Roll No: _____

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2016- 17

End Semester Examination – I

Class : M.Sc - Computer Science - [Final]

Paper I : [MSC-301]: OOPS programming with C++ - I

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions

1. Explain identifiers in C++.
2. What is the use of pointers in C++.
3. Explain data type conversion in C++.
4. Explain the following function:

   (i)Strlen ( )

   (ii)Strcmp ( )
5. What is uses defined data type?
6. What do you mean by class?
7. What is the use of destructors?
8. Explain friend function.
9. Explain Dynamic Memory Allocation.
10. What are virtual functions?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions

UNIT I

11. Explain call by value and call by reference with an example.

OR

What do you mean by recursion? Explain with a suitable example.

UNIT II

12. Write a program to enter 10 elements in an array and print the sum of all these elements.

OR

What is the difference between Union and Structure?

UNIT III

13. Describe operator overloading with a suitable example.

OR

What do you mean by constructor? Explain the types of constructors in C++.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. What do you mean by operators? Explain various operators that are available on C++.

OR

Define storage classes. Explain various types of storage classes available in C++.

UNIT II

15. Explain string in C++, with a suitable example.

OR

Explain the advantages and characteristics of Object Oriented Programming.

UNIT III

16. What do you mean by inheritance? Explain the different types of inheritance that are available in C++, with an example.

OR

Define Polymorphism and its types with a suitable example.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2016- 17

End Semester Examination – I

Class : M.Sc. Computer Science -[Final]

Paper III : [MSC 303]: Data Ware Housing – I

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

IV. Answer the following questions

1. What are the applications of data warehousing?
2. What do you mean by Data cleaning?
3. Why is data transformation essential in the process of knowledge discovery?
4. What is the condition to stop the partitioning?
5. What is hardware partitioning?
6. List the contents of dimension table.
7. How are data marts different from date warehouse?
8. What is multi relational OLAP?
9. What are aggregation summary tables?
10. What is meant by Business and Technical metadata?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

V. Answer the following questions

UNIT I

11. Discuss the phases of Warehouse Architecture.

OR

Discuss the backup strategies in brief.

UNIT II

12. Briefly explain the load process of data warehouse.

OR

Briefly explain database schema.

UNIT III

13. What do you mean by query generation? Explain in brief.

OR

What is an aggregation? Explain in brief.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

VI. Answer the following questions.

UNIT I

14. Explain the data model which is suitable for data warehouse with an example.

OR

What are the various OLAP operations performed in the data warehouse? Briefly explain each of them.

UNIT II

15. Discuss the system process of query manager.

OR

Compare and explain Horizontal and Vertical partitioning.

UNIT III

16. What is the difference between aggregate table and fact table? How do you load these two tables? Explain.

OR

Explain the process of designing data marts metadata and tools used in data warehouse process.

The End

Sophia Girls' College, Ajmer

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Semester III – 2016- 17

End Semester Examination – I

Class : M.Sc - Computer Science [Final]

Paper II : [MSC- 302]: Advanced Database Management System – I

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

VII. Answer the following questions

1. What is OODBMS?
2. What is generalization?
3. What is Commit Protocol?
4. What is Interquery Parallellism?
5. What is DDL, DML?
6. What is Primary, Foreign and Candidate key?
7. What is Join Function in SQL?
8. What is Triggers?
9. What is SQL and PL/SQL?
10. What is Multimedia Database?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

VIII. Answer the following questions

UNIT I

11. Explain Primary, Secondary and Multi-level indexes in ODBMS.

OR

What is Distributed Database? Explain Concurrency control in Distributed Database.

UNIT II

12. What is intra operation and inter operation parallelism?

OR

Write down with an example- create, alter, delete, insert.

UNIT III

13. Explain String and Aggregate Function in SQL.

OR

Explain error handing in PL/SQL.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

IX. Answer the following questions.

UNIT I

14. Explain how indexing is achieved in ODBMS using B and B+ tree.

OR

Explain the recovery techniques in Distributed Database.

UNIT II

15. What is Query Optimization and how it is achieved. Explain the Temoral database concept.

OR

What is SQL? What are the components of SQL? What are the types of SQL?

UNIT III

16. Explain various searching and matching operations in SQL.

OR

Explain the concept of triggers, the use and types of triggers, and how to create triggers.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2016- 17

End Semester Examination – I

Class : M.Sc-Computer Science [Final]

Paper IV : [MSC-304]: Software Engineering – I

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Define the Following

1. Software process
2. Umbrella activity
3. Requirement analysis
4. Gnatt chart
5. User interface design
6. Cohesion
7. Verification
8. Unit testing
9. Boundary value analysis
10. Security and recovery

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions

UNIT I

11. Discuss COCOMO model.

OR

What is Software? Describe its characteristics.

UNIT II

12. Define Planning. Also write a short note on work background structure.

OR

Define PERT and CPM techniques.

UNIT III

13. What is the difference between Verification and Validation?

OR

What is testing? Explain system testing method.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Discuss the water fall model and also compare it with the incremental model.

OR

What is software metrics? Explain process and product metrics.

UNIT II

15. What is project scheduling? Describe its objective.

OR

What do you mean by Object Oriented design? Explain its function.

UNIT III

16. What is coding? Write the difference between Monitoring and code reviews techniques.

OR

Explain the following:
A. Alpha and beta testing
B. Dynamic testing

The End

Sophia Girls' College, Ajmer

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Semester III – 2017- 18

End Semester Examination

Class: M.Sc. – Computer Science [Final]

Paper II: [302]:Cloud Computing

Time: 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

X. Answer the following.

1. What is cloud?
2. Define service models of loud computing.
3. What do you mean by virtualization?
4. Give any two benefits of IAAS.
5. Define virtual infrastructure management.
6. What is cloud security alliance?
7. What is hybrid cloud?
8. Define comet cloud.
9. What do you understand by data security?
10. Name any two scheduling techniques for advance reservation of capacity in cloud computing.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

XI. Answer the following.

UNIT I

11. Explain various service models of cloud computing in brief.

OR

Briefly discuss different types of clouds.

