

MODEL PAPER

MCS 401 Data Mining and Big Data

Time 3 Hrs

Max. Marks 70

Answer Question No.1 Compulsory

7 x 2 = 14 M

Answer ONE Question from each unit

4 x 14 = 56 M

1. Define the following

- a) Mention different OLAP operations
- b) Define Data Mining
- c) Explain in brief "Association Rule Mining"
- d) What is Prediction?
- e) Name the two data structures used in cluster analysis
- f) define primary and secondary name nodes.
- g) explain file read and write commands in hadoop

UNIT – I

2. a) What are the different data partitioning techniques and explain the importance of data partitioning?
- b) What is ETL Process and explain the ETL Architecture

OR

3. a) Explain the major issues in data mining
- b) Explain data mining as a step in the process of knowledge discovery

UNIT – II

4. a) How can we mine multilevel Association rules efficiently using concept hierarchies? Explain.
- b) Explain Apriori algorithm with example and how the efficiency of Apriority algorithm can improve.

OR

- 5a) Write a brief on classification of data mining systems
- b) Can we design a method that mines the complete set of frequent item sets without candidate generation? If yes, explain with example.

UNIT – III

6. a) Explain different grid-based clustering methods
- b) What are the typical requirements of clustering in data mining? Explain

OR

7. Write algorithms for k-Means and k-Medoids and explain how they work with example.

UNIT – IV

- 8 a) What is Bigdata? and discuss in detail why big data is more important with real time examples
- b) Discuss Bigdata in terms of three dimensions, volume, variety and velocity

OR

- 9a) Discuss the design of Hadoop distributed file system and concept in detail
- b) Explain in detail about map-reduce in detail and discuss partitioning and combining

MCS 402.1 Internet of Things

Time 3 Hrs

Max. Marks 70

Answer Question No.1 Compulsory
Answer ONE Question from each unit

7 x 02 = 14 M
4 x 14 = 56 M

1. Define these terms

- a) Internet of Things
- b) IoT Levels
- c) SDN
- d) M2M
- e) Python Functions
- f) IoT Devices
- g) Applications of IoT
- h) Process specification

UNIT – I

2. a. Explain physical design of Internet of Things?

b. Describe communication models of IoT

(OR)

2. Discuss about three major application area of IoT.

UNIT – II

3 a. Differentiate IoT and M2M.

b. Explain IoT system management with NETCONF-YANG.

(OR)

.a. Explain SMNP?

b. Discuss about network operator requirements.

UNIT - III

4.a. Explain domain model specification?

b. Discuss about operational view specification?

(OR)

4. Explain python data types, classes and packages.

UNIT – IV

5 a. Explain Raspberry Pi board.

b. Explain Raspberry Pi Interfaces.

(OR)

5.Design an IoT for Home automation and agriculture.

MCA 402.2 Cloud Computing

Time 3 Hrs

Max. Marks 70

Answer Question No.1 Compulsory

7 x 2 = 14 M

Answer ONE Question from each unit

4 x 14 = 56 M

1. What is Service-Oriented Computing?

- a) Define a Distributed System?
- b) Give an example for full virtualization and brief about it.
- c) What is a hybrid cloud?
- d) Scalability
- e) Give two examples of cloud applications in CRM and ERP.
- f) What is a MOCC?

UNIT – I

2. Discuss about the historic developments from early computing to the contemporary cloud computing.

OR

- 3.a) What are characteristics of Virtualization?
- b) Discuss about Machine Reference Model.

UNIT – II

4. a) Discuss about the cloud architecture.
- b) What are different types of clouds? Explain.

OR

5. a) Explain about Aneka Framework overview.
- b) Discuss about Aneka SDK.

UNIT - III

6.a) What is Task computing and what are its frame works?

- b) Discuss about Task based application models.

OR

7. a) What is Data Intensive Computing? Explain about its characteristics.
- b) What are the technologies required for Data Intensive computing? Explain about them.

UNIT – IV

8. Discuss about Amazon Web Services.

OR

9. Give a reference model for MOCC. What are the technologies for MOCC?

MCS 402 MACHINE LEARNING

Time 3 Hrs

Max. Marks 70

Answer Question No.1 Compulsory
Answer ONE Question from each unit

7 x 2 = 14 M
4 x 14 = 56 M

1. a) Write the issues of machine learning.
- b) What is an unbiased learner?
- c) Define Hypothesis space search
- d) What is sampling theory?
- e) Write about Bayes optimal classifier
- f) What is regression?
- g) What is the use of genetic algorithm?
- h) Write about temporal difference learning

UNIT-I

- 2 a. What is Machine Learning? Explain different perspective and issues in machine learning.
 - b. Describe the Find-s algorithm. Explain how to find a maximally specific hypothesis.
- OR**
- 3 a. List and explain the steps to design a learning systems in detail.
 - b. Illustrate the candidate elimination algorithm with suitable example.

UNIT-II

- 4 a. Describe the Inductive Bias in decision tree learning.
 - b. Write about handling training examples with missing attribute values.
- OR**
- 5 a. Explain about estimating hypothesis accuracy.
 - b. Write a note on practical considerations in comparing learning algorithms

UNIT - III

- 6 a. Write Bayes theorem. What is the relationship between Bayes theorem and the problem of concept learning?
 - b. Explain Maximum Likelihood Hypothesis for predicting probabilities.
- OR**
- 7 a. Explain Naïve Bayes Classifier with an Example.
 - b. Explain the EM Algorithm in detail. (08 Marks.)

UNIT-IV

- 8 a. Define the following terms
i) Error of a Hypothesis. ii) Optimal Mistake Bounds iii) Weighted-Majority Algorithm
 - b. Explain about sample complexity for finite hypothesis spaces
- OR**
- 9.a. Explain the K – nearest neighbour algorithm for approximating a discrete – valued function with pseudo code
 - b. Write about locally weighted regression

MCS 403.2 Mobile Computing with Android

Time 3 Hrs

Max. Marks 70

Answer Question No.1 Compulsory

7 x 2 = 14 M

Answer ONE Question from each unit

4 x 14 = 56 M

1. Define the terms

a. Android

- b. Intent Filter
- c. Persist Activity State
- d. Import
- e. Options menu
- f. Sharing data in android
- g. Service
- h. Package Explorer

UNIT – I

2. a. Explain features of android?

b. What are the tools for android application development? Explain them.

(OR)

3. a. What are the languages used to develop android applications?

b. Discuss about passing data to an activity.

UNIT – II

4. a. Describe linear, table and frame layouts.

b. Explain different orientations?

(OR)

5. Explain the working of radio button and checkbox?

UNIT – III

6. Create a DBA helper class. Explain it with an example.

(OR)

7. a. Discuss about projections, filtering and sorting in content provider?

b. Explain how to insert and delete records into and from a contentprovider.

UNIT – IV

8. Explain how to create a service in the background?

(OR)

9. a. Write about the feature of eclipse.

b. How to publish an android application.