S–3017

Sub. Code
23MCI1C1

M.Sc. DEGREE EXAMINATION, APRIL 2024

First Semester

Computer Science and Information Technology

DATA STRUCTURES AND ALGORITHMS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What do you mean by the term "list"?
2. What is sorting?
3. What is the purpose of Circular Queue?
4. List out any two applications of linked list.
5. Differentiate between tree and binary tree.
6. Define: (a) Root of a tree (b) Degree of a node.
7. What is the complexity of Quick sort?
8. What are the limitations of binary search?
9. Define the term "Algorithm".
10. What are the components of space complexity?

Part B (5 × 5 = 25)

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

11. (a) Write the procedures to perform predecessor and successor in a list.

Or

(b) Write the algorithm for traversing a list and give an example.

12. (a) Write a procedure to convert infix to postfix notation.

Or

(b) What is a queue? Explain the array implementation of queues.

13. (a) Explain about the preorder tree traversal.

Or

(b) How will you find the shortest path between two given vertices using Dijkstra's algorithm? Explain.

14. (a) Explain the merge sort algorithm and sort the following sequence of keys using merge sort.

166, 277, 311, 488, 599, 222, 333, 244, 755

Or

(b) Write a selection sort algorithm and explain it.

15. (a) Discuss about the different asymptotic notations.

Or

(b) Why do we need algorithm analysis? Explain.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain briefly about the implementation of lists.

17. Compare Singly-linked list and Doubly-linked list.

18. Explain about the hashing techniques.

19. Write a binary search algorithm and explain with examples.

20. Explain about the pseudo code for expressing algorithms.

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S–3018	Sub. Code 23MCI1C2

M.Sc. DEGREE EXAMINATION, APRIL 2024

First Semester

Computer Science and Information Technology

ADVANCED JAVA PROGRAMMING

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Distinguish between classes and objects.
2. What is a package?
3. What are the methods defined by list interface?
4. What is the difference between HashMap and TreeMap?
5. What is the role of prepared statement?
6. What is ResultSet in JDBC?
7. Write down any two features of Spring.
8. What is the purpose of web tier?
9. Define the term “Predicate”.
10. What is a method reference?

Part B (5 × 5 = 25)

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

11. (a) Write down the features of Java.

Or

(b) What is an inner class? How to use of an inner class to access object state?

12. (a) What are the constructors defined by TreeSet Class? Explain.

Or

(b) What is an exception? Explain about the types of exceptions.

13. (a) Explain the basics of networking.

Or

(b) What is Java data base connectivity? Explain with an example.

14. (a) What is a HTTP servlet? What is the role of HTTP servlet request? Explain.

Or

(b) Describe the multi-tiered applications in Java enterprise application.

15. (a) What are the advantages of using the optional class? Describe.

Or

(b) What are functional interfaces? Explain.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a Java program, which will read a string and rewrite it in the alphabetical order.

17. Write a java program for user defined exception that checks the internal and external marks if the internal marks is greater than 40 it raise the exception internal mark is exceed, if the external mark is greater than 60 exception is raised and display the message the external marks is exceed. Create the above exception and use it in your program.

18. Discuss the TCP/IP server sockets.

19. Briefly explain the life cycle of a Servlet.

20. How lambda expression and functional interfaces are related? Discuss.

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S–3019	Sub. Code
	23MCI1C3

M.Sc. DEGREE EXAMINATION, APRIL 2024

First Semester

Computer Science and Information Technology

STATISTICAL COMPUTING

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is the use of scatter diagram method of studying correlation?
2. Compute the probable error assuming the correlation coefficient of 0.9 from a sample of 25 pairs of items.
3. What is the use of regression analysis?
4. Write the formula for calculating the standard error of estimate.
5. Write down the properties of expected value and variance.
6. Define: Random Variable.
7. What are the limitations of sampling?
8. Define: Population and sample.
9. What is null hypothesis?
10. What are the two types of errors in testing of hypothesis?

