S–4468

Sub. Code
23BCE1C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Computer Science

PROGRAMMING IN C

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. What are identifiers? Give example.

2. What is overflow and underflow of data?

3. What is the use of 'break' statement?

4. Write a program to get a character from the console input.

5. How will you define dynamic arrays?

6. Define String. Give examples.

7. What do you mean by chain of pointers?

8. When will you use Union? What are its merits?

9. What is a file? What are its types?

10. Write short note on: Command line arguments.

Part B (5 × 5 = 25)

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

11. (a) Briefly explain associativity in C?

Or

(b) How will you evaluate expressions in C? Explain.

12. (a) Write a C program to find the maximum of three given numbers.

Or

(b) Briefly explain about 'switch' statement. Give example.

13. (a) Write C program to check the given string is palindrome or not?

Or

(b) How will you initialize single dimensional arrays? Give examples.

14. (a) Distinguish between 'Structure' and 'Union'.

Or

(b) Write short note on: Scope visibility and lifetime of variables.

15. (a) How will you declare and initialize pointer? Explain.

Or

(b) Write short note on: Random Access File.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Discuss about various types of operators in C with suitable examples.

17. Explain in detail about various looping statements with examples.

18. Discuss about various types of string handling functions.

19. Explain about 'structure within structure'. Give example.

20. Write a C program to perform read and write operations on file with different modes.

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S–4469	Sub. Code
	23BCEA1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Computer Science

Allied: DIGITAL LOGIC FUNDAMENTALS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions

1. List the characteristics of octal number system?

2. Convert $(34.562)_8$ to Binary Number.

3. What is K-Map?

4. Mention the two laws in Absorption Law.

5. Mention the uses of Multiplexer.

6. What is Decoder in Combinational Logic?

7. List the types of Shift Registers.

8. Mention the usage of Latch.

9. What is Asynchronous Counter?

10. What is the usage of Primary Memory?

Part B (5 × 5 = 25)

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

11. (a) Write a short note on numeric and character codes.

Or

(b) Write a short note on Logic Gates with the truth table.

12. (a) State and prove the De Morgan's theorem with truth tables.

Or

(b) Write a short note on SoP and PoS with an example.

13. (a) What is encoder? Give the truth table of octal to binary encoder?

Or

(b) Write a short note on Demultiplexer with a block diagram.

14. (a) Write a short not on Shift Registers.

Or

(b) Explain in brief on the working of RS Flip-Flops.

15. (a) Write a short note on Up-Down Counters.

Or

(b) Describe the operations of Ring Counters.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write the steps involved in conversion of Octal to Hexa-decimal number system. Also elucidate the conversion using $(631050)_8=(?)_{16}$.

17. Explain in detail about the various representations of Binary Numbers.

18. Discuss in detail about the Parity Generators and Checkers.

19. Explain in detail about the working of Master-Slave Flip-Flops.

20. Write the uses of ROM and explain in detail about the various type of ROM.

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S–4470

Sub. Code
23BCE1S1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Computer Science

FUNDAMENTALS OF INFORMATION TECHNOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. What is meant by Information Technology?
2. List any four characteristics of computer.
3. What are the roles of Input devices?
4. What are the types of plotters?
5. What is Primary Memory?
6. Write the usage of Flash drives?
7. Mention the needs of software.
8. What are the advantages of system software?
9. What is meant by Functions in (OS) operating system?
10. What is Assembler?

Part B (5 × 5 = 25)

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

11. (a) Write a short note on Evolution of Computer.

Or

(b) Explain in brief about any five Applications of Computer.

12. (a) Explain briefly on voice recognition system.

Or

(b) Write a short note on the usage of scanners with its types.

13. (a) Write a short note on static and dynamic RAM.

Or

(b) Discuss the difference between primary storage and secondary storage.

14. (a) Write a brief not on the utility programs of OS.

Or

(b) Write a short note on the various types of Application software.

15. (a) Distinguish between Compiler and Interpreters.

Or

(b) Distinguish between Multiprocessing and Multitasking.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Elucidate in detail about the various Generations of Computers.

17. Explain in detail about the Impact printers and its types.

18. Discuss in detail about the retrieval methods of data storage.

19. Explain the following:

    (a) Machine language.

    (b) Assembly language.

    (c) High-level language.

20. Describe in detail about the measuring system performance.

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S–4471

Sub. Code
23BCE1FC

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Computer Science

PROBLEM SOLVING TECHNIQUES

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. List out the types of computer.
2. Define translators.
3. How to process the data?
4. What is meant by structured programming?
5. Define Repetition structure.
6. Explain logical operator.
7. Give a note on string as array of characters.
8. Create a simple program for numeric data.
9. Define recursion with an example.
10. Write a note on value and reference parameter.

