R–3052	Sub. Code
	551201

M.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Computer Science

ADVANCED DATABASE SYSTEMS

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

All questions carry equal marks.

1.   What is database System?

2.   What is a data models?

3.   Define distributive database.

4.   Define Data Marts.

5.   What is an Interval?

6.   Define Integrity constraint.

7.   What is spatial database?

8.   Define Predicate calculus

9.   Define WWW.

10. Define Mobile Computing.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

All questions carry equal marks.

11. (a) Write short note on Record Based Data Models.

    Or

    (b) Explain on Entity Relationship Models.

12. (a) Write about on client server system.

    Or

    (b) Describe on Decision Support and Data Preparation.

13. (a) Describe about generalizing the Relational Operator.

    Or

    (b) Write a short notes on data base design with suitable example.

14. (a) List out the characteristics of Spatial Database.

    Or

    (b) Discuss about Deductive Database System.

15. (a) List out the characteristics of Mobile Database.

    Or

    (b) Discuss about advantages of Mobile Computing.

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Part C (3 × 10 = 30)

Answer any **three** questions.

All questions carry equal marks.

16. Describe briefly on Database System Architecture.

17. Describe briefly on Online Analytical Processing.

18. Discuss briefly about Multimedia Database Applications.

19. Explain briefly on Techniques of Spatial Database Query.

20. Describe briefly about Mobile DBMS.

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R–3052

R–3053

Sub. Code
551202

M.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Computer Science

WEB TECHNOLOGY

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Section A   (10 × 2 = 20)

Answer **all** questions.

1.   Write the different types of lists in HTML.

2.   What is the use of Frames?

3.   What is the role of Cookies?

4.   What is the use of Rollover Buttons?

5.   What is DOM?

6.   What is Ajax?

7.   What is a note on : HTTP Basics?

8.   What is the role of destroy method in Servlet?

9.   Distinguish between server and client.

10. How to install Tomcat server?

Section B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) With suitable example, explain the table tags in HTML.

Or

(b) What are Hyperlinks? Explain with suitable examples.

12. (a) Explain the mathematical functions in Java script with suitable example.

Or

(b) Write a short note on Built in Objects in Javascript.

13. (a) Discuss about DOM Event Handling.

Or

(b) Explain the Name spaces in detail.

14. (a) Briefly explain the History of Web Applications.

Or

(b) Briefly explain the client-side caching.

15. (a) Explain the Servlet life cycle.

Or

(b) Explain the procedure to Install the JSDK.

2 **R–3053**

Section C (3 × 10 = 30)

Answer any **three** questions.

16. With suitable example, explain forms in HTML.

17. Discuss the Data Validation in Dynamic HTML with Javascript with suitable example.

18. Explain the DOM based XML processing.

19. Explain the process to retrieve the information of server in detail.

20. Elaborately explain the Http Request / Response model.

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R–3053

R–3054

Sub. Code
551203/ 546203

M.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Computer Science/Information Tech.

COMMUNICATION AND EMPLOYABILITY SKILLS

(Common for M.Sc. Computer Science/M.Sc.IT.

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Define upward communication.

2. What is interpersonal communication?

3. How would you introduce a person?

4. What is the mode of making an apology?

5. What is posture?

6. Define pitch.

7. What are the four components evaluated in a group discussion?

8. What are called credential questions?

9. Define memo.

10. What is the purpose of advertising?

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain mass communication.

Or

(b) What are the intrapersonal barriers to communication?

12. (a) Explain the basic etiquettes of telephone conversation.

Or

(b) Prepare a dialogue between you and your friend on developing communication skills.

13. (a) Explain proxemics.

Or

(b) What are the advantages and disadvantages of memorization in presentation?

14. (a) Explain brainstorming.

Or

(b) How is team spirit important in team work?

15. (a) What are the essential components of a job application letter?

Or

(b) How would you prepare an agenda?

2 **R–3054**

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Bring out the principles of effective communication.

17. Examine the features of verbal and non-verbal communication

18. Describe the four modes of delivery used in presentation.

19. Discuss the two categories of group discussion.

20. Examine the characteristics of a report.

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R–3055	Sub. Code
	551552

M.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Computer Science

SOFTWARE PROJECT MANAGEMENT

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

All questions carry equal marks.

