

Roll No.

Total Pages : 04

BT-3/D-23

43228

APPLIED STATISTICAL ANALYSIS FOR AI
BS-CS-AIML-201A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Section. All questions carry equal marks.

Section A

1. (a) What do you understand by census in sampling ?
Describe various sampling methods.
- (b) What is error in sampling ? Discuss Sampling and non-sampling errors.
2. (a) Discuss about basic principles of experimentation.
- (b) Distinguish between census survey and sample surveys.

Section B

3. (a) What do you understand by collection of data ?
What are its objectives ? Discuss different methods.

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P.T.O.

- (b) A manufacturer produces cars in two factories. 8% cars produced in factory A and 5% cars produced in factory B are defective. Factory A produces 200000 cars and factory B produces 100000 cars annually. Find the probability of purchasing a defective car. Also find the probability of purchased car was produced at factory A, given car was defective.
4. (a) Describe the different measures of central tendency and discuss their merits and demerits.
- (b) Explain the criteria of a good estimator.

Section C :

5. (a) Explain the test procedure for :
- (i) Testing of Mean
- (ii) Equality of two means.
- (b) Define Type I and Type II errors in hypothesis testing.
6. (a) Two types of new car produced in India are tested for mileage. One group consisting of 50 cars averaged 12 kms per litre. While the other group consisting of 90 cars averaged 9.5 kms per litre. Test, whether there exists a significant difference in the petrol consumption of the two types of cars given variance of the two groups are 2.5 and 3.0 respectively. Use a level of significance of 0.01.

- (b) Explain Analysis of Variance(ANOVA). Give some examples.

Section D

7. (a) Given coefficient of correlation is 0.8, then the most likely production corresponding to a rainfall of 30" from the below data is :

	Rainfall	Production
Mean	20"	40
Standard Deviation	5"	10

- (b) Describe cluster analysis and factor analysis.
8. (a) The age and blood pressure (BP) of 10 Ex Footballers is given below :

Age (X)	Blood Pressure(Y)
42	98
36	93
55	110
58	85
35	105
65	108
60	82
50	102
48	118
51	99

- (i) Find regression equation of Y on X and X on Y. (Use the method of deviation from arithmetic mean).
 - (ii) Estimate the blood pressure of a footballer whose age is 45.
- (b) Explain Karl Pearson's Coefficient of correlation.

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DATA STRUCTURE

ES-CS-AIML-203A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

Unit I

1. (a) Define Data structure. How can you implement static and dynamic data structures ? Explain using examples. 8
- (b) Explain Insertion sort with the help of suitable example. 7
2. (a) Write an algorithm for Linear search from an array. 8
- (b) What do you understand by Sparse matrices ? 7

Unit II

3. (a) What do you understand by polish notation ? Write the procedure to convert infix expression to prefix expression. 8

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P.T.O.

- (b) Explain quick sort algorithm with the help of suitable example. 7
4. (a) What is a circular queue ? Discuss its advantages over simple queue. Write a procedure to insert an element into a circular queue. 8
- (b) What is priority queue ? Discuss its any application. 7

Unit III

5. (a) How is traversing performed on singly linked list ? 8
- (b) Write a short note on Circular linked list. 7
6. (a) What is doubly linked list ? Write the procedure to insert a node in a sorted doubly linked list. 8
- (b) Write the PUSH and POP procedure for linked implementation of stack. 7

Unit IV

7. (a) What is Binary Tree ? Explain various transversal methods on a binary tree in brief. 8

(b) What is an AVL Tree ? Explain the procedure to delete a node in an AVL tree. 7

8. Explain Breadth first and Depth first graph traversal using a suitable example. 15

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43330

OBJECT ORIENTED PROGRAMMING

PC-CS-AIML-205A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

Unit I

1. (a) What is encapsulation ? How is it implemented in C++ ? 5
- (b) What do you mean by Namespace ? Explain with the help of example. 5
- (c) What is class ? How is it created ? Explain using suitable example. 5
2. (a) Differentiate between structure and class in C++ using suitable examples. 5
- (b) What is Polymorphism ? Explain compile time and run-time polymorphism. 5
- (c) Differentiate private and public members of class using suitable examples. 5

