

RESEARCH METHODOLOGY

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

1. State the criteria for good research. How the research problem is identified, formulated and defined? Discuss.
2. Explain professor fisher's view on principles of experimental design, with respect to research.
3. What are the major issues in research report writing? Explain the preparation, analysis and different steps of preparing the report, of different report styles.
4. Describe the major components of a computer. How the computer is used in research domain? Explain briefly on various issues of research and its corresponding computer assistances.
5. Write is a B-Tree of order m . Discuss the procedure for (a) searching a B-Tree, (b) inserting into a B-Tree.

6. What is an AVL Tree? Explain (a) Different rotations write insertion and (b) Deletion from an AVL search tree.
 7. Explain the circumstances of multi dimensional data usage and how data bases for handling such data are realized. Describe.
 8. What is meant by distributed database? Explain its working, advantages, transaction processing and functions in distributed data bases.
 9. Describe machine learning. Discuss the perceptron training algorithm. What is a full classification system? Describe.
 10. Write short notes on
 - (a) Kohonen network for prototype learning.
 - (b) Attractor networks.
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ADVANCED TOPICS IN COMPUTER SCIENCE

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

 $(5 \times 20 = 100)$

1. Explain the object oriented features of Java Language.
2. Discuss the concepts of string handling and networking in Java.
3. What is a bean in Java? Explain the characteristics of a bean with an example.
4. Explain the servlet API features in detail.
5. Explain WAP services and applications.
6. Discuss about editors and emulators of WAP.
7. Explain the features of multimedia databases.
8. What are web databases? Explain the method of accessing information from databases on the web.

9. Explain the tools used to develop a multitiered component architecture.
 10. Write short notes on :
 - (a) Mobile computing
 - (b) CORBA clients.
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DATA MINING AND WARE HOUSING

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

1. Explain about the classification of Data mining systems. Discuss about major issues in data mining.
2. What is data mining? Discuss the data mining steps in Knowledge Discovery Process. Discuss data characterization and discrimination.
3. What is data compression? Explain Wavelet Transforms. Explain an algorithm for applying DWT. What is PCA?
4. Write the features of a data mining query language. Explain the architecture of data mining system.
5. Explain how will you make an analysis of a market basket. Discuss the mining multidimensional association rules from relational databases and data warehouses.

6. Explain any two methods of cluster analysis. Discuss statistical techniques used in data mining large databases.
 7. Discuss various types of classification. How do you prepare the data for classification and prediction? Compare different classification techniques.
 8. Outline various efficient algorithms for mining distance-based outliers. Discuss the sequential Exception Technique.
 9. Discuss any five examples of data mining in retail industry. Explain various multidimensional features based on which a data mining system is assessed.
 10. Explain :
 - (i) Sequential pattern mining and
 - (ii) Test data analysis and information retrieved.
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