1. Write down the special characteristics of Software identified by Brooks.

2. Comment on Objectives versus Products.

3. What is Portfolio Management?

4. Write about the Uncertainty associated with Projects.

5. State Parkinson's Law.

6. List down the objectives of Activity Planning.

7. Define the nature of risk in Software Project Management.

8. Write down the Resource Allocation Schedules.

9. What is COTS?

10. What do you mean by departmentalization?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Briefly discuss about the activities covered by Software Project Management.

Or

(b) Briefly discuss about the Project Control Cycle in Management Control.

12. (a) Briefly discuss about Water Fall Model.

Or

(b) Briefly discuss about Software Prototyping.

13. (a) Discuss about the software effort Estimation Techniques.

Or

(b) Briefly discuss about forward pass in Activity Planning.

14. (a) Discuss about Hazard Identification strategies.

Or

(b) How to Schedule Resources? Discuss it.

15. (a) How to select the right persons for the job? Discuss.

Or

(b) Discuss about ISO 9126 for Software Quality.

2 **R–3055**

Part C (3 × 10 = 30)

Answer any **three** questions.

All questions carry equal marks.

16. Briefly discuss about the overview of Stepwise Project Planning.

17. Explain the Cost-benefit evaluation techniques.

18. Explain the COCOMO: a Parametric Model.

19. How to evaluate risks to the schedules in Risk Management? Explain.

20. How to motivate people to work? And discuss about the importance of Decision Making Process.

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3 **R–3055**

R–3056

Sub. Code
551556

M.Sc. DEGREE EXAMINATION, APRIL 2019.

Second Semester

Computer Science

MULTIMEDIA AND ITS APPLICATIONS

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

All questions carry equal marks

1.   List out the criteria to classify the Media.

2.   What is Synchronous transmission mode?

3.   What is MIDI Synthesizer Device?

4.   Write about MIDI messages.

5.   What is conventional systems?

6.   Define SVGA.

7.   Write down two different modes for Video Coding.

8.   What is Data Compression?

9.   What do you mean by Communication?

10.   List out the design issues of Multimedia Editors.

Part B $(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b).

11. (a) What is Medium? Discuss about different Medium.

                         Or

    (b) Briefly discuss about the data stream characteristics for continuous media and Information Units.

12. (a) Write a note on different Digital Image representations.

                         Or

    (b) Discuss about Image Synthesis.

13. (a) Explain about the computer based Animation basics and methods of controlling Animation.

                         Or

    (b) Briefly discuss about the different Computer Video Formats.

14. (a) Elaborate on Video Encoding concept.

                         Or

    (b) Explain about the basic Compression Techniques.

15. (a) Briefly discuss about the Media Integration concepts.

                         Or

    (b) Briefly discuss about the Interactive Video and Audio for entertainment.

                 2   **R–3056**

Part C (3 × 10 = 30)

Answer any **three** questions.

All questions carry equal marks.

16. Explain about Multimedia Authoring Tools.

17. Discuss in detail about Speech Generation, Speech Analysis and Speech Transmission Techniques.

18. Write in detail about the Conventional Systems, High Definition Systems, and Enhanced Definition Systems.

19. Explain JPEG Compression Techniques.

20. Explain about the Media Communication Mechanisms.

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R–3056

R–3233

Sub. Code
551102

M.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Computer Science

DATA STRUCTURE AND ALGORITHMS

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. Define the term Big oh Notation.

2. Mention the operations used in stack.

3. State the features of AVL trees.

4. Write about tree traversal techniques.

5. Mention the efficiency of selection sort.

6. Compare Insertion Sort and Radix Sort.

7. What is Binary Search?

8. Write the terminologies in Asymptotic Notation.

9. State the principle of optimality.

10. Write note on multistage graph.

Part B   (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11.   (a)   Discuss any two applications of stack in detail.

Or

(b)   How to represent queue using array?

12.   (a)   Write a detailed note on binary search tree.

Or

(b)   Describe in detail about Huffman coding.

13.   (a)   How to represent graph notations? Explain.

Or

(b)   Briefly discuss about sorting complexities.