Part B (5 × 5 = 25)

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

11. (a) Explain the meaning and significance of the concept of correlation.

Or

(b) Find out Karl Pearson's co-efficient of correlation in the following series relating to prices and supply of commodity.

Price (Rs.)	11	12	13	14	15	16	17	18	19	20
Supply (Rs.)	30	29	29	25	24	24	24	21	18	15

12. (a) Obtain the two lines of regression from the data given below:

X :	1	2	3	4	5	6	7	8	9
Y :	9	8	10	12	11	13	14	16	15

Or

(b) From the following information, calculate line of regression of Y on X:

	X	Y
Mean	40	60
Standard deviation	10	15

Correlation coefficient: 0.7

13. (a) A fair die is thrown. Find out the expected value of its outcomes.

Or

(b) If the random variable X takes the values 1,2,3 and 4 such that 2P(X=1)3P(X=2) =P(X=3)=5P(X=4), find the probability distribution and cumulative distribution function X.

14. (a) Random samples of size 64 are drawn from a population with mean 32 and standard deviation 5. Find the mean and standard deviation of the sample mean.

Or

(b) Discuss about the F distribution with respect to mean and variance.

15. (a) Five coins are tossed 256 times. The number of heads observed is given below. Examine if the coins are unbiased, by employing chi-square goodness of fit.

Number of heads :	0	1	2	3	4	5
Frequency :	5	35	75	84	45	12

Or

(b) What are the properties of chi-square test?

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Calculate Spearman's rank correlation coefficient from the following data:

X :	52	63	45	36	72	65	47	25
Y :	62	53	51	25	79	43	60	33

17. Distinguish between correlation and regression.

18. The probability that a man fishing at a particular place will catch 1, 2, 3, 4 fish are 0.4, 0.3, 0.2, and 0.1 respectively. What is the expected number of fish caught?

19. Two independent samples of 8 and 7 items gave the following values.

Sample A : 9 11 13 11 15 9 12 14

Sample B : 10 12 10 14 9 8 10

Examine whether the difference between the means of the two samples is significant at 5% level?

20. By using chi-square test, find out whether there is any association between income level and type of schooling:

Income	Public school	Government School	Total
Low	200	400	600
High	1000	400	1400
Total	1200	800	2000

(Given for v=1, Chi-square=3.84 at 5%)

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S–3020	Sub. Code
	23MCI1E1

M.Sc. DEGREE EXAMINATION, APRIL 2024.

First Semester

Computer Science and Information Technology

Elective – MULTIMEDIA AND ITS APPLICATIONS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Multimedia?
2. What are the two classes of fonts?
3. What is clip art?
4. Differentiate between Vector and Bitmap image.
5. What is MIDI?
6. What is MPEG?
7. List out any two painting software.
8. What is the responsibility of a project manager?
9. Define: World Wide Web.
10. Lay out a web page using a background image.

Part B (5 × 5 = 25)

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

11. (a) What is hypertext and hypermedia? Explain.

Or

(b) Describe the features of font editing and design tools.

12. (a) Explain the use of colors and palettes in multimedia.

Or

(b) Describe the capabilities and limitations of bitmap images.

13. (a) Explain the important considerations in shooting and editing video for use in multimedia.

Or

(b) Define digital audio and discuss its attributes, including how sound is sampled and sampling parameters.

14. (a) Describe the skills and talents needed for a multimedia project.

Or

(b) Define authoring systems, describe what they do, and list the three different types.

15. (a) Explain the important limitations for presenting good looking images on the web.

Or

(b) Write down the limitations of the World Wide Web for delivering multimedia.

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the uses of text in multimedia applications.

17. Discuss the various factors that apply to the use of image in multimedia.

18. How video works? Explain.

19. Describe the general principles and factors that apply to creating computer animations for multimedia presentations.

20. What are the two most common graphics file formats in use on the web today? Discuss.

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S–3021	Sub. Code
	23MCI1E2

M.Sc. DEGREE EXAMINATION, APRIL 2024.

