H.T No: | | | | | | | | | | | R18 | Course Code: A30534

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April-2024

Course Name: DESIGN PATTERNS

(Common for CSE & IT)

Date: 24.04.2024 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.	What is MVC pattern?	2 M
2.	How can we implement facade pattern in .NET?	2 M
3.	What is Prototype Pattern?	2 M
4.	Which are the three main categories of design patterns?	2 M
5.	What is Mediator Pattern?	2 M
6.	Write a snippet code to explain the structure of Strategy pattern?	2 M
7.	Discuss about Patterns in software.	2 M
8.	Explain any two Pattern Languages.	2 M
9.	Explain Brief history of Design pattern.	2 M
10.	Illustrate about interpreter in behavioral patterns.	2 M

PART-B

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

11.A).	Describe organization of design pattern catalog. Draw a diagram to show relationships among design patterns.	10M
	OR	
11. B).	What is a Design Pattern? How to use a design pattern?	10M
12. A).	What are design problems in Lexi's design? Explain in detail.	10M
	OR	
12. B).	Explain the standards for supporting multiple look and feel.	10M
13. A).	Describe about Abstract factory in detail.	10M
	OR	
13. B).	Explain implementation of virtual constructor.	10M
14. A).	Explain sample code and known uses of Façade design pattern.	10M
	OR	
14. B).	Illustrate with an example of Bridge Pattern.	10M
15. A).	Discuss about Observer and visitor patterns.	10M
	OR	
15. B).	Illustrate with a neat sketch to explain template method and command patterns.	10M

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H.T No: | | | | | | | | | | | **R18** | Course Code: A30535

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April-2024

Course Name: MACHINE LEARNING

(Computer Science & Engineering)

Date: 24.04.2024 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.	Mention any two applications of Machine Learning.	2 M
2.	How are decision tree represented?	2 M
3.	What is the representational power of perceptrons?	2 M
4.	What is preference bias?	2 M
5.	Define cross validation.	2 M
6.	Define Confidence Interval.	2 M
7.	Under what conditions is successful learning possible.	2 M
8.	What are the merits and demerits of Lazy learners?	2 M
9.	List out the search methods for induction.	2 M
10.	What are the ways of parallelizing genetic algorithms?	2 M

PART-B

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

11.A).	With an example explain candidate elimination algorithm using the concept of version spaces.	10M
	OR	
11. B).	Explain Issues related to dataset in Machine Learning.	10M
12. A).	i) Define sampling theory. What are the basics of sampling theory? ii) Explain in brief about Multiplicative rules for weight tuning.	5M 5M
	OR	
12. B).	Explain back propagation algorithm.	10M
13. A).	Explain Naïve Bayes classifier with suitable example.	10M
	OR	
13. B).	What is instance-based learning? explain k-nearest algorithm?	10M
14. A).	Write about the Q-learning algorithm illustrate with suitable example.	10M
	OR	
14. B).	Explain learning sets of first order rules: FOIL.	10M
15. A).	How PROLOG-EBG method works narrate with a suitable example and give the conclusion?	10M
	OR	
15. B).	Explain inductive analytical approaches to learning.	10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April-2024

Course Name: Deep Learning

(Computer Science & Engineering)

Date: 26.04.2024 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. Give reason for the term "feed forward" used in the feed forward networks. 2 M
2. Define universal approximation theorem for feed forward network. 2 M
3. Illustrate semi-supervised learning. 2 M
4. List some classification problems where Data augmentation is used. 2 M
5. Compare linear models and neural networks. 2 M
6. What is the advantage of Nesterov Accelerated Gradient Descent over normal Gradient Descent? 2 M
7. What is meant by convolution? 2 M
8. How to reduce the cost of convolutional network training? 2 M
9. Define chain rule of calculus. 2 M
10. List reasonably common hidden unit types. 2 M

PART-B

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

11.A). Illustrate forward propagation and backward propagation with a shallow neural network using suitable inputs, weights, biases and activation function. 10M