14.   (a)   Discuss in detail about space and time complexity.

Or

(b)   How to find maximum and minimum values using recursion?

15.   (a)   Describe about knapsack problem.

Or

(b)   Write short notes on backtracking algorithm.

2   **R–3233**

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Describe in detail about single linked list representation.

17. Explain about Hashing functions and algorithm in detail.

18. What are the techniques available in graph traversal? Explain.

19. Mention the performance analysis of algorithm.

20. State the concept of Minimum Cost Spanning tree.

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R–3233

R–3234

Sub. Code
551103

M.Sc. DEGREE EXAMINATION, APRIL 2019.

First Semester

Computer Science

INTERNET AND JAVA PROGRAMMING

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

All questions carry equal marks.

1.   Define Domain Name System.

2.   How is the user to chat in online system?

3.   List out the basic concepts of OOPS.

4.   What is constant variable?

5.   Define class with suitable example.

6.   What is an array? How to create an array?

7.   How to create a thread in class with suitable example?

8.   Write syntax of exception handling.

9.   List out the stream class in file.

10. How to create a file with suitable example.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

All questions carry equal marks.

11. (a) What is Internet and write about the resources of Internet?

Or

(b) Explain about the FTP and TELNET.

12. (a) Write about the features of java programming.

Or

(b) How java is associated strongly with Internet? Explain it.

13. (a) What is constructor? Explain its with example.

Or

(b) Define Interface. Write the difference between classes and interfaces.

14. (a) Explain about an extending thread class with example.

Or

(b) Discuss about types of errors in thread.

15. (a) Discuss about character stream classes.

Or

(b) Write short note on reading and writing a character in a file.

2 **R–3234**

Part C (3 × 10 = 30)

Answer any **three** questions.

All questions carry equal marks.

16. What is the usage of web? Describe about the IRC and use net newsgroup.

17. Describe briefly about the classification of operators used in Java.

18. What is Interface? Describe the various forms of implementing interface with example.

19. Describe briefly about life cycle of a thread.

20. Explain briefly about the input and output exceptions in java with suitable example.

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R–3234

R–3235

Sub. Code
551104

M.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Computer Science

DATA COMMUNICATION NETWORKS

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   List out the fundamental characteristics of Data communication.

2.   What are the key elements of protocol?

3.   What is peer-to-peer process?

4.   Define : latency.

5.   What is the Hamming distance?

6.   Define : Inter leaving.

7.   List the types of bridges.

8.   List out the classification of routing.

9.   What is the purpose of domain name system?

10. What is the difference between user agent and mail transfer agent?

Part B $(5 \times 5 = 25)$

Answer **all** questions choosing either (a) or (b).

11. (a) Identify the five components of a data communication system. Explain it.

Or

(b) Discuss about transmission modes.

12. (a) Explain in detail about digital signals.

Or

(b) Discuss about TCP/IP protocol suite.

13. (a) Explain about vertical redundancy check with example.

Or

(b) Explain in detail about unguided media.

14. (a) What is the function of gateways and explain it.

Or

(b) Explain in detail about Ethernet.

15. (a) Elaborate VLAN's and VPN's.

Or

(b) Describe simple network management protocol.

2 **R–3235**

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain in detail about various Topologies with neat diagram.

17. Explain in detail about digital to Analog Conversion.

18. Explain about Time Division Multiplexing with diagram.

19. Explain in detail about Link state Routing Algorithm with example.

20. Discuss the following :

    (a) Network Security

    (b) Digital Signature.

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3 R–3235

R–3236

M.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Computer Science

ADVANCED OPERATING SYSTEMS

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What is Critical section problem?

2.   What is Semaphore?

3.   What is Distributed operating system?

4.   What is the use of Deadlock Algorithms?

5.   Define Distributed Resource Management.

6.   What is the advantage of cache manager?

7.   What is Dynamic voting protocols?

8.   What is the difference between synchronous and asynchronous check points?

9.   Classify Multiprocessor operating systems.

10. List out any 2 features of Android operating system.

Part B $(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b).

11. (a) Discuss about the design approaches of Advanced operating system.

Or

(b) Discuss about the concepts of process.

