

B.Tech. 7th Semester (CSE) (G-Scheme)

Examination, December-2024

NEURAL NETWORKS

Paper - PCC-CSE-401G

Time allowed : 3 hours] [Maximum marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt five questions in all, selecting one question from each section. Question No. 1 is compulsory. All questions carry equal marks.

1. Explain the following : 6×2.5=15
- (a) Role of Dendrites and Axons in a Biological Neuron
 - (b) Applications of Neural Network
 - (c) Linear Separability
 - (d) Supervised Learning
 - (e) Generalized Delta Learning rule
 - (f) Hetro Associative Memory

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Section-A

2. Describe the structure of a biological neuron in detail and explain how its components contribute to signal processing and transmission. 15
3. What are activation functions in artificial neural networks? Explain their role and importance with examples of threshold, sigmoid and tanh functions. 15

Section-B

4. Describe the McCulloch-Pitts (MCP) model in detail. Discuss its architecture, working and the solution for OR functions. 15
5. Illustrate the concept of linear separability with the solution of the OR function. 15

Section-C

6. Describe the architecture of Backpropagation network. Discuss the training and testing processes in detail. 15
7. Explain competitive learning. Discuss its applications and how it differs from conventional learning methods. 15

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Section-D

8. What is Associative Memory? How does associative memory handle errors in data, such as missing or mistaken inputs? Discuss the mechanisms with examples. 15
9. Explain Hebb model and implement logic 'AND' function using Hebb network. 15

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B.Tech. (CSE) Professional Elective - IV 7th Semester

(G-Schme), Examination, December - 2024

WEB MINING

Paper - PEC-CSE-405-G

Time allowed : 3 hours]

[Maximum marks : 75

Note : *Attempt any five questions in all selecting one question from each section and Question No. 1 is compulsory.*

1. Explain the following : 6×2.5=15

(a) Data mining and web mining

(b) Text Mining

(c) Web Search

(d) Classification and Clustering

(e) Information retrieval

(f) Classification of Web Pages

3535-P-4-Q-9(24)

[P.T.O.]

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Section - A

2. (a) Discuss the differences and similarities between web mining and data mining, also list various applications of web mining. 8
- (b) How is knowledge discovered from hypertext data, and what are the key challenges involved in the process? 7
3. (a) Discuss the key issues and challenges faced in web mining. 8
- (b) What are some common applications of web mining? How do they benefit from web mining techniques to improve decision-making processes? 7

Section - B

4. Discuss various Information Retrieval (IR) models and their role in web search and explain how do these models the effectiveness of information retrieval? 15

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5. Explain the following: $3 \times 5 = 15$

- (a) Web Spamming
(b) Web Content Mining
(c) Latent Semantic Indexing

Section - C

6. What are the key models and concepts of computational intelligence? How they can be applied to solve complex real-world problems? 15
7. (a) Describe Discrete and Continuous Optimization Problems. 8
- (b) Compare the various types of optimization algorithms, highlighting their key characteristics. 7

Section - D

8. Explain the following:
- (a) Ant colony optimization and Particle swarm optimization 8
- (b) Hybridization and Comparisons of Swarm Techniques 7

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9. Discuss various applications of swarm intelligence techniques in various domains and provide examples of how they effectively solve real-world optimization problems. 15

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B. Tech. (CSE) Professional Elective-V 7th Semester
G-Scheme Examination, December 2024

SOFTWARE TESTING

Paper : PEC-CSE-413-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: Question No. 1 is compulsory. Attempt five questions in total, the first being compulsory and select one from each unit.

1. (i) Differentiate between error, fault, and failure. 2.5
- (ii) Describe the steps of STLC (Software Testing Life Cycle) in Brief. 2.5
- (iii) Define the term "Test Case". 2.5
- (iv) Name some Bug Reporting Tools. 2.5
- (v) Write a short note on Testing Tools. 2.5
- (vi) What is regression Testing? 2.5

Unit-1

2. What is the Software Development Life Cycle?
What is the significance of software testing in SDLC? 15

3539-P-3-Q-9 (24)

[P.T.O.]