UNIT II

12. What is virtual machine provisioning? Explain.

OR

Briefly explain ‘cluster as a service.’

UNIT III

13. Discuss various legal issues for the cloud computing.

OR

How do we implement hybrid cloud successfully? Explain.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

XII. Answer the following.

UNIT I

14. Discuss layers architecture of a cloud computing in detail.

OR

Write a short note on risks & challenges of cloud computing.

UNIT II

15. Discuss different types of virtualization in brief.

OR

What is cloud storage? Discuss advantages and architecture of cloud storage.

UNIT III

16. Write short note on:
    a. Data security in cloud
    b. Aneka cloud platform

OR

Explain the following:
    a. Comet cloud
    b. Technologies for cloud computing.

The End

Sophia Girls' College, Ajmer

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Semester III – 2017- 18

End Semester Examination

Class : M.Sc – Computer Science - Final

Paper III : [MSC-303]: Data Ware Housing

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

XIII. Define the following:

1. Data mart
2. Data Cube
3. Virtual Warehouse
4. Load Manager
5. Data Mining Engine
6. Knowledge Base
7. Clustering
8. Meta Data
9. Item Set
10. Decision Tree

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

XIV. Answer the following questions

UNIT I

11. Briefly describe schemas that data warehouse system can implement.

OR

Explain any two OLAP techniques.

UNIT II

12. Write a note on applications of data mining.

OR

Compare and contrast Data Mining with Knowledge Discovery in Databases (KDD) and DBMS.

UNIT III

13. Explain hierarchical and non-hierarchical techniques of classification.

OR

What is decision tree and explain its types?

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

XV. Answer the following questions.

UNIT I

14. Explain data warehouse architecture in detail.

OR

Explain data warehouse ETL process in detail.

UNIT II

15. Explain discovery of association rule and discovery of classification rule in detail.

OR

Explain clustering and discovery of frequent episodes.

UNIT III

16. Explain algorithms for decision tree construction.

OR

Explain K Means and K- MEDOID clustering algorithms.

The End

Sophia Girls' College, Ajmer

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Semester III – 2017- 18

End Semester Examination

Class: M.Sc. - Computer Science [Final]

Paper IV: [MSC- 304]: Advanced Database Management System

Time: 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

XVI. Answer the following questions

1. What is distributed database?
2. Define concurrency control.
3. What is view serializability?
4. What is foreign key?
5. Define check constraint.
6. What is recovery?
7. What is group by clause?
8. Define primary key.
9. What is Fragmentation in DBMS?
10. Write two advantages of SQL.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

XVII. Answer the following questions

UNIT I

11. Define object oriented concepts.

OR

Define Recovery. Why recovery is needed?

UNIT II

12. Explain different data types in SQL.

OR

What is DDL? Explain DDL commands with example.

UNIT III

13. Explain error handling in PL/SQL.

OR

Write PL/SQL code to count the number of vowels in a string.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

XVIII. Answer the following questions.

UNIT I

14. What are distributed transactions? Explain.2 phase and 3 phase commit protocol in detail.

OR

Write short notes on:

a. Serializability
b. Temporal Database
c. Primary and Secondary Indexes

UNIT II

15. Explain Dr. E.F Codd's rules of Oracle.

OR

Explain numeric functions of SQL.

UNIT III

16. (a) What do you mean by PL/SQL? What are its advantages over SQL?
(b) Explain PL/SQL block structure.

OR

Write short notes:

a. Packages in SQL
b. PL/SQL functions
c. Trigger

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2017- 18

End Semester Examination

Class : M.Sc. – Computer Science [Final]

Paper I : [MSC-301]: Software Engineering

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

XIX. Define the following

1. Prototype.
2. Software Process Model.
3. Software Metrics.
4. Function Point.
5. Project Scheduling.
6. Cohesion.
7. Software Quality.
8. Testing.
9. Black Box Testing.
10. Code Walk Through.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

XX. Answer the following questions

UNIT I

11. What do you mean by SDLC?

OR

What is Waterfall Software Process Model?

UNIT II

12. What do you mean by Project Scheduling?

OR

Define CPM and PERT Techniques.

UNIT III

13. What are various Testing Principles?

OR

What do you mean by Validation Techniques?

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

XXI. Answer the following questions.

UNIT I

14. Discuss the Spiral Software Process Model and Incremental Model.

OR

What is Cost Estimation of software? Discuss COCOMO model.

UNIT II

15. What do you mean by Software Project Planning? Explain Work Breakdown structure.

OR

What do you mean by Object Oriented design?

UNIT III

16. What is Coding? Differentiate between Code Verification and Code Validations?

OR

What are various software Testing strategies? Differentiate between White box and Black Box Testing.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2018- 19

End Semester Examination

Class : M.Sc. Computer Science - Final

Paper II : [MSC-302]: Cloud Computing

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

XXII. Answer the following:

1. What is cloud?
2. Write down full form of IAAS, PAAS.
3. What is the purpose of SAAS?
4. What is virtualization?
5. What is meant by a cluster?
6. Explain in brief about data security in cloud computing.
7. What is a hybrid cloud?
8. What is meant by digital identity?
9. Define "comet cloud".
10. What do you understand by data security Risk?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

XXIII. Answer the following questions.

UNIT I

11. What are the challenges and Risks of cloud computing?

OR

Discuss about different types of cloud.

UNIT II

12. Explain the concept of cloud storage.

OR

What are technologies for data security in cloud computing?

UNIT III

13. Discuss various legal issues in cloud computing.

OR

Explain Aneka Cloud platform.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

XXIV. Answer the following questions.

UNIT I

14. Explain all the service models of cloud computing.

OR

Explain and discuss layer architecture of cloud computing. Also explain cloud infrastructure management.

UNIT II

15. Discuss about scheduling techniques for advance reservation of capacity.

OR

Explain in detail distributed management of virtual infrastructures.