First Semester

Computer Science and Information Technology

Elective – WIRELESS SENSOR NETWORKS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the characteristic requirements of wireless sensor networks?

2. Give any one example of sensor nodes.

3. Differentiate between symbol rate and data rate.

4. Define the terms “Source” and “Sink” in Sensor network.

5. What are the two aspects of framing?

6. List out the properties of link-quality estimator.

7. What is flooding in routing?

8. What do you mean by forwarding?

9. What are QoS in WSN?

10. What is TCP?

Part B (5 × 5 = 25)

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

11. (a) What are the five hardware components of basic sensor node? Explain.

Or

(b) Discuss the various types of applications of wireless sensor networks.

12. (a) Discuss the design principles for Wireless Sensor Networks.

Or

(b) What is the need for gateways? Explain.

13. (a) What are the tasks and requirements of data link layer? Explain.

Or

(b) Write a short note on content based and geographic addressing.

14. (a) Explain the overview of energy efficient unicast routing.

Or

(b) Describe the basic idea behind the geographic routing protocols.

15. (a) What are the coverage measures? Explain.

Or

(b) Write a short note on ZigBee Security.

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain about the operating systems and execution environments in Wireless Sensor Networks.

17. What are the three classes of MAC protocols? Explain.

18. Write a brief note on lightweight time synchronization protocol.

19. What are the categories of data aggregation operations? Describe.

20. Discuss the CODA congestion control framework.

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S–3022

Sub. Code
23MCI1E3

M.Sc. DEGREE EXAMINATION, APRIL 2024

First Semester

Computer Science and Information Technology

Elective: CYBER SECURITY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What do you mean by spamming?

2. Differentiate between cybercrime and cyberfraud.

3. What are the two types of stalkers?

4. What is attack vector?

5. Define: Mishing.

6. List out the Bluetooth hacking tools.

7. What is virus hoax?

8. What are the advantages of using antikeylogger?

9. What are the components of PKI?

10. What is the meaning of the term “Cyberlaw”?

Part B (5 × 5 = 25)

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

11. (a) How do viruses get disseminated? Explain with diagram.

Or

(b) Write a short note on "Indian Legal Perspective on Cybercrime".

12. (a) What are the services provided by Cloud computing? Describe.

Or

(b) What is cyberstalking? How stalking works?

13. (a) What are the types of mobile computers? Explain.

Or

(b) Discuss about the types and techniques of credit card frauds.

14. (a) What are the different phases during the attack on the network? Explain.

Or

(b) What is phishing? How phishing works?

15. (a) Explain about the types of assurance and compliance.

Or

(b) Describe the cybercrime and federal laws in the US.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. How do we classify cybercrimes? Explain each one briefly.

17. What are the classifications of social engineering? Explain.

18. What is vishing? How vishing works? How to protect from vishing attacks?

19. What are the types of computer viruses? Describe.

20. Discuss the challenges to Indian Law and cybercrime scenario in India.

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S–3023

Sub. Code
23MCI2C1

M.Sc. (CS & IT) DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science and Information Technology

ADVANCED DATABASE MANAGEMENT SYSTEMS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