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Unit II

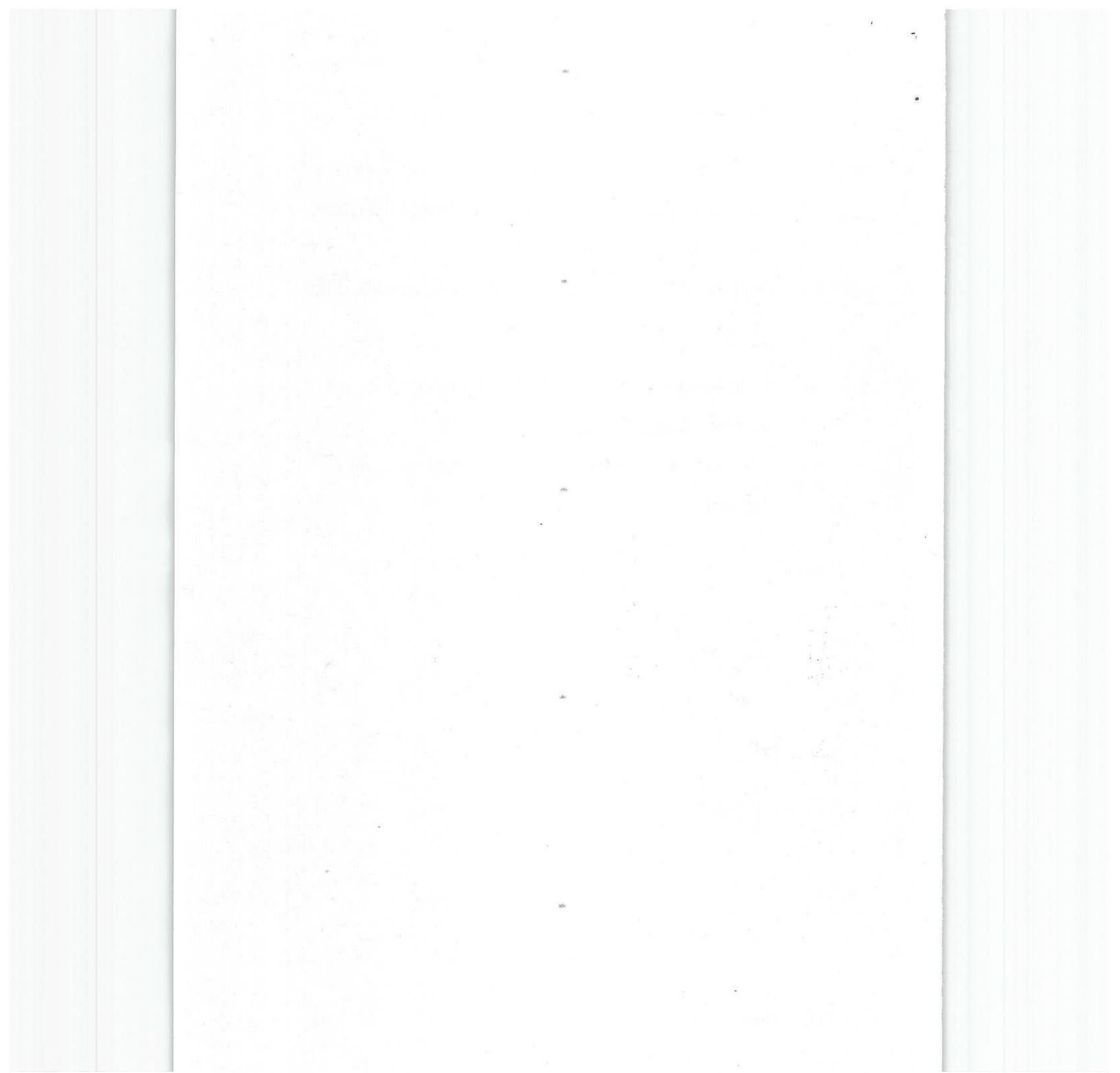
3. (a) What are the static data members ? Explain their use. 5
- (b) Explain dynamic memory allocation and deallocation in C++ by giving examples. 5
- (c) Explain Hybrid inheritance using suitable example. 5
4. (a) Differentiate between default constructor and constructor with default arguments. 8
- (b) Describe the working of constructors and destructors in inheritance. 7

Unit III

5. (a) Write a note on Virtual destructor. 7
- (b) Explain the concept of Virtual base class using suitable example. 8
6. (a) Explain the process of concatenating two strings with the help of operator overloading. 7
- (b) Write a program to overload insertion and extraction operators. 8