UNIT III

16. Discuss in detail implementation of Hybrid cloud. Also discuss automatic behavior of comet cloud.

OR

Explain following:

i. Cloud computing and data security Risk.
ii. Technologies for cloud computing.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2018- 19

End Semester Examination

Class : M.Sc. Computer Science

Paper III : [MSC-303]: Data warehouse & Mining

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

XXV. Answer the following:

1. Data Mart.
2. OLTP.
3. Full form of OLAP.
4. Full form of KDD.
5. Clustering.
6. What is E-commerce?
7. Tree pruning
8. Decision tree.
9. Partitioning.
10. Market – basket analysis.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

XXVI. Answer the following questions.

UNIT I

11. Discuss data ware house architecture.

OR

Explain any 2 OLAP techniques.

UNIT II

12. What is "Discovery of frequent episodes"? Explain.

OR

Discuss any 2 data mining applications in detail.

UNIT III

13. Explain Hierarchical and non-Hierarchical techniques of classification.

OR

Explain CART and ID3 in detail.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

XXVII. Answer the following questions.

UNIT I

14. Explain any two of following approaches:
    i. MOLAP
    ii. ROLAP
    iii. HOLAP

OR

Ex plain any two of following:
i. Star schema
ii. Snow flake schema
iii. Fact constellation

UNIT II

15. Explain discovery of association rules and discovery of classification rule.

OR

Discuss in detail various issues and challenges in data mining.

UNIT III

16. Explain any two of following:
    i. Apriori algorithm
    ii. FP-tree growth algorithm
    iii. K-ME DOID Algorithm

OR

Write short notes on any two of following:
i. Hierarchical clustering
ii. Decision tree induction
iii. Supervised learning techniques.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2018- 19

End Semester Examination

Class : M.Sc – Computer Science – [Final]

Paper IV : [MSC-304]: Advance Database Management System

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

XXVIII. Answer the following.

1. Define complex objects
2. What is Data Replication in Distributed Data Storage?
3. What is view serializability?
4. What is Primary Key?
5. Define Not NULL constraints.
6. Define Datatypes in SQL.
7. What is Group by clause?
8. Define advantages of SQL.
9. What is SQL?
10. Define Triggers.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

XXIX. Answer the following questions.

UNIT I

11. What is Commit Protocol? Also explain two phase commit.

OR

Explain Log based Recovery.

UNIT II

12. Describe the Create and Alter command of DML.

OR

Describe the Select and Insert Command of DML.

UNIT III

13. Differentiate between PL/SQL and SQL.

OR

Explain the difference between Triggers and constraints

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

XXX. Answer the following questions.

UNIT I

14. Explain concurrency control in distributed database.

OR

Write a note on :

a. Project operations
b. Set operations

UNIT II

15. Explain the rules of E.F. Codd

OR

Write a note on Basic Oracle functions.

a. String
b. Aggregate
c. Numeric

UNIT III

16. Write the steps of creation and execution of procedures.

OR

Write the steps of creating triggers and dropping a trigger.

The End

Sophia Girls' College, Ajmer

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Semester III – 2018- 19

End Semester Examination

Class : M.Sc. Computer Science – [Final]

Paper I : [MSC-301]: Software Engineering

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

XXXI. Answer the following.

1. Umbrella Activity.
2. Halsted Theory.
3. Size Metric.
4. Gantt chart.
5. Coupling.
6. Clean Room approach.
7. Stress performance in testing.
8. Graph matrix.
9. Boundary value analysis.
10. Code walk through.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

XXXII. Answer the following questions.

UNIT I

11. What is spiral model?

OR

Explain the role of software metrics in Software Engineering.

UNIT II

12. Explain features and necessity of software quality Assurance.

OR

Explain the ways of implementing modularity.

UNIT III

13. Explain the various type of validation testing.

OR

State differences between static and dynamic testing with examples.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

XXXIII. Answer the following questions.

UNIT I

14. Define software. Explain in detail the characteristics, components and applications of Software engineering.

OR

Explain the various types of software metrics.

UNIT II

15. What do you mean by project scheduling explain its techniques.

OR

Explain various method of reviewing code.

UNIT III

16. What is testing? Explain the various objectives and testing principles.

OR

Explain the various types of code complexity. Explain basis path testing in detail.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2019- 20

End Semester Examination

Class : M.Sc. [Computer Science]

Paper I : [MSC-301]: Software Engineering

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. Define software.
2. What do you mean by software engineering?
3. What is software metrics?
4. Define software process.
5. What is coding?
6. What is Requirement specification?
7. What is unit testing?
8. What is the utilization of modularity in software engineering?
9. What do you mean by software Package?
10. Define code complexity.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Explain the main characteristics of software.

OR

Write short notes on Prototype model.

UNIT II

12. Explain code walk through approach.

OR

Explain the concept of software project planning.

UNIT III

13. Describe testing principles.

OR

Explain system testing.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Describe the main steps of system development life cycle (SDLC).

OR

Describe the various mode of COCOMO estimation model giving examples of application in each area.

UNIT II

15. Define project scheduling. Describe its techniques.

OR

What is coupling? Describe various types of coupling.

UNIT III

16. What is black box testing? Describe its methods.

OR

Explain the following:

a. Validation testing.
b. White box testing.
c. Graph Matrix.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2019- 20

End Semester Examination

Class : M.Sc. - Computer Science – [Final]

Paper II : [MSC-302]: Cloud Computing

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following.

1. What is cloud?
2. Write down the full forms of SaaS and IaaS.
3. Write down any of the name of the layers of cloud.
4. Define Virtual machine.
5. Define Custer.
6. What do you mean by the term "Cloud Computer"?
7. What is Data Security?
8. What is a hybrid cloud?
9. What is a comet cloud?
10. What is Digital identity?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Explain the desired features of a cloud.

OR

What are challenges and risks of cloud computing?

UNIT II

12. Explain the distributed management of virtual infrastructures.

OR

What are the technologies available for Data security in cloud computing?

UNIT III

13. Discuss about Autonomic Behaviour comet cloud.

OR

Write brief note on "Cloud computing and Data security Risk".

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Discuss the layer architecture of Cloud computing. Also explain Saas.

OR

Explain following:

a. Iaas
b. Paas

UNIT II

15. Discuss cluster as a service. Also explain cloud storage concept in detail.

OR

Explain scheduling techniques for advance reservation of capacity.