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3. (i) Explain the seven principles of software testing in detail. 7
(ii) What is the role of Software testing in Software Quality? Explain. 8

Unit-2

4. (a) Differentiate between the following : $2 \times 5 = 10$
(i) Integration Testing and System Testing
(ii) Test Cases and Test Suites
(b) What are the characteristics of Good Test Case designing? Explain by taking examples. 5
5. How test case planning and designing is done for good test cases that provide good quality software? 15

Unit-3

6. Explain various types of software testing in detail. 15
7. (a) What are Bug reporting tools? Give some examples. 8
(b) What are problem reports? What are the Content and Characteristics of the Problem Report? Explain. 7

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Unit-4

8. (a) Why Regression testing is required for test cases? How Minimization and Prioritization of test cases is done in regression testing? 10
(b) What are test tools? Explain their types. 5
9. Write a short note on the following : $3 \times 5 = 15$
(i) Automated Test Case Generation
(ii) Non-feasibility of Exhaustive Testing
(iii) Automated Testing

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B. Tech. 7th Semester (Electrical & Electronics Engg.)

Open Elective-I G-Scheme

Examination, December, 2024

FUNDAMENTALS OF MANAGEMENT

Paper : HSMC-08-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: Attempt any five questions in all by selecting one from each question. Question No. 1 is compulsory.

Section-A

1. Describe the following concepts : $6 \times 2.5 = 15$
- (a) Personnel Management
 - (b) Inventory
 - (c) Marketing
 - (d) Financial Management
 - (e) Training
 - (f) Advertising

Section-B

Unit-I

2. Describe the significance and process of staffing.

15

3544-P-2-Q-9 (24)

[P.T.O.]

3. "Management is the art of getting things done through other people", In the light of this statement. Explain the importance of management. 15

Unit-II

4. Explain the significance of Production Planning in Management. 15
5. Write the methods of Inventory control. 15

Unit-III

6. What are functions of Advertising? 15
7. What are the objectives of marketing management? 15

Unit-IV

8. Describe the concept of capital structure. What are the determinants of capital structure? 15
9. What are the functions of financial management? 15

3533

B. Tech. (CSE) 7th Semester (G-Scheme)

Examination, November-2023

NEURAL NETWORKS

Paper-PCC-CSE-401-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: Attempt five questions in all, selecting at least one question from each section. Question No.1 is compulsory. All questions carry equal marks.

1. Write a short note on: 6×2.5=15
- (a) Differentiate between Feedforward and Feedback Networks.
 - (b) What are Separability limitations in unsupervised Learning?
 - (c) Define Activation function and its different types.
 - (d) Reinforcement Learning
 - (e) Unsupervised Learning
 - (f) Backpropagation Network

Section- A

2. Describe the following: 15
- (a) Auto Associative Memory
 - (b) Hetro Associative Memory
4. How biological neural is different from the artificial neural networks? Explain architecture of biological neural network. 15

3533-P-2-Q-9 (23)

[P.T.O.]

Section-B

4. What do you mean by Gradient Descent algorithm?
Explain with example. 15
5. Explain the following: 15
- (a) Application of Artificial Neural Network
 - (b) McCulloch Pitts Model

Section-C

6. Explain the architecture of associative memory in detail.
Also discuss its retrieval algorithm. 15
7. In which manner multilayer perceptron model
differ from single layer Perceptron Model? Explain
the reasons for emergence of multilayer perceptron
model. 15

Section-D

8. Explain Hebbian Model and implement logic 'AND'
function using Hebb Network. 15
9. What do you mean by Generalized Delta rule? Explain
in detail. 15

3534

B. Tech. (CSE)- Professional (Elective-IV)
7th Semester Examination, November-2023
SOFTWARE PROJECT MANAGEMENT
Paper-PEC-CSE-401-G / PEC-IT-407-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: *Question No. 1 is compulsory. Attempt five questions in total selecting one question from each unit.*

1. Write short note on:- 6×2.5=15
- (a) Categorizing software projects
 - (b) Cash flow forecasting
 - (c) Sequencing and scheduling of activities
 - (d) The nature of resources
 - (e) Maslow's hierarchy of needs
 - (f) Capability Maturity Models (CMM)

Unit-I

2. (a) Explain certain characteristics which make software projects different from other types of projects. 8
- (b) Explain the terms used to describe well-defined objectives. 7
3. Outline and explain the step wise planning activities in details. 15

3534-P-2-Q-9 (23)

[P. T. O.]