Unit IV

7. (a) What is an exception ? Discuss the try/throw/catch sequence. Explain the use of catch-All exception handler using suitable example. 8
- (b) Explain different functions used for reading and writing a text file in C++. 7
8. (a) Differentiate between function template and class template using examples. 8
- (b) What are different types of file opening modes ? Explain. 7



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43331

**INTRODUCTION TO AI
PC-CS-AIML-207A**

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (i) Define production rule. Discuss various conflict strategies in AI. 8
- (ii) Discuss the significance of various component involved in AI expert system. 7
2. (i) Explain the working of natural language processing with any real life example. 8
- (ii) Discuss case study on Dialogflow. 7

Unit II

3. (i) Discuss case study on health care system. 7
- (ii) Explain the concept of alpha-beta pruning. Write alpha beta search algorithm. 8

(5-43/5) L-43331

P.T.O.

4. Write short notes on the following : $2 \times 7.5 = 15$

- (i) Minmax Search
- (ii) Adversarial Search.

Unit III

- 5. (i) Discuss the role of AI in Medical diagnosis with example. 7
- (ii) Differentiate Bayesian and temporal reasoning. 8
- 6. (i) Explain different types of ontology knowledge models. 7
- (ii) Differentiate propositional logic and predicate logic. Write backward chaining algorithm. 8

Unit IV

- 7. (i) Discuss the significance of AI in gaming. 7
- (ii) Discuss the role of AI in autonomous vehicle. 8
- 8. (i) What do you mean by chatboat ? How AI plays an important role in chatboat ? 8
- (ii) Explain the role of AI in agriculture. 7

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43332

PROGRAMMING LANGUAGE

ES-CS-AIML-209A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (i) Differentiate the working of interpreter and compiler with example. List the languages having interpreter and compiler. **8**
- (ii) Write a short note on attribute grammar dynamic semantic. **7**
2. (i) Explain the formal method of describing syntax. **7**
- (ii) Write steps involved in implementing elementary data type with example. **8**

Unit II

3. (i) Define coercion, type error and type checking. Explain the usage of these with example. **8**

(5-43/6) L-43332

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- (ii) Differentiate data hiding and encapsulation with suitable example. 7
- 4. (i) Define structured data type. Discuss various methods of implementing structured data type. 8
- (ii) Differentiate overloaded subprogram and generic subprogram. 7

Unit III

- 5. (i) What do you mean by Exception ? Discuss various methods to handle exceptions. 7
- (ii) Discuss the design issues of subprogram and its operations performed on them. 8
- 6. (i) Discuss static and dynamic scope in shared data. 8
- (ii) Elaborate, how is synchronization provided using semaphores. 7

Unit IV

- 7. (i) Discuss various phases in system controlled storage management. 7
- (ii) Compare C and C++ programming language with example. 8

- 8. (i) Differentiate procedural, functional and logical languages with example. 8
- (ii) Distinguish static storage management and heap storage management. 7



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43333

**BUSINESS INTELLIGENCE AND
ENTREPRENEURSHIP
HM-902A**

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. Define Entrepreneurship. Discuss the economic and non-economic factors affecting entrepreneurial growth in India.
2. What are the types of entrepreneurs ? Discuss their traits. What challenges are faced by entrepreneurs ?

Unit II

3. How entrepreneurs identify the business opportunity ? How product is selected ? Explain the feasibility study in this regard.
4. What is project appraisal ? Discuss the methods of project appraisal.

(5-44/4) L-43333

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Unit III

5. What is SSI ? Discuss the role of SSIs in economic development of India. Which major problems are faced by SSIs in India ?
6. What marketing problems are faced by MSMEs ? How are these resolved ? Also discuss the government assistance in this regard.

Unit IV

7. (a) Write a note on SIDBI.
(b) Give venture capital schemes offered by various financial institutions in India.
8. How is business entity formed ? Discuss the requirements for formation of a Private Limited Company and the legal issues involved in it.