UNIT III

16. Explain Aneka cloud platform. Also discuss hybrid cloud implementation.

OR

Discuss following:

a. Legal issues in cloud computing.
b. Data security.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2019- 20

End Semester Examination

Class : M.Sc. Computer Science [Final]

Paper III : [MSC-303]: Data Warehouse & Mining

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following.

1. Full form of MOLAP.
2. What is Data Warehousing?
3. What is metadata?
4. Full form of KDD.
5. What is web data?
6. What is data mining?
7. What is partitioning?
8. What are association rules?
9. Define decision tree.
10. What is tree pruning?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Discuss various approaches to OLAP servers in brief.

OR

Explain various warehouse schemas.

UNIT II

12. What is meant by discovery of association rule and discovery of classification rule?

OR

Explain various DM applications.

UNIT III

13. Explain various learning techniques.

OR

Explain ID3 and J48 algorithms.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Discuss various OLAP techniques in brief.

OR

Explain Data warehouse ETL Process.

UNIT II

15. What is meant by verification model and discovery model?

OR

Explain Issues and Challenges in DM.

UNIT III

16. Explain Apriori algorithm.

OR

Explain K-MEDOID Algorithm.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2019- 20

End Semester Examination

Class : M.Sc. – Computer Science [Final]

Paper IV : [MSC-304]: Advance Data Base Management System

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following.

1. What is secondary level index?
2. What is object query language?
3. What is multi-level index?
4. Define complex objects.
5. Full form of DDL.
6. What is foreign key?
7. What are check constraints?
8. What are advantages of PL/SQL on SQL?
9. Define PL/SQL syntax.
10. What is database trigger?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Discuss various recovery techniques in brief.

OR

Explain algorithm for external sorting.

UNIT II

12. Explain queries based on group by clause.

OR

Explain various components of SQL.

UNIT III

13. Explain error handling in PL/SQL.

OR

What is meant by dropping a trigger?

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Explain the commit protocol and concurrency control in distributed databases.

OR

Explain select and join, project and set operations.

UNIT II

15. Explain basic ORACLE functions.

OR

Explain various DDL and DML commands.

UNIT III

16. Explain control structures and conditional checking.

OR

Explain BEFORE VS AFTER Trigger combinations.

The End

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2020- 21

End Semester Examination

Class : M.Sc. Computer Science

Paper I : [MSC-301]: Software Engineering

Time : 2 Hrs. **M.M: 70 Marks**

Section A [20 Marks]

Section A contains 12 questions (20 words each) and a candidate is required to attempt <u>any 10 questions</u>. Each question is of 2 marks.

I. Answer the following questions.

1. Explain in brief the impact of Software Engineering?
2. Differentiate between Hardware and Software?
3. What is Cost Estimation?
4. Define CPM?
5. Define Testing?
6. Define the term Project?
7. What is Complexity?
8. Write two advantages of Functional Testing?
9. Define the term Module?
10. State the importance of Software Reuse in the IT sector?
11. What is integration testing?
12. Give the importance of Project Scheduling.

Section B [14 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt <u>any 2 questions from different units</u> . Each question is of 7 marks.

II. Answer the following questions.

UNIT I

13. Explain the Prototype Model?

14. Describe the role of Software Metrics in Software Engineering?

UNIT II

15. Explain Software Quality Assurance?

16. Describe Clean Room Approach?

UNIT III

17. Describe Graph Matrix?

18. Explain main principles of Software Testing?

Section C [36 Marks]

Section C contains 6 questions(400 words each) and a candidate is required to attempt <u>any 2 questions from different units</u>. Each question is of 18 marks.

III. Answer the following questions.

UNIT I

19. Describe COCOMO Model for Cost Estimation?

20. Describe Waterfall Model with Advantages and Disadvantages?

UNIT II

21. What are main Objectives of Software Design? Describe Software Design Principles in detail.

22. Explain the following
    a) Code Review
    b) Project Scheduling
    c) Gantt Chart

UNIT III

23. What is Software Testing? Explain Software Testing Strategies in detail.

24. Explain the Following
    a) Dynamic Testing
    b) Black Box Testing
    c) System Testing

--The End--

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2020- 21

End Semester Examination

Class: M.Sc. Computer Science - [Final]

Paper II: [MSC-302]: Cloud Computing

Time : 2 Hrs. **M.M: 70 Marks**

Section A [20 Marks]

Section A contains 12 questions (20 words each) and a candidate is required to attempt <u>any 10 questions</u>. Each question is of 2 marks.

I. Answer the following questions.

1. Define cloud computing.
2. What is Community Cloud?
3. What is the use of service provider?
4. Define Virtualization.
5. Define Cloud Storage.
6. Define Aneka.
7. What are the uses of Virtual machine?
8. Give the example of IAAS Providers.
9. Give the examples of cloud computing technologies.
10. State the importance of cloud computing in IT sector.
11. What is hybrid cloud?
12. What is cluster?

Section B [14 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt <u>any 2 questions from different units</u> . Each question is of 7 marks.

II. Answer the following questions.

UNIT I

13. What are the essential characteristics of Cloud Computing?

14. Differentiate between Public, Private and Hybrid cloud.

UNIT II

15. What is Hypervisor in cloud computing? Explain its different types.

16. Differentiate between IAAS and PAAS.

UNIT III

17. Which security mechanism provides an effective control for data confidentiality and integrity?

18. Differentiate between Digital Identity and Data Security.

Section C [36 Marks]

Section C contains 6 questions(400 words each) and a candidate is required to attempt <u>any 2 questions from different units</u>. Each question is of 18 marks.

III. Answer the following questions.

UNIT I

19. Explain three service models of Cloud Computing.

20. Discuss about the Pros and Cons of Cloud Computing.

UNIT II

21. Write a note on security challenges in cloud computing.

22. Discuss Distributed Management of Virtual Infrastructures.

UNIT III

23. Explain Legal Issues in Cloud Computing.

24. Discuss various tools and technologies available for cloud computing.

--The End--

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2020- 21

End Semester Examination

Class : M.Sc. Computer Science [Final]

Paper III : [MSC-303]: Data Warehouse & Mining

Time : 2 Hrs. **M.M: 70 Marks**

Section A [20 Marks]

Section A contains 12 questions (20 words each) and a candidate is required to attempt <u>any 10 questions</u>. Each question is of 2 marks.