Part B (5 × 5 = 25)

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

11. (a) Mention the characteristics of computer.

Or

(b) What are the good features of programming language?

12. (a) Create a simple program using arithmetic operator.

Or

(b) Write down the advantages and disadvantages of algorithm.

13. (a) Give a note on relational operator with an example.

Or

(b) Explain counter controlled loop.

14. (a) Briefly discuss array with a suitable program.

Or

(b) Create a simple program by using string data type.

15. (a) How to read a sequential file? Explain.

Or

(b) Write a C program on recursion.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Elucidate Application Software.

17. Write a detailed note on different phase in Program Development Cycle.

18. How to select structure from several alternatives? Explain.

19. Discuss in detail about two-dimensional array.

20. Illustrate types of DFD (Data Flow Diagram).

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S–4472

Sub. Code
23BCE2C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

Computer Science

OBJECT ORIENTED PROGRAMMING CONCEPTS USING C++

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions

1. List out the characteristics of OOPs.
2. Define Data Abstraction.
3. Write the syntax of Class declaration.
4. State Predefined words.
5. Mention the applications of Inheritance.
6. Delineate Subclass and Superclass.
7. Differentiate Pointer and Null Pointer.
8. Outline the concept of Virtual Functions.
9. What is meant by Function Template?
10. Name some of the Standard Library Exceptions.

Part B (5 × 5 = 25)

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

11. (a) Elucidate function overloading with example program.

Or

(b) Discriminate while and do-while statement with example.

12. (a) Discuss briefly Arrays of Objects.

Or

(b) Write a program to demonstrate friend function in C++

13. (a) Describe Overloading Unary and Binary Operators.

Or

(b) Examine the role of access specifiers in inheritance and demonstrate how they become visible in public, private and protected inheritance scenarios.

14. (a) Explain how to declare pointers an pointers to classes.

Or

(b) Enlighten the characteristics of Arrays.

15. (a) Define File. Discuss about File Stream Classes.

Or

(b) Elaborate how to declare and initializing String Objects and String Attributes.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the concepts of OOPs. Discuss Briefly.

17. Discuss the following:

    (a) Overloading Member function.

    (b) Bit Fields and Class

18. Elaborate in detail about an Operator overloading with example program.

19. Enlighten the concept of one-dimensional array with suitable example.

20. Explicate Exception Handling and its types.

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S–4473

Sub. Code
23BCEA2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Computer Science

Allied — RESOURCE MANAGEMENT TECHNIQUES

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Where is operations research used?

2. List out the five application of LPP.

3. What are the main characteristics of a transportation problem?

4. Mention the types of transportation problem.

5. What is the main objective of assignment problem?

6. What are the features of assignment problem?

7. What is sequencing in operational research?

8. Why is sequencing problem important?

9. Distinguish between PERT and CPM.

10. What are the application of PERT?

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

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

11. (a) Identify the feasible region for the following set of constraints :

$3A - 2B \geq 0$

$2A - 1B \leq 200$

$1A \leq 150$

$A, B \geq 0$

Or

(b) Does the following linear program involve infeasibility, unbounded and/or alternative optimal solutions? Explain.

Max. $4A + 8B$

S.t.

$2A + 2B \leq 10$

$-1A + 1B \geq 8$

$A, B \geq 0$

12. (a) Solve the following transportation problem for minimization (unit costs are given in rupees).

	Destination					
Origin	D_1	D_2	D_3	D_4	D_5	Supply
O_1	4	3	1	2	6	40
O_2	5	2	3	4	5	30
O_3	3	5	6	3	2	20
O_4	2	4	4	5	3	10
Demand	30	30	15	20	5	

Or

(b) A manufacturer has distribution centres at X, Y and Z. These centre have availability of 40, 20 and 40 units of the product. His retail outlets at A, B, C, D and E require 25, 10, 20, 30 and 15 units respectively. The transport cost per unit between each centre and each outlet is given below :

Retail outlets

Distribution centre	A	B	C	D	E
X	55	30	40	50	50
Y	35	30	100	45	60
Z	40	60	95	35	30

Determine the optimal distribution to minimize the cost of transportation.

13. (a) Five men are available to do five different jobs. From past records the time in hours that each man takes for each job is known and is given below.

Jobs

Men	I	II	III	IV	V
A	3	10	3	8	2
B	7	9	8	7	2
C	5	7	6	4	2
D	5	3	8	4	2
E	6	4	10	6	2

Find the assignment of men to jobs that will minimize the total time taken.

Or

(b) A manager has the problem of assigning four new machines to three production facilities. The respective profits detrived are as shown. If only one machine is assigned to a production facility, determine the optimal assignment.

Profits ('000 Rs.)