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45273

AUTOMATA

PC-CS-AIML-301(a)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Discuss Deterministic Finite Automata and Non-Deterministic Finite Automata with the help of suitable examples. 10
- (b) Discuss the applications of Finite Automata. 5
2. (a) Explain the closer properties of Regular Languages. 8
- (b) Write a short note on Equivalence and Minimization of NFA and DFA Automata. 7

Unit II

3. (a) Describe Chomsky Theorem. 10
- (b) Explain the Applications of Context Free Grammars. 5

4. (a) Write a short note on Regular Grammar. **10**
(b) Discuss the Applications of Pumping Lemna. **5**

Unit III

5. Describe in detail Equivalence of Moore and Mealey Machines and its Designing. **15**
6. (a) Explain Deterministic Push Down Automata. **10**
(b) Discuss the applications of PDA. **5**

Unit IV

7. Describe Universal Turing Machines and Designing of Turing Machines. **15**
8. (a) Discuss Post's Correspondence Problem (PCP). **10**
(b) Write a short note on Rice's Theorem. **5**

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BT-5/D-23

45274

DESIGN AND ANALYSIS OF ALGORITHMS
PC-CS-AIML-303A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Explain the difference between an algorithm's time complexity and space complexity and why are these metrics important in algorithm analysis ? Discuss the time complexity of quick sort.
- (b) How do you determine the time and space complexity of algorithms using recurrence relations and what are the key steps in the analysis ?
2. (a) How do you determine the time complexity of an algorithm using asymptotic notation when analyzing loops, recursion and nested operations ?
- (b) How does the substitution method work in solving recurrence relations, and under what circumstances is it most effective ?

(2-18/9) L-45274

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Unit II

3. (a) How is dynamic programming applied to longest common subsequence problem ?
(b) How does the Fibonacci heap perform insertions and decrease-key operations while maintaining its unique structure and properties ?
4. (a) Discuss the algorithm for performing a decrease-key operation in a binomial heap and its time complexity.
(b) How does a greedy algorithm handle problems involving combinatorial optimization, such as the traveling salesman problem or the knapsack problem ?