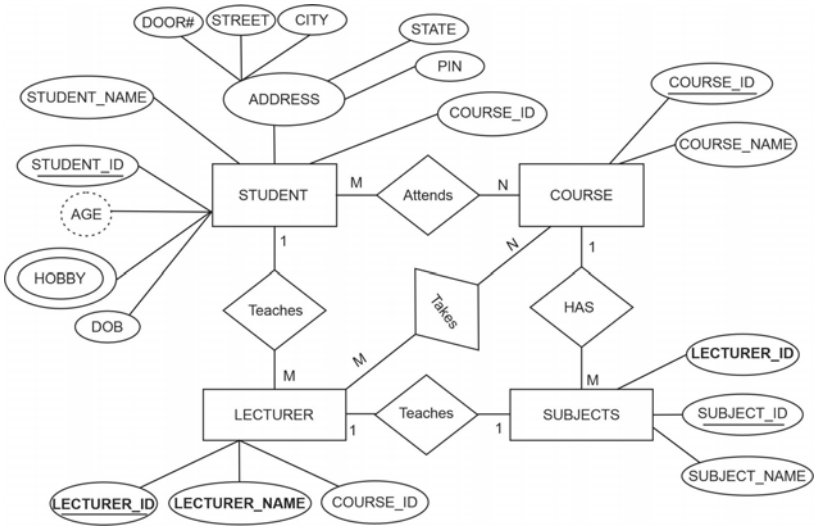
Answer **all** questions.

1. What is Functional Dependency.
2. What is interoperation Parallelism?
3. Why do we need commit protocols?
4. Define Structure types.
5. Given a spatial database query.
6. Define Query Processing.
7. What are the basic rules to write XML document?
8. Expand DTD and Explain it.
9. What is meant by integrity constraints.
10. List out any five-multimedia database applications

Part B (5 × 5 = 25)

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

11. (a) Convert the ER Diagram into table.



Or

(b) Define the following terms (i) Domain (ii) Attributes (iii) Relational Instance (iv) Relational Schema (v) Relational key.

12. (a) Interpret the steps involved Query Processing.

Or

(b) List out the characteristics of Distributed Data Storage.

13. (a) Discuss Spatial Data Model with Example.

Or

(b) Elaborate the Concept of Recursive Query Processing.

14. (a) Explain about three main types of XML Documents.

Or

(b) Differentiate the structured, unstructured and semi-structured data.

15. (a) Explain the Challenges Involved in Multimedia Databases.

Or

(b) Elaborate the concept of Integrity Constraints with example.

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Summarize the steps involved in converting the ER constructs to corresponding relational tables.

17. Write short notes on the following

(a) transaction rollback and cascading rollback

(b) transaction support in SQL

(c) shadow paging I

(d) NO-UNDO/REDO Recovery Based on Deferred Update

(e) Recovery Techniques Based on Immediate Update

18. Elaborate the Concept of spatial data Types and Models.

19. Explain the Simplest Type Declaration and Complex Type Declaration with Example.

20. Explain about the concept of Generalizing the Relational Operators.

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S–3024

Sub. Code
23MCI2C2

M.Sc. (CS & IT) DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science and Information Technology

OPEN SOURCE TECHNOLOGIES

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. List out any five certification courses issues.
2. What is meant by cloning and backup your Linux?
3. Define a Constants.
4. Write simple program using PHP.
5. Write a Terminating and writing program.
6. Define Retrieving.
7. Write a program of strings.
8. What are functions?
9. List out any five Open-source tools.
10. What is meant by Simultaneous Releases?

Part B (5 × 5 = 25)

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

11. (a) Discuss about the Linux Signals.

Or

(b) Elaborate the concept of Kernel Mode and User Mode.

12. (a) Elaborate the Characteristics of PHP.

Or

(b) Explain about the PHP switch Statements with suitable Examples and syntax.

13. (a) Consider the following employee_detail table that contains the following data and answer the following questions.

ID	Name	Email	Phone	City	Working_hours
1	Peter	Peter@javatpoint.com	49562959223	Texas	12
2	Suzi	Suzi@javatpoint.com	70679834522	California	10
3	Joseph	joseph@javatpoint.com	09896765374	Alaska	14
4	Alex	alex@javatpoint.com	97335737548	Los Angeles	9
5	Mark	mark@javatpoint.com	78765645643	Washington	12
6	Stephen	stephen@javatpoint.com	986345793248	New York	10

(i) Display the Name, Email and City alone from the Employee_detail table.

