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20APC0512T

B.Tech. DEGREE EXAMINATION, JUNE 2023.

Sixth Semester

Computer Science and Engineering

MACHINE LEARNING

(RU2020 Regulations)

Time : 3 Hours *Max. Marks : 70*

PART — A

Compulsory questions. **(10 × 2 = 20 Marks)**

Answer the following:

1. (a) Define Machine learning and its types.

(b) List the issues in Machine learning.

(c) What is training model?

(d) Define feature transformation in detail.

(e) Describe Bayes Theorem with an example.

(f) Define KNN algorithm.

(g) Differentiate simple linear regression.

(h) Describe Maximum Likelihood Estimation with an example.

(i) Define DBSCAN with an example.

(j) Give a short note on the Partitioning methods

PART — B

Answer One FULL Question from each Unit; All questions carry equal marks.

(5 × 10 = 50 Marks)

UNIT–I

2. Explain machine learning and applications in details.

Or

3. Describe Data Pre-Processing in detail.

Turn Over

UNIT–II

4. Illustrate the Evaluating Performance of a Model in machine learning.

Or

5. What is feature selection? Explain methods of features selection.

UNIT–III

6. Explain the features of Bayesian learning methods.

Or

7. Give a brief note on Decision tree algorithm works.

UNIT–IV

8. Differentiate Simple between multiple linear regression techniques.

Or

9. Explain Polynomial Regression Model with an example.

UNIT–V

10. Define the apriori algorithm for association rule learning with an example.

Or

11. What is clustering? Explain Different types of clustering techniques.

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B.Tech. DEGREE EXAMINATION, JUNE 2023.

Sixth Semester

MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS

(Computer Science and Engineering)

Time : 3 *Hours* *Max. Marks : 70*

PART — A

(Compulsory questions)

Answer the following. **(10 × 2 = 20 Marks)**

1. (a) What is Unitary Elastic Method?
   (b) What is Total Outlay Method?
   (c) Explain the Long-Run Costs.
   (d) What is Break-Even Point?
   (e) Describe the Types of Oligopoly.
   (f) What is a Partnership Deed?
   (g) What are the types of Working Capital?
   (h) Explain NPV.
   (i) Define Journal.
   (j) What is meant by Financial Analysis?

PART — B

Answer One FULL questions from each unit; All questions carry EQUAL marks **(5 × 10 = 50 Marks)**

UNIT - I

2. State the Law of Demand and explain Giffin's Paradox.

Or

3. Explain the scope of Managerial Economics and discuss its nature.

Turn Over

UNIT - II

4. "Law of Diminishing Returns is the fundamental Law of Economics." Comment.

Or

5. Calculate P/V Ratio in each of the following Independent Situations.
   (a) Variable Cost Rs. 60, Contribution Rs. 40
   (b) Sales Rs. 20, Variable Cost Rs. 15
   (c) Ratio to variable cost to Sales 84%
   (d) Profit Rs. 5,000; Sales Rs. 25,000; Fixed Cost Rs. 8,000
   (e) Year I sales Rs. 50,000; total cost Rs. 40,000
   Year II Sales Rs. 60,000; Total Cost Rs. 45,000

UNIT - III

6. What do you understand by Sole trader form of Organization? Explain its features

Or

7. Differentiate Imperfect Competition with Perfect Competition its main conditions.

UNIT - IV

8. What are sources of Short term and Long term sources of Working? Explain in detail.

Or

9. A Project costs Rs. 25,000 and has a scrap value of RS. 5,000 after 5 years. The net profits before depreciation and taxes for the five years period are expected to be Rs. 5,000; Rs. 6,000; Rs. 7,000; Rs. 8,000 and Rs. 10,000. You are required to calculate the accounting rate of return (on average investments) assuming 50% rate of tax and depreciation on straight line method.

UNIT - V

10. Prepare a Balance sheet from the following particulars: Current Ratio 2.5, Acid test ratio 1.5, Working capital Rs. 3,00,000, cash is equal to 50% of Bills receivable, Bills receivables is equal to the amount of Debtors. Current Assets include stock, Debtors, bills receivable and cash only. Current liabilities include creditors and bills payable only, in the ratio of 3:2. Fixed assets are 60% of Shareholders funds. Reserves and surplus are Rs. 50,000. There are no long-term loans or Investments.

Or

11. Discuss the Nature and significance of Financial Accounting.

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B.Tech. DEGREE EXAMINATION, JUNE 2023.

Sixth Semester

Computer Science and Engineering

SOFTWARE TESTING

(RU20 Regulations)

Time : 3 *Hours* *Max. Marks : 70*

PART — A

(Compulsory questions)

(10 × 2 = 20 Marks)

1. Answer the following.

   (a) List out the Optimistic notations of Bugs.

   (b) Define black box testing and white box testing.

   (c) Differences between testing and debugging.