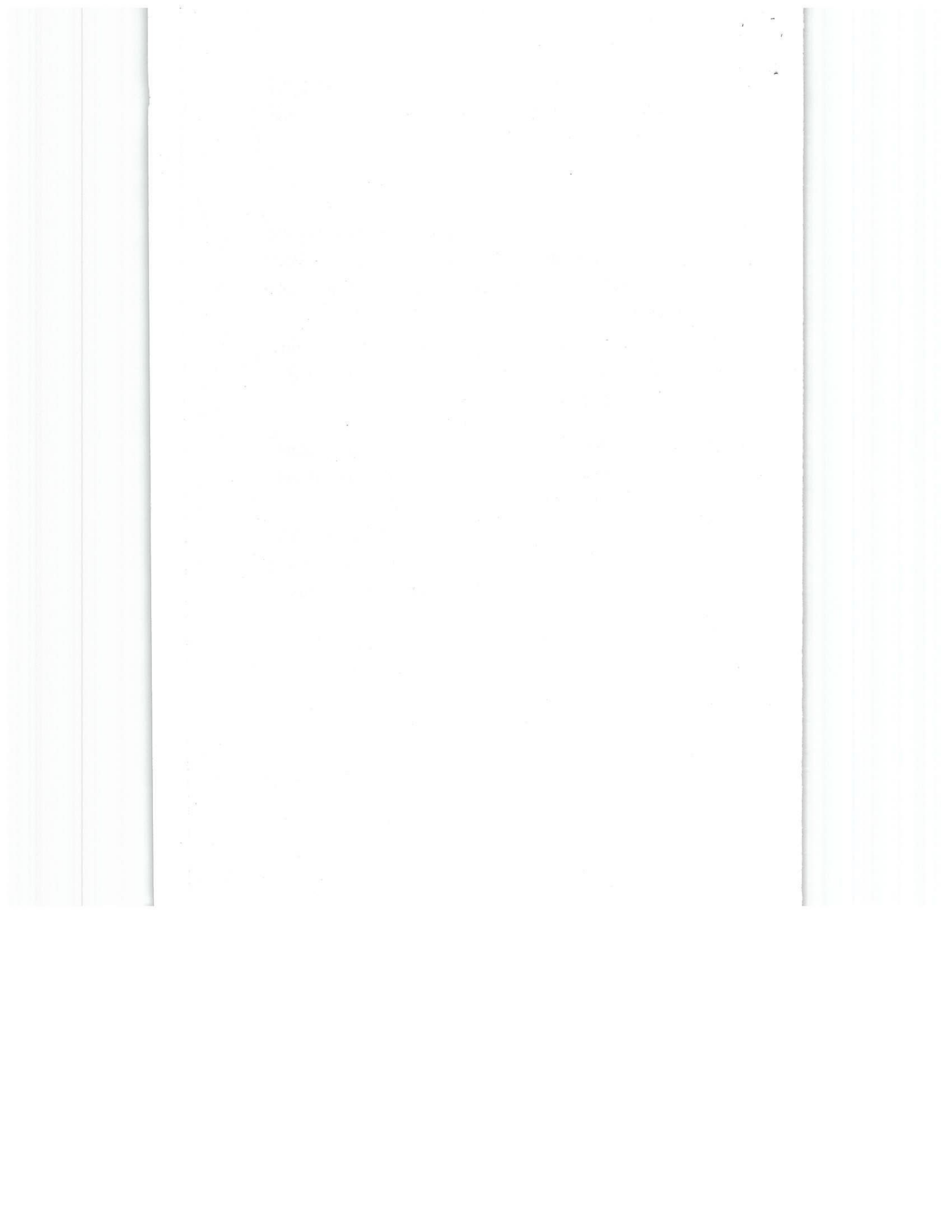
Unit III

5. (a) What is the difference between topological sorting and topological ordering of a graph, and how are they used ?
(b) What is the fundamental principle behind the Bellman-Ford algorithm ? What is the time complexity of the Bellman-Ford algorithm and how does it compare to other shortest path algorithms like Dijkstra's algorithm ?
6. (a) Describe the concept of NP-completeness and the implications it has for algorithm design and problem-solving ?

- (b) How does Kruskal's algorithm work to find the minimum spanning tree and what is its time complexity ?

Unit IV

- 7. (a) How does the bitonic sorting network handle cases where the input list is not a power of 2 and what techniques are used to adapt the network for such scenarios ?
 - (b) Provide a step-by-step explanation of the Ford-Fulkerson algorithm, particularly in finding the maximum flow in a network.
- 8. (a) How is the maximum bipartite matching problem represented and formulated as a graph problem and what are the key elements involved ?
 - (b) What is the concept of the "min-cut" in network flow problems, and how is it related to the maximum flow found by the Ford-Fulkerson method ? Discuss.



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45275

COMPUTER NETWORK

ES-CS-AIML-305A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

Unit I

1. (a) What do you mean by Computer Network ? Discuss different network topologies. 8
- (b) Differentiate between frequency division multiplexing and time division multiplexing. 7
2. Discuss OSI reference model in detail with its *pros* and *cons*. 15

Unit II

3. Discuss different error detection and correction methods in detail. 15
4. (a) Differentiate between pure ALOHA and slotted ALOHA. 8
- (b) What do you mean by CSMA collision detection ? Explain ? 7

(2-18/11)L-45275

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Unit III

5. Explain link state routing protocol and distance vector routing protocol. 15
6. Write short notes on the following :
 - (a) Flooding 8
 - (b) Difference between IPv4 and IPv6 7

Unit IV

7. Explain different congestion control algorithms. 15
8. Write short notes on the following :
 - (a) Firewall 5
 - (b) Digital signatures 5
 - (c) Cryptography 5

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45276

ARTIFICIAL NEURAL NETWORKS

PC-CS-AIML-307A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Distinguish between Biological neural network and Artificial neural networks. 7
- (b) Show the mapping and structural view point of ANN. 8
2. Explain various Optimization Algorithms for Training Neural Network with its advantages and disadvantages. 15

Unit II

3. Show the graphical representation of sigmoid function and differentiate the sigmoid function and comment on the result. 15

(3-42/9) L-45276

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4. (a) Explain back propagation training algorithm with its merit and demerits. **8**
- (b) Explain bidirectional associative memories. **7**

Unit III

5. Illustrate the ART architecture. Explain the different types of ART with its classification operations. **15**
6. (a) Explain Hopfield network using a suitable example. **10**
- (b) Explain the architecture of Cognitrons and Neocognitrons. **5**

Unit IV

7. What is CNN ? How does it works ? Also explain its limitation. **15**
8. Explain the different techniques to improve deep networks. **15**

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45277

COMPUTER ARCHITECTURE
ES-CS-AIML-309A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. Explain Digital arithmetic operations using Booth's algorithm for multiplication and division. 15
2. Draw a neat block diagram of memory hierarchy in a computer system. Compare the parameters size, speed and cost per bit in hierarchy. 15

Unit II

3. What is Program interrupt ? Discuss about the way the interrupt is handled by the Computer by describing the interrupt cycle by mean of flowchart. 15
4. What is Instruction cycle ? Discuss about memory reference instructions and register reference instructions. 15