OR

11. B). Describe about learning conditional statistics in gradient based learning. 10M

12. A). Describe in detail about the following. 10M
i. Parameter Sharing. ii. Equivariant representation.

OR

12. B). Develop a data set and demonstrate Noise Robustness. 10M

13. A). Describe Rectified linear units and their generalizations. 10M

OR

13. B). Discuss briefly about basic optimization algorithms. 10M

14. A). Differentiate locally connected layers, tiled convolution and standard convolution with suitable examples and diagrams. 10M

OR

14. B). Explain the architecture of pre trained CNN Models. 10M

15. A). Differentiate between Deep Learning and Machine learning. 10M

OR

15. B). Discuss any 4 practical applications and difficulties in Neural Network Training. 10M

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H.T No: | | | | | | | | | | | R18 | Course Code: A30539

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April-2024

Course Name: Ethical Hacking

(Common for CSE & CSM)

Date: 26.04.2024 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.	How does the firewall works?	2 M
2.	Identify how does DDOS attack will occur	2 M
3.	Define web hacking.	2 M
4.	Discuss about the Password Hacking.	2 M
5.	Can you write about importance of Cryptography?	2 M
6.	Can you interpret the use of Hash function?	2 M
7.	What do you know about Intrusion detection systems?	2 M
8.	Distinguish between NIDS and HIDS.	2 M
9.	Explain about Side Channel Attacks.	2 M
10.	Can u Interpret about SQL Injection?	2 M

PART-B

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

11.A).	Elaborate & differentiate between TCP & UDP.	10M
	OR	
11. B).	Discuss about the Packet Inspection firewall & Application Proxy Firewall.	10M
12. A).	Summarize the concept of Social Engineering Attacks & Malware Threats.	10M
	OR	
12. B).	Demonstrate the Idea of Penetrating testing by creating backdoors.	10M
13. A).	Analyze the Digital Signature & Certificates & its applications.	10M
	OR	
13. B).	i) Design the process of Strategic Planning. ii) How to manage the Threats?	5M 5M
14. A).	Determine the importance of DNS & Email Security.	10M
	OR	
14. B).	Identify the strategies used in Hacking wireless Networks.	10M
15. A).	Outline the idea of Automated Penetrating Testing Tools.	10M
	OR	
15. B).	Can u Recommend the Cross Site Scripting Penetrating Testing Steps?	10M

H.T No: | | | | | | | | | | | R18 | Course Code: A30540

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VII Semester Supplementary Examinations April-2024

Course Name: BIG DATA ANALYTICS

(Common for CSE & IT)

Date: 29.04.2024 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. What are the characteristics of Big Data? 2 M
2. List few NOSQL databases. 2 M
3. Identify different types of Hadoop nodes. 2 M
4. What is mean by rack awareness in Hadoop? 2 M
5. What is Key-value data store? 2 M
6. Define Map and Reduce terms. 2 M
7. What are the advantages of Apache Pig? 2 M
8. Classify the user defined functions of Apache Pig. 2 M
9. When we use external tables in Hive? 2 M
10. What is the use of R-Tool in data analytics? 2 M

PART-B

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

11.A). What are the benefits of Big Data? Discuss the challenges under big data? How Big Data Analytics can be useful in the development of smart cities? 10M

OR

11. B). Differentiate Relational Database with Big data in detail. 10M

12. A). Discuss the Hadoop Ecosystem components in four layers. 10M

OR

12. B). Explain the Characteristics of Hadoop in detail. 10M

13. A). Define Map Reduce? Explain its architecture with neat diagram. 10M

OR

13. B). Demonstrate the procedure of setup Hadoop on a single node in detail. 10M

14. A). Illustrate the different relational operators of Apache Pig. 10M

OR

14. B). Explain the concept Parameter Substitution in Apache Pig briefly. 10M

15. A). Discuss the Managed tables and External tables with example. 10M

OR

15. B). Describe the process of Querying Hive Tables with example. 10M

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