I. Answer the following questions.

1. What is Data Warehousing?
2. What is full form of ROLAP.
3. What is "data about data" or "data about information"?
4. Define Data Mining.
5. What is web data?
6. Define clustering.
7. What is non-hierarchical technique?
8. What is partitioning?
9. What is tree induction?
10. Define decision tree?
11. Full form of CART.
12. What is snow flake?

Section B [14 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt <u>any 2 questions from different units</u> . Each question is of 7 marks.

II. Answer the following questions.

UNIT I

13. Discuss various Warehouse schema in brief.

14. Differentiate between data cube and data mart.

UNIT II

15. Differentiate DBMS and data mining.

16. Differentiate between KDD and data mining.

UNIT III

17. Explain FP-tree growth algorithm.

18. Explain CART and ID3 algorithms.

Section C [36 Marks]

Section C contains 6 questions(400 words each) and a candidate is required to attempt <u>any 2 questions from different units</u>. Each question is of 18 marks.

III. Answer the following questions.

UNIT I

19. Explain the following OLAP Techniques:
    i. Roll-up
    ii. Slicing and Dicing
    iii. Drilldown
    iv. Pivot

20. Explain the following Data Warehouse ETL Process:
    i. Data extraction
    ii. Data cleaning
    iii. Data transformation
    iv. Loading

UNIT II

21. Explain both the discoveries of frequent episode and classification rule.

22. Explain various Data Mining Applications in brief.

UNIT III

23. Explain tree construction with presorting in brief.

24. Explain various types of decision trees in brief.

--The End--

Sophia Girls' College, Ajmer

(Autonomous)

Semester III – 2020- 21

End Semester Examination

Class : M.Sc. Computer Science

Paper IV : [MSC-304]: Advanced Database Management System

Time : 2 Hrs. **M.M: 70 Marks**

Section A [20 Marks]

Section A contains 12 questions (20 words each) and a candidate is required to attempt <u>any 10 questions</u>. Each question is of 2 marks.

I. Answer the following questions.

1. What are complex objects?
2. Explain primary level index?
3. Write about commit protocol.
4. Write full form of DML.
5. What is Delete command in SQL?
6. Write Names of four string functions of Oracle?
7. How group by clause works?
8. What do you mean by Trigger?
9. Differentiate between SQL and PL/SQL.
10. What is the difference between before and after trigger?
11. Define LIKE operator**.**
12. Write two Codd's Rule.

Section B [14 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt <u>any 2 questions from different units</u> . Each question is of 7 marks.

II. Answer the following questions.

UNIT I

13. Explain transaction management in detail.

14. Describe object query language in detail.

UNIT II

15. Give the differences between Unique and Not Null?

16. Explain Primary key and Foreign Key using suitable examples.

UNIT III

17. Explain Error handling in PL/SQL.

18. What are SQL procedures? Explain how procedures are created in SQL.

Section C [36 Marks]

Section C contains 6 questions(400 words each) and a candidate is required to attempt <u>any 2 questions from different units</u>. Each question is of 18 marks.

III. Answer the following questions.

UNIT I

19. Explain transaction management and serializability in detail

20. Write short note on Temporal database and multimedia database.

UNIT II

21. Explain E.F.Codd's rules in detail

22. How subquery works in SQL? Explain with example.

UNIT III

23. Explain PL/SQL block structure with example. Write advantages of PL/SQL over the SQL.

24. What is the main purpose of triggers in database? How do you create a trigger? Explain with example.

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2021-22
End Semester Examination
Class : M.Sc. Computer Science [Final]
Paper I : [MSC-301]: Cloud Computing

Time : 1 ½ Hrs. **M.M: 40 Marks**

Section A [16 Marks]

Section A contains 12 questions (20 words each) and a candidate is required to attempt <u>any 8 questions</u>. Each question is of 2 marks.

I. Answer the following questions.

1. Define Private Cloud.
2. What is Hybrid Cloud?
3. Define Data Security.
4. What is meant by Paas?
5. What is Cloud Computing?
6. What is Virtual Machine?
7. Define Cloud Storage.
8. What is Virtualization?
9. What is Google app engine?
10. What is meant by Saas?
11. Define WAN.
12. State any two service providers of Saas.

Section B [10 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt <u>any 2 questions from different units</u> . Each question is of 5 marks.

II. Answer the following questions.

UNIT I

13. State essential characteristics of cloud computing.
14. Write short notes on origins of cloud computing.

UNIT II

15. Write short note on cluster as a service.
16. Describe about integrate cloud storage providers.

UNIT III

17. How do you implement the Hybrid Cloud?
18. Discuss the concept of Google Cloud.

Section C [14 Marks]

Section C contains 6 questions (400 words each) and a candidate is required to attempt <u>any 1 question</u>. Each question is of 14 marks.

III. Answer the following questions.

19. What are the layers and types of cloud? Explain.
20. Explain of benefits of Cloud Computing.

21. Explain the concept of Virtual Machine.
22. What are the technologies for data security in Cloud Computing?
23. Explain the advantages and disadvantages of Saas.
24. Explain the concept of Aneka Hybrid Cloud Architecture.

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2021-22
End Semester Examination
Class : M.Sc. Computer Science [Final]
Paper II : [MSC-302]: Data Warehouse & Mining

Time : 1 ½ Hrs. **M.M: 40 Marks**

Section A [16 Marks]

Section A contains 12 questions (20 words each) and a candidate is required to attempt <u>any 8 questions</u>. Each question is of 2 marks.

I. Answer the following questions.

1. What is Data Mart?
2. What is OLAP & OLTP?
3. What is Data cube?
4. Application area of data mining?
5. What is Metadata?
6. What is Data Mining?
7. What is support & confidence?
8. What is training data set ?
9. What is Partitioning?
10. What is Dendrogram?
11. What is Pre Sorting?
12. What is CART?

Section B [10 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt <u>any 2 questions from different units</u> . Each question is of 5 marks.