(3-42/10)L-45277

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Unit III

5. (a) What are the characteristics of CISC architecture ?
How is it different from RISC characteristics ? 8
- (b) Differentiate between general register organization
and stack based organization. 7
6. What do you mean by addressing modes ? How are the
operands chosen during program execution based on the
addressing modes of the instruction ? Explain with
example. 15

Unit IV

7. (a) What are handshaking signals ? Explain the
handshake control of data transfer during input and
output operation. 8
- (b) Explain short note on DMA controller and transfer.
7
8. What is the difference between isolated I/O and Memory-
mapped I/O ? What are the advantages and disadvantages
of each ? 15

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BT-5/D-23

45278

ARTIFICIAL INTELLIGENCE AND
MACHINE LEARNING
PC-CS-AIML-311A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) What is the difference between uninformed and informed searches ? Write the algorithm of Breadth First Search and discuss its merits and demerits over Depth First Search.
(b) What do you understand by product system ? What are its different components ? Discuss.
2. (a) Write the algorithm of Hill Climbing Search. What are its different variants ? Discuss its limitations also.
(b) Define Artificial Intelligence and give an overview of its application areas.

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Unit II

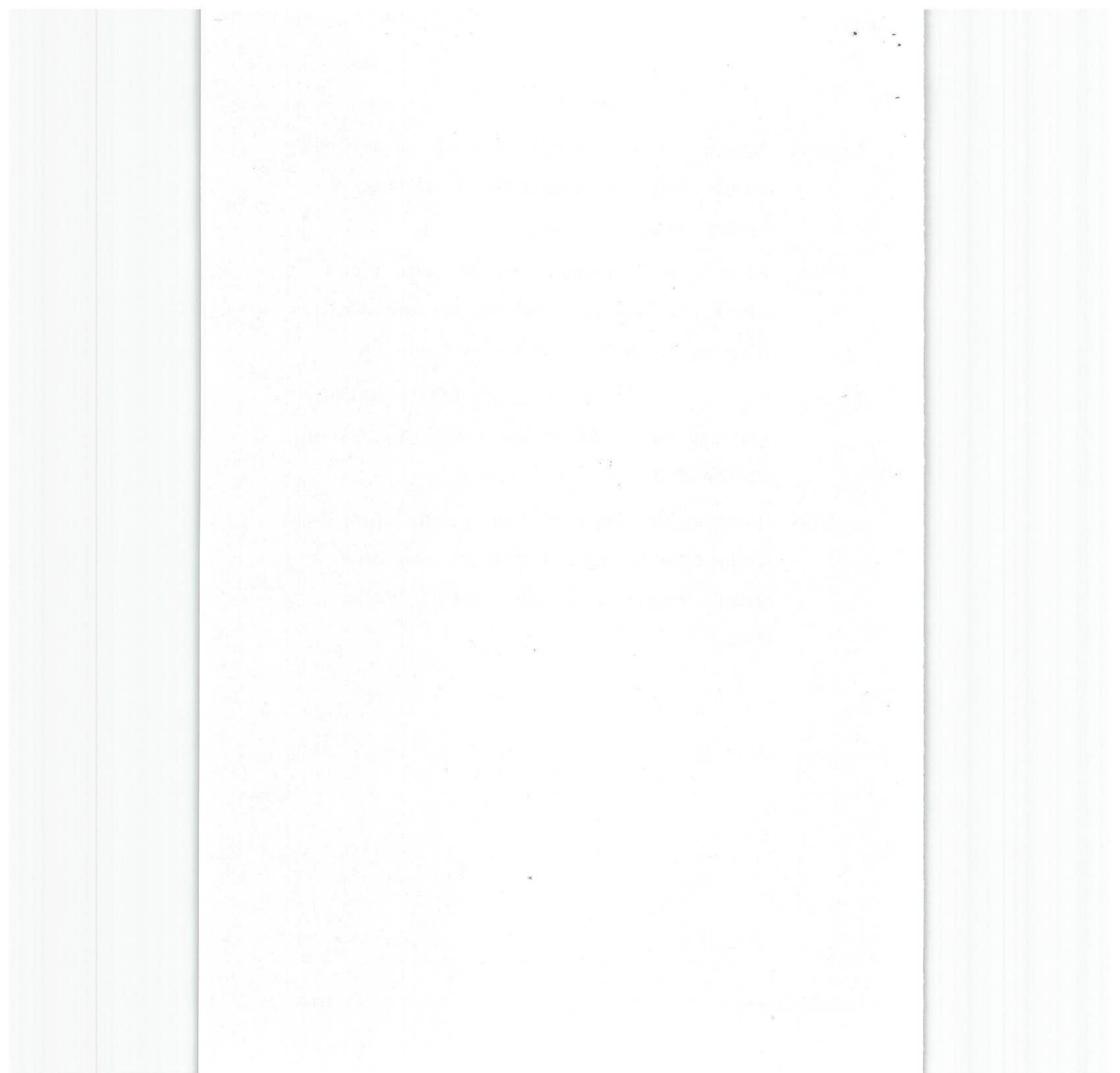
3. (a) Illustrate the use of alpha-beta pruning to cut down the search area.
(b) What is Robinson's resolution principle ? How is it used in proof by refutation ? Illustrate.
4. Differentiate between the following :
 - (a) Modus Ponens and Modus Tollens
 - (b) Forward and Backward Chaining