(ii) Rename the working_hours column as Total Working hours and group the column using ascending order.

(iii) Display the Details of the Employee working in the city California and New York.

Or

(b) Explain the steps involved in installing the MYSQL in Linux /Unix.

14. (a) Explain the Dictionaries with the methods involved using snippet program.

Or

(b) Elaborate the Concept of Conditional statements with Example.

15. (a) Explain the Concept of Model driven architecture tools.

Or

(b) Elaborate about five open-source Software's available.

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Briefly explain Open-Source Licensing and Certification.

17. Discuss about Inserting Data with PHP.

18. Write a MYSQL Program for the following operations.

    (a) Create the database

    (b) Create a table

    (c) Load data into the table

    (d) Retrieve data from the table.

19. Explain the function arguments in python.

20. ExplaIn configuration of Apache Web Servers.

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S–3025

Sub. Code
23MCI2C3

M.Sc. (CS & IT) DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science and Information Technology

COMPILER DESIGN

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is Simple one-pass compiler?
2. List out Role of Lexical analyser.
3. What is meant by Scope information?
4. Define Left Recursion.
5. What is construction Of syntax trees?
6. What is Top-Down translation?
7. What is Parameter passing?
8. Given an example of Case statements.
9. Write a Basic blocks and flow graphs?
10. Define Code Optimization.

Part B (5 × 5 = 25)

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

11. (a) Explain compiler writing tools.

Or

(b) Develop a lexical analyzer for the token identifier.

12. (a) Construct SLR parsing table for the grammar A-> a | (A).

Or

(b) Explain operator grammar and operator precedence parsing.

13. (a) Differentiate between S-attributed and L-attributed definitions with suitable examples.

Or

(b) Design a type checker for simple arithmetic operations.

14. (a) Evaluate the expression 3*5+4n using the above SDD both in bottom-up approach.

Or

(b) Explain the needs of Intermediate Code Generator.

15. (a) Elaborate the concepts of Principle Sources of Optimization.

Or

(b) Explain the Issues that are in Code Generator.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Elaborate the Concept of a Simple One Pass Complier.

17. Elaborate the role of parsers in detail with suitable Example.

18. Explain about the Syntax Directed Translation Schemes (SDT'S).

19. Explain intermediate code generation of an assignment statement

20. Elaborate the concept of optimization for basic blocks done by a compiler.

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S–3026	Sub. Code 23MCI2E1

M.Sc. (CS & IT) DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science and Information Technology

***Elective* — SOFTWARE TESTING**

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is meant by Software testing Activities?
2. What are the Software Testing levels?
3. Define Validation.
4. What is Regression testing.
5. Define White box testing.
6. What is spiral or iterative model?
7. Define Static testing.
8. Define Performance testing.
9. What are the Rote of Ecosystem and call for action?
10. Define Software Test automation.

Part B (5 × 5 = 25)

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

11. (a) Discuss the soft-ware testing and its types.

Or

(b) Explain the Testing level based on software activity.

12. (a) Differentiate between Verification and validation.

Or

(b) Compare the various life cycle models.

13. (a) Differentiate between White box and black box testing.

Or

(b) Discuss about Bottom-up integration.

14. (a) List out the rest plans and Test process after developing an application for a education institutions admission process.

Or

(b) Explain the Testing GUI with example.

15. (a) Explain the career paths for testing professionals.

Or

(b) Discuss the why we use selenium for testing?

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the module driven test design with suitable example.

17. Discuss on Prototyping and rapid application development model.

18. Explain the Performance testing with examples.

19. Explain the web application and web services.

20. Discuss the software test automation for the Application (Note: take any Application for example)

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S–3027	Sub. Code
	23MCI2E2

M.Sc. (CS & IT) DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science and Information Technology

ELECTIVE — INTERNET OF THINGS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. List out the IOT Challenges.
2. What is IOT data management?
3. What are sensors and actuators?
4. List out the types of topologies
5. Define constrained nodes.
6. What is meant by Optimization IP For IOT.
7. What is IOT application Transport Methods.
8. Expand CoAP.
9. Define Big data analytics.
10. What is Securing IOT.