   (d) What is Path Testing?

   (e) What are domain errors?

   (f) Define Faulty Logic and Contradictory domains.

   (g) Define Path expressions.

   (h) What is reduction procedure?

   (i) Define Bad State Graphs.

   (j) What is Power of a Matrix?

PART — B

Answer One FULL questions from each unit; All questions carry equal marks.

(5 × 10 = 50 Marks)

UNIT - I

2. State and Explain the Taxonomy of Bugs.

Or

3. Define Path Testing? SELENIUM Test Cases.

Turn Over

UNIT - II

4. What is Transaction Flow Graphs? Explain about Transaction flow testing Techniques?

Or

5. Explain about Domain Testing.

UNIT - III

6. Write about Domain and Interface Testing.

Or

7. Explain about Nice and Ugly Domains.

UNIT - IV

8. What is Path Expression? Explain Path Products.

Or

9. Define KV Chart? Explain about Decision Tables.

UNIT - V

10. What are the Principles of State Testing? Explain the Limitations and Extension of State Testing.

Or

11. Explain:

(a) The Matrix of a Graph.

(b) Good and Bad State Graphs.

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B.Tech. DEGREE EXAMINATION, JUNE 2023.

Sixth Semester

INTRODUCTION TO ROBOTICS

(CSE & MEC)

RU20 Regulations

Time : *3 Hours* *Max. Marks : 70*

SECTION — A

(Compulsory Question) **(10 × 2 = 20 Marks)**

1. (a) Define a robot and give its applications.

(b) How do you classify robots by coordinate system?

(c) What is Forward Kinematics explain?

(d) What is Jocobian of a robot system?

(e) Distinguish between open loop and closed loop system.

(f) Write a short note on the control system.

(g) What is meant by segmentation in image analysis?

(h) Describe any two applications of image processing in robotics

(i) What are the motion commands available in VAL programming?

(j) Distinguish between textual programming and lead through programming.

SECTION — B

(Answer One Full Question from each unit; All Questions carry EQUAL marks)

(5 × 10 = 50 Marks)

UNIT-I

2. *What are the* various applications of Robots in manufacturing industries?

Or

3. What is homogenous transformation of coordinates? Write homogenous transformation matrices for rotation in 3D.

UNIT-II

4. What is the role of D-H notation? Explain their importance in solving Forward Kinematics.

Or

5. (a) Define and explain a geometric Jacobian.

(b) How will you compute Jacobian for a rotary Joint?

UNIT-III

6. What is the function of a manipulator? Discuss the working of a robotic manipulator arm with a sketch.

Or

7. Explain the following

(a) Linear control scheme

(b) PID control Scheme

UNIT-IV

8. What are the different levels of image processing? Mention different methods of image processing.

Or

9. Explain Camera transformation and calibrations of Robotics.

UNIT-V

10. Explain the following robot cell layouts.

(a) Robot-Centered cell

(b) In-line robot cell

(c) Mobile robot cell

Or

11. Explain WAIT, SIGNAL, and DELAY commands with suitable examples.

20APC0511T

B.Tech. DEGREE EXAMINATIONS, JUNE 2023.

Sixth Semester

COMPILER DESIGN

(Computer Science and Engineering)

(RU 20 Regulations)

Time : 3 Hours *Max. Marks : 70*

PART — A

(Compulsory Question)

Answer the following. **(10 × 2 = 20 Marks)**

1. (a) What is a compiler?

   (b) List the various phases of a compiler.

   (c) Define syntax analysis.

   (d) Define Context Free Grammar. Give an example.

   (e) What is Evaluation order for SDD's.

   (f) What is Three Address Code. Give example.

   (g) Define Heap Management.

   (h) What are the Issues in the Design of a Code Generator.

   (i) What is Machine-Independent Optimization?

   (j) What is Partial-Redundancy Elimination.

PART — B

Answer One FULL Question from each Unit; All questions carry EQUAL marks **(5 × 10 = 50 Marks)**

UNIT-I

2. What are the different phases of compiler explain with example. (10)

Or

3. Define Finite Automata. Give an example to convert Regular Expression to Finite Automata. (10)

Turn Over

UNIT-II

4. Differentiate Left most derivation and Right most derivation with example. (10)

Or

5. Build LR(0)parser and check the validity of the string "id=id+id*id" by the LR(0) parser for the given grammar E->E+T/T, T->T*F/F,F->E/id (10)

UNIT-III

6. *What are the various types of intermediate code representation?* (10)

Or

7. Define Control flow statements with example. (10)

UNIT-IV

8. List the terminologies used in basic blocks. (10)

Or

9. Mention the properties that a code generator should posses. (10)

UNIT-V

10. Mention the issues to be considered while applying the techniques for code optimization. (10)

Or

11. What do you mean by machine dependent and machine independent optimization? (10)