RESEARCH METHODOLOGY
(Held in April 2010)

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.
All questions carry equal marks.

1. (a) What are the objectives of research?

   (b) Compare research methods and research techniques.

   (c) Discuss the points to be considered by a researcher in selecting a research problem or a subject for research.

2. (a) Describe the different steps in a research process.

   (b) Explain the important concepts relating to research design.

3. (a) Why Interpretation is necessary? Discuss on oral presentation.

   (b) What is a technical report? Give the general outline of a technical report.

4. (a) Discuss the role of a computer in research.

   (b) Describe the applications and uses of computer.

5. (a) What is a binary tree? Explain the properties of binary trees.

   (b) Discuss on the following :

   (i) Priority queue

   (ii) ISAM.

6. (a) Discuss how deletion and insertion are performed in a Heap.

   (b) Write a short note on AVL tree.

7. (a) What do you mean by distributed databases? Discuss the advantages of distributed databases.

   (b) Write a short note on multidimensional data and databases.

8. (a) What are key elements of parallel processing? Discuss.

   (b) What is sparse data? Discuss.

9. (a) Explain perception training algorithm.

   (b) Discuss on generalized delta rule.

10. Discuss on the following :

   (a) Kohonen learning network

   (b) Supervised Hebbinan learning.

ADVANCED TOPICS IN COMPUTER SCIENCE
(Held in April 2010)

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

1. (a) What is Exception Handling? Discuss.

   (b) Discuss the different I/O streams.

   (c) Discuss the different string methods and their use.

2. Write short notes on the following :

   (a) RMI

   (b) CORBA

3. (a) Discuss the applications of Beam Builder Tools.

   (b) Discuss the steps involved to create and configure an instance to create and configure and instance of the our Button Bean.

   (c) Discuss the various methods defined by Servlet Response.

4. (a) Given an overview of servlets.

(b) Write short note on different classes defined in Java. beans.

5. (a) What is WAP? Discuss the benefits WAP for the consumers.

(b) Discuss the features offered by WAP.

(c) What is WML? Discuss.

6. Write short note on the following :

(a) WAP Editors.

(b) WAP architecture.

7. (a) What do you mean by spatial data? Describe a spatial data model.

(b) Discuss on multimedia databases.

(c) What is Image segmentation? Discuss.

8. (a) What is Mobile data base? Discuss the database requirements for mobile database processing.

(b) What is Internet addressing? Discuss.

(c) Discuss how a user exchanges information with a web based database.

9. (a) What is COM? Discuss.

(b) Write a short note on CORBA's object model.

10. Discuss on the following :

(a) Multi-tiered component architecture.

(b) CORBA interface definition language.

Paper III — DATA MINING AND WAREHOUSING
(Held in April 2010)

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

1. (a) What is object oriented databases? Discuss.

   (b) What are the major issues in data mining? Discuss.

   (c) Discuss on Pattern interestingness measures.

2. (a) What is OLAP? Discuss.

   (b) Discuss the different schemes for multidimensional databases.

   (c) Write a short note on discovery driven exploration of data cubes.

3. (a) Discuss on discretization and concept Hierarchy generation.

   (b) What defines a data mining task? Discuss.

   (c) What is concept hierarchy? Discuss.

4. Write short notes on the following :

   (a) Data cleaning

   (b) Data mining query language

   (c) Data reduction.

5. (a) What is analytical characterization? Discuss.

   (b) Discuss how attribute-oriented induction is performed.

   (c) How concept describtion is performed using attribute relevance analysis? Discuss.

6. Discuss on the following :

   (a) Market Basket Analysis

   (b) Mining Multilevel association rules.

7. (a) Compare the different classification and prediction methods.

   (b) What is a decision tree? Discuss an algorithm for decision tree induction.

   (c) How to extract classification rules from decision trees? Discuss.

8. (a) What is back propagation? Discuss.

   (b) Write a short note on K-nearest neighbour classification.

   (c) Discuss on classification based on concepts from association rule mining.

9. Write a short note on various applications of Data mining.

10. (a) Is data mining a threat to privacy and data security? Discuss.

    (b) Discuss the mining of multimedia databases.

    (c) Discuss web usuage mining.