Unit-II

4. (a) Explain Spiral Model of SDLC. 8
(b) What are lagged activities? How to representation of lagged activities in precedence network? 7
5. Evaluate risk to the schedule by applying PERT technique with suitable example. 15

Unit-III

6. Explain Cost scheduling and the scheduling sequence in SPM. 15
7. Explain different methods of visualizing progress while monitoring the project. 15

Unit-IV

8. Explain different techniques to help enhance software quality. 15
9. Explain the following:
(a) The importance of software quality 7
(b) ISO 15504 Process assessment 8

3539

**B. Tech. Professional Elective-V 7th Semester (CSE)
(G-Scheme) Examination, November-2023
SOFTWARE TESTING
Paper-PEC-CSE-413-G**

Time allowed : 3 hours] [Maximum marks : 75

Note: Attempt five questions in total, selecting one from each unit. Question No. 1 is Compulsory.

1. (a) Define software testing and its objectives. 6×2.5=15
 - (b) Discuss the characteristics of a Good test case.
 - (c) Differentiate between Alpha and Beta testing.
 - (d) Explain the characteristics of Problem Report.
 - (e) Gray-Box Testing-Discuss
 - (f) Write short note on types of testing tools.

Unit-I

2. Discuss in brief the different software Development life cycle models along with their pro's & Con's. 15
3. (a) Differentiate between, error, fault and failure. 7.5
 - (b) Principles of software Testing – Explain. 7.5

Unit-II

4. Define Test cases & Test suit. Explain the Test-Case planning and designing. 15

3539-P-2-Q-9 (23)

[P. T. O.]

5. What do you understand by Integration Testing. Explain the different methods of Integration Testing. 15

Unit-III

6. What are Reproducible bugs? How can we make bugs reproducible? Also discuss the tactics for analyzing reproducible bugs. 15
7. Explain the different White - Box testing techniques in detail. 15

Unit-IV

8. Discuss Regression testing and its Need. Also discuss the selection of test Case in Regression Testing. 15
9. Write short note on the following:
- (a) Manual V/S Automated Testing. $2 \times 7.5 = 15$
 - (b) Automated Test Cast Generation.

3544

**B. Tech. 7th Semester (CSE) Open Elective-1
(G-Scheme) Examination, November-2023
FUNDAMENTALS OF MANAGEMENT
Paper-HSMC-08-G**

Time allowed : 3 hours]

[Maximum marks : 75

Note: Attempt five questions in all, selecting one question from each unit. Question no. 1 is compulsory. All questions carry equal marks.

1. Write short notes in 40 -50 words: $6 \times 2.5 = 15$
- (i) Definition of Management
 - (ii) Production Management
 - (iii) Types of Training
 - (iv) Define Marketing Research
 - (v) Various sources of finance
 - (vi) Objectives of Marketing Management

Unit-I

2. What do you mean by Personnel management?
Also explain various function of personnel management. 15
3. Define management. Explain various principles of management. 15

3544-P-2-Q-9 (23)

[P. T.O.]

Unit-II

4. What is meant by production management? Explain various objectives and functions of production management. 15
5. Define Inventory control. Also explain various methods of inventory control. 15

Unit-III

6. Explain the term Marketing. Explain various objectives and functions of marketing management. 15
7. What do you mean by Advertising? Explain its objectives and functions. 15

Unit-IV

8. Define Financial Management. Explain the objectives and functions of financial management. 15
9. What is capital structure? Explain various short term and long term sources of finance. 15