II. Answer the following questions.

UNIT I

13. Explain OLAP server & its technique.

14. Compare & contrax between star & schema and fact constellation.

UNIT II

15. What are the issues & challenges in data mining?

16. How do you do Market – Basket Analysis which algorithm is used in M.B Analysis?

UNIT III

17. Explain in brief about Naïve Bayes decision tree construction algorithm?

18. Differentiate between Supervised and Unsupervised learning techniques?

Section C [14 Marks]

Section C contains 6 questions (400 words each) and a candidate is required to attempt <u>any 1 question</u>. Each question is of 14 marks.

III. Answer the following questions.

19. What are the different stages of ETL process? Explain with suitable diagram.
20. Explain top down & bottom up approaches of dataware house.
21. Explain Apriori algorithm with example?
22. What is agglomerature & division clustering:
23. Use the K mean algo & Manhattan distance to cluster the following to clusters.
    2, 3, 4, 8, 10, 12, 15, 18, 20, 25, 30, 32, 40
24. Const on FP growth the for following:

Transactions ID	Items
T1	E,K,M,N,O,Y
T2	D,E,V,N,O,Y
T3	A,F,K,M
T4	C,K,M,U,Y
T5	C,E,I,K,O

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2021-22
End Semester Examination
Class : M.Sc. Computer Science [Final]
Paper III : [MSC-303]: Programming in Visual Basic.Net
Time : 1 ½ Hrs. **M.M: 40 Marks**

Section A [16 Marks]

Section A contains 12 questions (20 words each) and a candidate is required to attempt <u>any 8 questions</u>. Each question is of 2 marks.

I. Answer the following questions.

1. Define NET Framework.
2. Write Full Form of MSIL.
3. Write Full Form of FCL.
4. Explain the use of .NET IDE.
5. What are procedures in VB.NET.
6. Why do we use Label control.
7. Define the term "EVENT".
8. Define Array.
9. What is the purpose of Timer?
10. What is the purpose of Toolbar?
11. Discuss any 1 Dialog Box of your choice.
12. Why do we use ADO.NET?

Section B [10 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt <u>any 2 questions from different units</u> . Each question is of 5 marks.

II. Answer the following questions.

UNIT I

13. Discuss Architecture of .NET Framework. Also discuss .NET languages.

14. Discuss the Data Types available in VB.NET. Also discuss about Namespace Concept.

UNIT II

15. Discuss about 1Dand 2D Arrays available in VB.NET. Also discuss the use of TEXTBOX.

16. Discuss any 2 looping Structures available in VB.NET. Also discuss the term "Event Driven Programming".

UNIT III

17. Discuss Following Controls:
    a. Save File Dialog
    b. Tree View

18. Discuss Following Controls
    a. Color Dialog
    b. List View

Section C [14 Marks]

Section C contains 6 questions (400 words each) and a candidate is required to attempt <u>any 1 question</u>. Each question is of 14 marks.

III. Answer the following questions.

19. Discuss Following in detail:
    a. Working of CLR
    b. Operators in VB.NET

20. Discuss Following in detail:
    a. MSIL use in .NET.
    b. Variable and constant in VB.NET.

21. Discuss Following:
    a. List Box
    b. Date and Time

22. Discuss Following:
    a. Creating Buttons
    b. Syntax For creating procedures in VB.NET

23. How we can connect to a DataBase using ADO.NET. Give the code. Also discuss how we can Add records using ADO.NET.

24. What is the use of Data Tables and Data Row. Also discuss how we can Edit and delete records using ADO.NET.

--The End-

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2021-22
End Semester Examination
Class : M.Sc. Computer Science – [Final]
Paper IV : [MSC-304]: Artificial Intelligence

Time : 1 ½ Hrs. **M.M: 40 Marks**

Section A [16 Marks]

Section A contains 12 questions (20 words each) and a candidate is required to attempt <u>any 8 questions</u>. Each question is of 2 marks.

I. Answer the following questions.

1. What is the importance of Artificial Intelligence?
2. Discuss issues in design of search programs.
3. List the advantages & disadvantages of Depth first search algorithm?
4. What is problem decomposition?
5. How do we define a problem as a state space search?
6. What do you mean by Knowledge?
7. Explain mapping between facts & representations using suitable diagram.
8. What do you mean by Instance?
9. Define frames as sets and instances.
10. Write Modus Ponens & Modus Tollens law?
11. List of advantages & disadvantages of BFS.
12. Explain intersectional search in semantic nets.

Section B [10 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt <u>any 2 questions from different units</u> . Each question is of 5 marks.

II. Answer the following questions.

UNIT I

13. What knowledge acquisition? Explain?

14. Explain Travelling Salesman Problem?

UNIT II

15. What is fuzzy logic? Explain.

16. Explain syntax & semantic of FOPL?

UNIT III

17. How many types of learning available? Explain any one?

18. Explain supervised learning.

Section C [14 Marks]

Section C contains 6 questions (400 words each) and a candidate is required to attempt <u>any 1 question</u>. Each question is of 14 marks.

III. Answer the following questions.

19. Derive Greedy search algorithm.
20. Derive Generate and test algorithm.
21. What is Bayesian theorem? Justify it.
22. Simplify fuzzy logic.
23. What is an expert system? Explain its characteristics. List out its components.
24. Explain stages involved in the development of expert system and what are various applications areas of expert system?

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2022-23
End Semester Examination
Class : M.Sc. Computer Science [Final]
Paper I : [MSC-301]: Cloud Computing

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. Define Cloud Computing.
2. Write the full form of IaaS.
3. Write the full form of PaaS.
4. Write full form of Saas.
5. What do you mean by Virtual Machine?
6. What is cluster?
7. Define Scheduling.
8. What is Comet Cloud?
9. Define Hybrid Cloud.
10. What do you mean by Cloud Sim?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Explain desired features of Cloud.

OR

Explain the concept of Digital Identity.

UNIT II

12. Explain distributed management of virtual Infrastructures.

OR

Define Virtual Machines. Also discuss cluster as a Service.