Unit III

5. (a) What is Unification ? Write the unification algorithm to find most general unifier.
(b) What is propositional logic ? What is the difference between predicate logic and propositional logic ? Discuss the different logical connectives used in first order logic.
6. (a) What is fuzzy logic and how does it differ from classical (crisp) logic ? Explain the concept of membership functions in fuzzy logic and how they represent uncertainty ?
(b) What is NLP ? What are the challenges in it ? Write a note on pragmatic analysis.

Unit IV

7. (a) Explain the differences between supervised, unsupervised and reinforcement learning, and provide examples of each.
(b) What is the significance of the initial centroid selection in k-means clustering, and how does it affect the algorithm's convergence ? Discuss.
8. (a) What is the concept of density-based clustering, and how do algorithms like DBSCAN work to identify clusters in data ? Discuss.
(b) How does the choice of distance metric affect the results of clustering and what are some common distance measures used in clustering analysis ? Discuss.



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Total Pages : 2

BT-7/D-23

47420

DATA SCIENCE WITH R PROGRAMMING

Paper-PC-CS-AIML-401A

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. (a) Discuss the various data science tools and the relationship of data science with other fields. 8
- (b) Explain Data analysis and its types in detail. 7
2. (a) What are the different data types and in R programming? Discuss them with syntax. 5
- (b) Explain the following with suitable examples :
 - (i) Data Cleaning.
 - (ii) Data Reduction
 - (iii) Data Transformation
 - (iv) Data Discretization. 10

UNIT-II

3. (a) What are the different data visualization libraries in R programming? 7

47420/K/523/200

P. T. O.

- (b) Discuss the data visualization software and specialized tools. 8
- 4. (a) How is the position dependence and independence used to find the descriptive statistics? 7
- (b) Explain the Bayesian probability and probability distribution with examples. 8

UNIT-III

- 5. (a) Write a R script to find the mean, median and mode of a data. 9
- (b) Discuss the uses, advantages, and disadvantages of R. 6
- 6. (a) Name different data types in R. Write an R script to convert matrix to vector. 7
- (b) Explain data type conversion. Write an R script to convert vector to data frames. 8

UNIT-IV

- 7. (a) How to get and set a working directory for CSV files in R programming? 6
- (b) Explain Linear, polynomial and logistics method for regression in data science. 9
- 8. (a) Discuss the different clustering and classification methods. 9
- (b) Describe the Hidden Markov Model. 6

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BT-7/D-23

47422

ROBOTICS AND INTELLIGENT SYSTEMS

Paper-OE-CS-AIML-401

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. (a) Discuss the main characteristics of robotics.
(b) Write some of the main challenges that are faced in robotics.
2. Explain various types of robots. Also, describe the robotic applications in the following fields:
(a) Defense. (b) Medical.

UNIT-II

3. What is an end effector in robotics? Also, discuss its three basic types.

47422/K/597/200

P. T. O.

4. What do you mean by degree of freedom in robotics? Discuss the different degrees of freedom along with benefits and limitations of the same.

UNIT-III

5. (a) What is knowledge acquisition? Discuss along with its various techniques.
- (b) Discuss the rule-based approach. Also, describe some of the main industries that are using rule-base expert system.
6. (a) What do you mean by conflict resolution? Can AI assist in conflict resolution? Justify your answer.
- (b) With the help of suitable example, differentiate between data-driven and goal-driven strategy.

UNIT-IV

7. (a) What do you mean by fuzzy logic? Draw the fuzzy logic architecture and discuss each component of the same in detail.
- (b) Write short notes on the following:
- (i) UML. (ii) Dynamic binding.

