explain cryptography laws in detail. 10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A36209**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech V Semester Supplementary Examinations May-2023

Course Name: INTRUSION DETECTION & PREVENTION SYSTEMS

(CSC)

Date: 16.05.2023 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Define anomaly detection. 2 M
2. Define support and confidence in Association rule mining. 2 M
3. What are the two main techniques used for intrusion detection? 2 M
4. What are the challenges of intrusion detection system? 2 M
5. What is Return on Investment? 2 M
6. List types of Risks. 2 M
7. What are advantages of NFR Security? 2 M
8. Compare Bro and Prelude Intrusion Detection. 2 M
9. List advantages of Organizations Standards. 2 M
10. Define Law Enforcement with suitable example. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Explain about Detection approaches 10M

OR

11. B). i) What are some popular applications of association rule learning? 5M
ii) Why SVM is an example of a large margin classifier? 5M

12. A). Demonstrate Distributed Intrusion Detection Architecture. 10M

OR

12. B). Explain about Centralized Intrusion Detection Architecture. 10M

13. A). Outline on Intrusion Detection in Security. 10M

OR

13. B). Demonstrate Threat Briefing. 10M

14. A). What is Prelude Intrusion Detection? 10M

OR

14. B). Explain about Snorts Intrusion Detection. 10M

15. A). Outline Evidentiary Issues. 10M

OR

15. B). Explain about Standard of Due Care. 10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: A30523**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech V Semester Supplementary Examinations May-2023

Course Name: WEB TECHNOLOGIES

(CSC)

Date: 18.05.2023 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. List various types of arrays supported by PHP. How to declare arrays in PHP. 2 M
2. What is PHP? What are its applications? 2 M
3. Write the applications of XML. 2 M
4. What is the use of DOM in HTML? 2 M
5. What is a Session? 2 M
6. List out different ways to connect to a Database using Servlets. 2 M
7. What are the implicit objects in JSP? 2 M
8. How are cookies used for session tracking in JSP? 2 M
9. What is Scripting? Can Java Script use for Server Programming? 2 M
10. What is the difference between GET and POST method in Java Script? 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). State the rules for declaring variables in PHP. 10M

OR

11. B). Explain the predefined and user-defined functions in PHP with example. 10M

12. A). Define Document Type Definition (DTD) in XML. What is difference between internal and external DTD. 10M

OR

12. B). Explain in detail about XML tags, attributes and values. 10M

13. A). What is a 'Servlet'? Explain the life cycle of a servlet with an example servlet program. 10M

OR

13. B). How to handle HTTP request and response in a Servlet? With an example. 10M

14. A). Discuss about the features of JSP pages. 10M

OR

14. B). Explain how connections to Database are made using JSP? Explain with example. 10M

15. A). How Event Handling takes place in Java Script? Illustrate with an example. 10M

OR

15. B). Discuss the event handlers in JavaScript. 10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: C30162**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech V Semester Supplementary Examinations May-2023

Course Name: KNOWLEDGE MANAGEMENT

(Common for ECE, CSE, IT & CSC)

Date: 22.05.2023 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1.	Define Data Information.	2 M
2.	What do you mean by Organizational Knowledge?	2 M
3.	What do you mean by Knowledge Management System?	2 M
4.	What is BPR?	2 M
5.	List out the challenges faced by Manufacturing Sector.	2 M
6.	List out the challenges faced by service sector industry.	2 M
7.	What do you mean by Relationship Management?	2 M
8.	What is CRM?	2 M
9.	How Net Banking in India works? Explain.	2 M
10.	Define Information Architecture.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	What are the characteristics, nature and Types of Knowledge Management? Explain.	10M
	OR	
11. B).	Explain the key components of Organizational Knowledge.	10M
12. A).	Explain the importance of Information Technology in Knowledge Management Systems.	10M
	OR	
12. B).	Differentiate between Data Warehousing and Data Mining.	10M
13. A).	Explain the role of Knowledge Management in Service industry.	10M
	OR	
13. B).	What are the challenges and future of Knowledge Management? Explain.	10M
14. A).	Explain how Business Ethics is interrelated with Knowledge Management.	10M
	OR	
14. B).	Explain the Imperatives of new age in the Knowledge Process.	10M
15. A).	How Business Intelligence is interlinked with Internet Platforms? Explain.	10M
	OR	
15. B).	Explain the role of Knowledge Management in Organizational Restructuring.	10M

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H.T No: | | | | | | | | | | | **R18** **Course Code: C30166**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech V Semester Supplementary Examinations May-2023

Course Name: BUSINESS ETHICS & CORPORATE GOVERNANCE

(Common for ECE, CSE, CSC & CSM)

Date: 22.05.2023 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions (Compulsory)

Each question carries TWO marks. **10x2=20M**

1. Define Business Ethics and Corporate governance. 2 M
2. What is Ethical Dilemma? Discuss. 2 M
3. Explain the Moral Development. 2 M
4. List the five myths about business ethics. 2 M
5. Outline the Ethics of Hospital Services. 2 M
6. Brief about software challenges. 2 M
7. Define the Hacking. Discuss. 2 M
8. Discuss the following: a) Auditors, b) Directors. 2 M
9. What is Internal Control? Illustrate. 2 M
10. Role of Banking in Corporate Governance? Any five. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Discuss various principles of ethics and their implications in the present day business world. 10M

OR

11. B). Write in detail about modern ethical models for decision making. 10M

12. A). Explain the ethics to be followed in workplace. 10M

OR

12. B). Explain ethical issues in HRM. 10M

13. A). Briefly state and explain the code of ethics adopted by the business firms in combating frauds. 10M

OR

13. B). Critically Examine the Mindset of Hackers and cyber Criminals. 10M

14. A). Elucidate the structures and processes of corporate governance. 10M

OR

14. B). What is Indian model of corporate governance? Explain it comprehensively. 10M

15. A). What are the recommendations of JJ Irani Committee? Discuss. 10M

OR

15. B). Does the political lobbying affect corporate governance? Elaborate with examples. 10M

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