Part B (5 × 5 = 25)

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

11. (a) List out the IoT Functional Stack.

Or

(b) Elaborate about the IoT Architectural Drivers.

12. (a) List out Challenges involved in Security of IoT.

Or

(b) Elaborate about the Physical Layer with neat Architecture Sketch.

13. (a) List out the Key Advantages of Internet Protocol.

Or

(b) Discuss about the Constrained nodes.

14. (a) Discuss about the Transport Layer with neat architecture.

Or

(b) Elaborate the concept of CoAP.

15. (a) Discuss the Machine Learning and its types.

Or

(b) Explain the Network analytics with suitable Example.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Discuss about the Current challenges being addressed by Connected Roadways in field of IoT Digitization and Impact.

17. Discuss about the Physical and MAC Layer in IoT with one Suitable Real time Example.

18. Elaborate about the Constrained Networks with neat sketch.

19. Discuss about the IoT application Transport Methods in detail.

20. Explain the implementation of IoT technology in following areas:

    (a) Smart Parking

    (b) Smart Lightening.

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S–3028

Sub. Code
23MCI2E3

M.Sc. (CS & IT) DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science and Information Technology

Elective – CLOUD SERVICES

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define Cloud Computing.
2. List out any five advantages of cloud computing.
3. What is web-based application and its types?
4. Define IBM clouds.
5. Define Centralizing email communications.
6. What is meant by cloud computing for the corporation?
7. Define task management.
8. What is meant by storing and sharing files and its types?
9. List any five communication tools.
10. Define social networks.

Part B (5 × 5 = 25)

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

11. (a) Elaborate the Concept of Cloud Architecture.

Or

(b) Explain the computing matters with example and various advantages of cloud computing.

12. (a) Discuss the types of cloud service development.

Or

(b) Explain the Google App Engine (GAE) with example.

13. (a) Discuss the centralizing Email communications.

Or

(b) Summarize the Collaborating of group projects and events.

14. (a) Analyze the Task management and its types.

Or

(b) Explain the collaboration on word processing.

15. (a) Elaborate the web conference tools.

Or

(b) Discuss the Groupware and Wikis.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the computing services with example.

17. Briefly explains the architecture of IBM Smart Cloud with a neat architectural diagram.

18. Elaborate the Cloud Computing for Co-operation with one real time Example.

19. Explain the storing and collaborating on databases with Microsoft Azure.

20. Summarize the Conference tools and communications tools.

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S–3029

Sub. Code
23MCI2S1

M.Sc. (CS & IT) DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science and Information Technology

WEB TECHNOLOGIES

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define HTML.
2. Demonstrate simple program for adding images using <img> tag.
3. Define Sending form data to the server.
4. What is meant by inline or floating frames?
5. What is meant by Text pseudo classes?
6. Define Cascading style sheets.
7. Where to add script to your pages?
8. What are alert boxes?
9. What is Browser object?
10. List out any 5 Javascript Libraries.

Part B (5 × 5 = 25)

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

11. (a) Explain the Attribute and element with example.

Or

(b) Demonstrate the Adding images using the <img> Element.

12. (a) Explain the different types of Forms.

Or

(b) Discuss the creating links between frames.

13. (a) Illustrate the use of Cascading style sheets in web pages.

Or

(b) Explain the pseudo classes with example.

14. (a) Explain the control structure and its types.

Or

(b) Discuss the Functions given suitable example.

15. (a) Summarize the navigator object screen object.

Or

(b) Analyze the Javascript Libraries.

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Demonstrate the Video and audio to your web pages.

17. Explain the setting of default frame using <base> element.

18. Discuss the design issues.

19. Elaborate about the message box.

20. Elaborate the Concept of Forms and validations

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