12. (a) Discuss about Communication Models.

Or

(b) Discuss the following:

(i) Lamport's logical clock

(ii) Distributed Mutual Exclusion

13. (a) Elaborate the advantages of Distributed shared Memory.

Or

(b) Explain about Distributed File System Architecture.

14. (a) Explain briefly about Rollback Recovery Algorithm.

Or

(b) In what way, check pointing used in Distributed Database systems. Explain.

15. (a) Discuss the following:

(i) Ubuntu

(ii) Google Chrome OS

Or

(b) Write a short note about the concepts of Database operating systems.

2   **R–3236**

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain briefly about how deadlock detection is carried out in system with consumable and Reusable Resources.

17. Explain about global state detection approach.

18. Explain briefly about Distributed Scheduling.

19. Discuss briefly about Failure Recovery and Fault tolerance approaches.

20. Discuss in detail about the various issues in the design of Multiprocessor operating system.

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3 **R–3236**

R–3237

Sub. Code
551301

M.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Computer Science

COMPILER DESIGN

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** the questions.

1. Define Complier.

2. What are the functions of Interpreter?

3. What is Parse Tree?

4. List the factors to be considered for Top Down Parsing.

5. What are the advantages of Semantic Analysis?

6. Mention the two uses of Type checker.

7. Define basic block.

8. Give any two applications of DAG.

9. What is induction variable elements?

10. What is meant by Code Optimization?

Part B   (5 × 5 = 25)

Answer **all** the questions, choosing either (a) or (b).

11. (a) Explain in detail the Regular Grammer with an example.

Or

(b) Write about the design of a Lexical Analyzer Generator.

12. (a) Write a note on Left Recursion with an example.

Or

(b) Explain about Recursive Descent Parsing.

13. (a) Describe in detail the Intermediate forms of source programs.

Or

(b) Give a detailed note on Attributed Grammars.

14. (a) Write a note on Heap Storage Allocation.

Or

(b) What is Loop Optimization? Explain.

15. (a) Describe in detail the various ways for Copy Propagation.

Or

(b) Narrate in detail the concept of Flow graph with an example.

2   **R–3237**

Part C   (3 × 10 = 30)

Answer any **three** questions.

16. Explain in detail about the phases of a Complier.

17. Discuss the stack implementation of Shift Reduce Parsing.

18. Describe in detail about the Implementation of three address code.

19. Enumerate the principal sources of Code Optimization.

20. Write and explain the Assignment Generic Code Generation Algorithm.

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3   **R–3237**

R–3238	Sub. Code
	551303

M.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Computer Science

DATA MINING AND WAREHOUSING

(CBCS – 2016 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

All questions carry equal marks.

1. Define : Data warehousing.

2. What is OLAP?

3. Define the term Data Preprocessing.

4. What is Data Mining?

5. List out two views for the process of Association Rule Mining.

6. What is the use of Gini Index?

7. Define Clustering.

8. What is STIRR?

9. What is Web Mining?

10. List out various types of Dimensions with respect to Spatial Data Cube.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Discuss about OLAP Operations.

Or

(b) Discuss the following

(i) Warehouse Server

(ii) Warehousing Software.

12. (a) Discuss issues to consider during Data Integration.

Or

(b) Explain about Data Reduction.

13. (a) Why Tree Pruning is useful in Decision Tree Induction? What is a drawback of using a separate set of tuples to evaluate Pruning? Explain.

Or

(b) Discuss about Pincher Search Algorithm.

14. (a) Write a short note about Genetic Algorithm.

Or

(b) Discuss the following

(i) Supervised Learning

(ii) Unsupervised Learning.

15. (a) How Web Mining is useful for Real Time Applications? Explain it.

Or

(b) Discuss about Spatial Mining.

2 **R–3238**

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain briefly about the Data Warehousing Architecture with diagram.

17. Why we Preprocess the data? Explain it in detail with example.

18. Why Naïve Bayesian Classification called Naïve? Briefly outline the major ideas of Naïve Bayes Classification.

19. Describe in detail about K-Means and K-Medoids with example.

20. Describe the following

    (a) Text Mining

    (b) Knowledge Mining.

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R–3238