UNIT III

13. Write about Autonomic Behavior of Comet Clouds.

OR

Write the advantages and disadvantages of SAAS.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Explain different layers and types of Clouds.

OR

Explain cloud computing Data Security Risk in Detail.

UNIT II

15. Explain different scheduling Techniques for Advance Reservation of Capacity.

OR

Explain the Technologies for Data Security use in Cloud Computing.

UNIT III

16. Explain different technologies and tools for cloud computing.

OR

Explain Microsoft Office 365 and Google Apps used as cloud SAAS.

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2022-23
End Semester Examination
Class : M.Sc. Computer Science [Final]
Paper II : [MSC-302]: Data Warehousing and Mining
Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. What is Data Warehousing?
2. What is OLAP?
3. What is Dicing?
4. Full form of HOLAP?
5. What is DBMS?
6. What is Data Mining?
7. What are Association Rule?
8. What is CART?
9. What is Partitioning?
10. What is Clustering?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Explain with a neat diagram the concept of Data Warehouse Architecture?

OR

Explain in brief about Snowflake Schema?

UNIT II

12. Differentiate between KDD and DM?

OR

What are issues and challenges to Data Mining? What are its application areas? Explain.

UNIT III

13. Explain in brief about Decision tree?

OR

Differentiate between Supervised and Unsupervised learning techniques?

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Discuss in brief about different OLAP techniques?

OR

Explain the following:–

a. Slicing
b. ETL Process
c. Meta Data

UNIT II

15. Explain Association Rule and significance of Market-Basket Rule. Also explain confidence and support in context to Association Rule?

OR

Explain the Following:–

a. Verification Model
b. Discovery Model
c. Deviation Detection.

UNIT III

16. Compare Naive Bayes and 348 decision tree algorithms with suitable example?

OR

Explain the following

a. Tree Pruning.
b. Hierarchical Clustering.
c. K-MEDOID Algorithm.

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2022-23
End Semester Examination
Class : M.Sc. Computer Science [Final]
Paper III : [MSC-303]: Programming in Visual Basic.Net
Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. What is data validation?
2. Write a short note on CLR features.
3. Write short note on input box.
4. Name any 2 data types.
5. What is ADO.net?
6. Why do we use text box?
7. What is Combo Box?
8. Define the term "EVENT"?
9. How do we use MDI in VB?
10. List any two properties of button control.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Explain architectural components of NET framework.

OR

Discuss in detail MSIL.

UNIT II

12. Discuss about strings available in VB.NET. Also discuss the text box control.

OR

Discuss VB environment. What are basic techniques of form building?

UNIT III

13. Discuss controls:
    a. Time Control
    b. Menus

OR

Design GUI and write code for the following in VB.NET

a. Add items to list box.
b. Remove selected items from list box

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Discuss following in detail:
    a. Working of CLS
    b. Framework classes and namespaces.

OR

Discuss following in detail:

c. Enumeration and constants in VB.NET
d. Operators.

UNIT II

15. Describe different data structures used in VB.NET. Also explain looping statements.

OR

Discuss following in detail:

a. Event driven programming.
b. Label controls.

UNIT III

16. Discuss following in detail:
    a. Font dialog
    b. Tree view control.

OR

Describe database connection in VB.NET. Write a program for database connection and record creation.

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2022-23
End Semester Examination
Class : M.Sc. Computer Science [Final]
Paper IV : [MSC-304]: Artificial Intelligence
Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. Define Artificial Intelligence.
2. Discuss the areas of application of artificial Intelligence.
3. What do you understand by production system?
4. List out some task domain of AI.
5. Define Bayesian Theorem.
6. List of some advantages of Heuristic Search.
7. Define rote learning.
8. What do you understand by expert system?
9. Explain state search space.
10. Discuss Heuristics Search technique.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. What is Knowledge representation? What are various issues and approaches in knowledge representation?

OR

Distinguish between breadth first search and depth first search algorithms**.**

UNIT II

12. What is FOPL Stands for and explain its role in Artificial Intelligence.

OR

What are the elements of Predicate logic? Define Quantifier and its types.

UNIT III

13. Justify the statement-that "learning is the most important characteristics of Intelligence".

OR

Elaborate various characteristics of Expert system.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Define the heuristic search. Discuss its benefits and shortcomings. Explain the 8 puzzle problem. How it can be solved using search heuristic search technique.

OR

Define the following problem. What types of control strategy is used in the following problem.

a. The Tower of Hanoi
b. Travelling salesman problem
c. The missionaries and cannibals problems
d. 8 puzzle problem

UNIT II

15. What is a fuzzy set? Write the components of a fuzzy logic system and explain them. What is the role of membership function in fuzzy logic?

OR

Elaborate the word "knowledge" in your own words? A knowledge base contains the following statements:

Everyone who loves all animals is loved by someone.
Anyone who kills an animal is loved by no one
Jack loves all animal. Either jack or curiosity killed Tuna, the cat.

a. Convert these statements into FOL.
b. Convert each FOL statement in (a) to CNF.
c. Using resolution, prove that curiosity killed the cat.

UNIT III

16. Describe stages for developing an expert system? Discuss various real life application areas of artificial Intelligence.

OR

Explain the components of learning Model. Explain various types of learning. How can we measure the performance of the learning model?

--The End—

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2023-24
End Semester Examination (Nov. 2023)
Class : M.Sc. Computer Science [Final]
Paper I :[MSC-301]: Cloud Computing

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. What are the types of Cloud Service Models?
2. Define Private Cloud.
3. Write notes on Hybrid Cloud.
4. Define Comet Cloud.
5. What is Aneka Cloud Platform?
6. What is Data Security?
7. What is google app engine?
8. Define Amazon AWS?
9. Difference between Authentication & Authorization.
10. Define Cloud Storage.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Describe Essential Characteristics of cloud computing.

OR

What are the security constraints in cloud Computing?

UNIT II

12. Explain the concepts of virtual machines provisioning and manageability.

OR

Explain the concept of Cloud storage.

UNIT III

13. Discuss the operational and economic benefits of SaaS.

OR

Write short Notes on:

a) SaaS
b) Comet Cloud

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. What are the technologies of Data Security in Cloud Computing?