8. (a) What is Decision Support System (DSS)? Discuss along with the various types of DSS.
- (b) What is NLP? Discuss some of the NLP tasks. Also, describe the term NLU and NLG related to natural language.

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paper with the volume 1991 JES

Journal

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47426

ADVANCE COMPUTER ARCHITECTURE

Paper-PE-CS-AIML-415A

Time Allowed : 3 Hours] [Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. (a) What is the need of Parallel computing? 7
- (b) Explore the working process of parallel computing with proper diagram. 8
2. (a) Explain the Architecture and mechanism of Uniprocessor system. 7
- (b) Discuss the performance evaluation of Multivector computers. 8

UNIT-II

3. (a) Elaborate the types of dependencies in instruction level parallelism. 7
- (b) Explain the Computational techniques that can be used to explore thread level parallelism. 8

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P. T. O.

4. (a) What is program partitioning and scheduling in Computer architecture? 7
- (b) What are different approaches for Hardware and Software parallelism? 8

UNIT-III

5. (a) Describe the different types of Parallel programming techniques. 7
- (b) Explain various ways to measure the performance of parallel algorithms. 8
6. (a) What is Vectorization? Define the Design of a vectorizing compiler. 7
- (b) Compare the functionality of array processor and vector processors. 8

UNIT-IV

7. (a) Explore the basic structure of linear pipeline processor. 7
- (b) Discuss the classification of Pipeline processor based on Pipeline configuration. 8
8. What are different types of Pipeline design? How to implement the concept of Multiply and Divide pipeline design ? 15

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BT-7/D-23

47431

WORKING WITH RASPBERRY PI & ARDUINO PLATFORM

Paper-PE-CS-AIML-425A

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. (a) What is an embedded system? How does an embedded system work?
(b) Draw and discuss the block structure of an embedded system.
(c) Describe the term Microcontroller along with its various types.
2. (a) What is IoT? Describe the main components used in IoT.
(b) Draw the layered architecture of IoT. Also, explain the functioning of each layer in detail.

UNIT-II

3. Explain Arduino along with its key features? Discuss the different parts of Arduino program. Also describe the use of functions in Arduino with suitable examples.

47431/K/782/200

P. T. O.

4. (a) Draw and explain the architecture of home automation system.
- (b) How to make real time clock-based home automation? Explain in detail.

UNIT-III

5. (a) Differentiate between Arduino and Raspberry Pi.
- (b) There are two models of Raspberry Pi i.e. A and B. which model is suitable for IoT applications? Justify your answer with necessary technical details by comparing and contrasting the above two models.
6. (a) What are various data types in python? Explain with the help of suitable example.
- (b) How to write and run a python program on the Raspberry Pi?
- (c) Describe some applications of python.

UNIT-IV

7. What is a DHT 11 sensor? Explain its working principle. Also, draw and discuss the DHT 11 pinout configuration for the following :
 - (a) DHT 11 sensor.
 - (b) DHT 11 sensor module.
8. (a) What is Stepper motor? How to connect a stepper motor with Raspberry Pi? Explain with suitable diagrams.
- (b) How ultrasonic sensor work? Also, discuss how the obstacle can be detected using ultrasonic sensor?

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47394

UNIVERSAL HUMAN VALUES II :
UNDERSTANDING HARMONY

Paper-HSS-403A

Time Allowed : 3 Hours] [Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. Define Value Education. Discuss various guidelines for Value Education. Discuss how it helps in living a happy and prosperous life. 15
2. "I will learn and improve only if I am unhappy. If I become happy, my learning will stop"- Explore the validity of this. Viewpoint. 15

UNIT-II

3. What are the five dimensions of Human Endeavour in society conducive to 'mānaviya vyavasthā'? Explain. 15
4. How do we differentiate in relationships on the basis of body, physical facilities or beliefs? What problems do we face because of such differentiation? 15

47394/K/582/350

P. T. O.

UNIT-III

5. Examine the activities in the four orders of nature. How are the activities in the human order qualitatively different from those of the other three orders? Also explain the term 'conformance'. What is conformance in the four orders ? 15
6. Write short notes on: Love, Glory, Gratitude and Affection. 15

UNIT-IV

7. Discuss the concept of existence as coexistence. Discuss holistic perception of harmony in existence. 15
8. Critically examine the issues in professional ethics in the current scenario. List any five unethical practices in profession today and the methods being tried to curb them. Comment on the long-term effectiveness of these methods. 15