OR

Describe cloud Infrastructure Management.

UNIT II

15. Explain IaaS Cloud Service Model.

OR

Write Short Notes on:

a. Cluster as a service
b. Distributed Management of Virtual Infrastructure

UNIT III

16. Explain Architecture of PaaS.

OR

Write Short Notes on:

a. Aneka Cloud Platform.
b. Cloud Sim
c. Microsoft Office 365

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2023-24
End Semester Examination (Nov. 2023)
Class : M.Sc. Computer Science [Final]
Paper II :[MSC-302]: Data Warehouse and Mining

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. What is data ware housing?
2. What is ROLAP?
3. What is the use of Roll-up?
4. What is meant by KDD?
5. What is support & confidence?
6. Explain in brief what is Data mining?
7. What are Association Rules?
8. Why do we Decision Trees?
9. What is Partitioning?
10. What is Pre-sorting?

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Explain following terms:
    (i) Drill down
    (ii) MOLAP
    (iii) HOLAP

OR

Explain data ware house Architecture.

UNIT II

12. Discuss Discovery of association rule and discovery of classification rule.

OR

Discuss any 3 DM applications of your choice by giving suitable examples.

UNIT III

13. Discuss about K-MEDOID Algorithm. Also explain Hierarchical Clustering.

OR

Explain following terms:
(i) Market basket Analysis
(ii) Tree pruning

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Discuss following terms:
    (i) Data Mart
    (ii) Star Schema
    (iii) Fact Constellation
    (iv) Slicing

OR

Discuss following terms:
    (i) Dicing
    (ii) Snow flake Schema
    (iii) Data Transformation
    (iv) Data Extraction

UNIT II

15. Discuss following:
    (i) Difference between KDD and DM
    (ii) Discovery of frequent episodes.

OR

Discuss following:
    (i) Issues and challenges in DM.
    (ii) Difference between DBMS and DM.

UNIT III

16. Compare Naïve Bayes and J48 Decision tree Algorithms giving suitable examples.

OR

Discuss following:
    (i) Apriori Algorithms
    (ii) FP tree growth Algorithms
    (iii) CART

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2023-24
End Semester Examination (Nov. 2023)
Class : M.Sc. Computer Science [Final]
Paper III :[MSC-303]: Programming in Visual Basic.Net

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. What is .Net framework?
2. Define namespaces in VB.NET.
3. What is common language specification?
4. List three data types used in VB.NET.
5. What do you understand by event-Driven programming?
6. What is the use of list box and combo box?
7. Define the looping statements?
8. Give two applications of Dialog box.
9. What do you understand by Tree view control?
10. List any two controls in VB.NET.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Give a brief introduction to .NET framework. Explain its components.

OR

Explain various data types in VB.NET.

UNIT II

12. Explain Array in VB.NET with example.

OR

Write down a complete program in VB.NET to differentiate the concept of list box and combo box controls.

UNIT III

13. Write short note on database programming with ADO.NET.

OR

Explain timer control giving an example to show its properties.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Discuss major features of .NET framework along with its architecture. Write a short note on common language runtime.

OR

Describe the usage of different controls of toolbox with their commonly used properties and methods with suitable examples.

UNIT II

15. Discuss the utility of the following controls with the help of suitable examples and code snippets:- Text box, Check box, Button, List box,
Also highlight the important properties and methods of these controls.

OR

A) Explain the syntax of while and End while loop. Use this loop to find the sum of n natural numbers.

B) What is Input box? What is its purpose? Write code snippet to demonstrate the same.

UNIT III

16. Explain the architecture of ADO.NET object model along with its. Major functional components. Highlight the features of ADO.NET object model.

OR

Write short note on:-

(a) Font Dialog
(b) Menus and tool bars
(c) Picture Box
(d) Color Dialog
(e) Save file Dialog

--The End--

Sophia Girls' College *(Autonomous)*
Ajmer
Semester III – 2023-24
End Semester Examination (Nov. 2023)
Class : M.Sc. Computer Science [Final]
Paper IV :[MSC-304]: Artificial Intelligence

Time : 3 Hrs. **M.M: 70 Marks**

Section A [10 Marks]

Section A contains 10 questions (20 words each) and a candidate is required to attempt all 10 questions. Each question is of one mark.

I. Answer the following questions.

1. Define Intelligence. What do you mean by Artificial Intelligence?
2. What is production system?
3. Explain deduction with suitable example.
4. Define induction. What is wrote learning?
5. What is Heuristics search?
6. Explain generate and test method of problem solving?
7. What is supervised learning?
8. What is unsupervised learning?
9. Explain concept of learning.
10. Write any two application areas of Expert system.

Section B [15 Marks]

Section B contains 6 questions (50 words each) and a candidate is required to attempt 3 questions, at least 1 from each unit. Each question is of 5 marks.

II. Answer the following questions.

UNIT I

11. Draw a neat & labelled diagram of AI programming system and compare the characteristics of human brain with the machine.

OR

Explain "Tower of Hanoi" problem.

UNIT II

12. What are the elements of predicate logic? Define Quantifier and its types.

OR

Explain Bayesian probabilistic inference.

UNIT III

13. What is concept of learning? Explain inductive learning.

OR

What is reinforcement? Explain with example.

Section C [45 Marks]

Section C – contains 6 questions. Answer any three questions (400 words each), selecting one from each unit. Each question is of 15 marks.

III. Answer the following questions.

UNIT I

14. Explain the concept of depth. First search and breath first search? Evaluate the traversal of following graph using DFS and BFS (Consider 0 as start node).

0 1 2
3 4 5
6 7 8

OR

Define the following problems. What types of control strategy is used in the following problem?

(i) Travelling salesmen problem.

(ii) 8 puzzle problem.

UNIT II

15. What is fuzzy logic? Explain all the components of fuzzy logic system. Write significance of Fuzzy logic in A.I.

OR

Write syntax and semantics of FOPL with example. What is knowledge and knowledge base?

UNIT III

16. Explain different stages for developing an expert system. Also write different features of an expert system in detail.

OR

What is learning? Explain components of learning model. Also explain how we can measure the performance of the learning model.

--The End--