Machine	Production facility 1	2	3
A	10	10	14
B	10	11	13
C	12	10	10
D	13	12	11

14. (a) For the following travelling salesman problem, find the best route to be followed to come back to the starting point so as to minimize the distance travelled. He should not skip any destination.

From \ To	A	B	C	D	E
A	∞	4	10	14	2
B	12	∞	6	16	4
C	16	14	∞	8	14
D	24	8	12	∞	10
E	2	6	4	16	∞

Or

(b) Two jobs are to be processed through four machines, A, B, C, D with the following technological ordering.

Job 1 : A B C D

Job 2 : D B A C

Processing times are given in the following table :

	Machine			
	A	B	C	D
Job 1 :	20	40	50	10
Job 2 :	20	50	30	60

Find the minimum elapsed time for both jobs and also the idle time for both jobs.

15. (a) Consider the project of building a house - The details of the project activities are tabulated below. Draw PERT network.

Activity :	A	B	C	D	E	F	G	H	I	J	K
Immediate predecessor	–	A	–	B, C	C	G, H	D	B	F	G	E, I, J

Or

(b) Construct a project network for the following project. The project is completed when activities F and G are both complete.

Activity :	A	B	C	D	E	F	G
Immediate predecessor	–	–	A	A	C, B	C, B	D, E

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Solve the following linear program using the graphical solution procedure :

Max. $5A + 5B$

S.t.

$1A \leq 100$
$1B \leq 80$
$2A + 4B \leq 400$
$A, B \geq 0$

17. Ram enterprise has three factories located at A, B and C and supplies to three warehouse located at D, E and F. Monthly factory capacities are 10, 80 and 15 units respectively. Monthly warehouse requirements are 45, 20 and 40 units respectively. Unit transportation costs in rupees are given below.

	Warehouse		
Factory	D	E	F
A	5	1	7
B	6	4	6
C	3	2	5

Starting with NWC rule, find the optimal allotment.

18. Solve the following unbalanced assignment problem of minimizing total time for doing all the jobs.

Jobs

Operator	1	2	3	4	5
1	6	2	5	2	6
2	2	5	8	7	7
3	7	8	6	9	8
4	6	2	3	4	5
5	9	3	8	9	7
6	4	7	4	6	8

19. For the following travelling salesman problem, find the best route to be followed to come back to the starting point so as to minimize the distance travelled not skipping any destination.

To

From	A	B	C	D	E
A	–	4	7	3	4
B	4	–	6	3	4
C	7	6	–	7	5
D	3	3	7	–	7
E	4	4	5	7	–

20. A PERT network is having the following activities with their time estimates given below :

Activity	Optimistic	Most likely	Pessimistic
0-1	2 days	3.5 days	8 days
0-2	3	3.75	6
0-3	1	2.5	7
1-2	3	7.5	9
1-5	4	5.5	10
2-4	2	5	8
3-4	2	2.75	5
3-5	3	6	9
4-5	2	5	8

(a) Construct a network for the data and find the expected completion time of the project.

(b) Find the probability of completing the project 3 days a head of the expected schedule.

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S–4474

Sub. Code
23BCEA3

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Computer Science

Allied – MARKUP AND SCRIPTING LANGUAGES

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions

1. What is HTML?
2. Write any two uses of frames.
3. Define graphics.
4. What is multimedia?
5. Expand XML.
6. What is CSS?
7. What is the use of Java Script?
8. Define Array.
9. What is meant by Anchor?
10. What is the use of AJAX?

Part B (5 × 5 = 25)

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

11. (a) Write a short note on tag basics.

Or

(b) Discuss about paragraphs handing breaks.

12. (a) Illustrate Animation with suitable example.

Or

(b) Write a note on data collection with HTML forms text box.

13. (a) Discuss about adding CSS to Web Pages.

Or

(b) Explain Dynamic HTML.

14. (a) Discuss about Java script security.

Or

(b) Explain about Server Side Java Script.

15. (a) Write a note on Events and Event Handlers.

Or

(b) Discuss about AJAX based web application.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Discuss about adding comments working with texts.

17. Explain tools for building web page front page.

18. Illustrate Document Object Model (DCOM).

19. Explain client side Java Script.

20. Describe about alternatives of AJAX.

S–4476

Sub. Code
23BCE2S1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

Computer Science

OFFICE AUTOMATION

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. Give an example to close the word document.
2. Discuss about the spell checker.
3. How to use the footer in the document formatting?
4. Specify the merge option in the document formatting.
5. What are the navigating options used in the Excel sheet?
6. List the formatting options in the Excel sheet.
7. Write a note on sorting data in MS-Access.
8. Define the indexing data of MS- Access.
9. Mention the functions of viewing slides.
10. How to create a timer option in the Power Point.

Part B (5 × 5 = 25)

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

11. (a) How do editing text tools work in Word documents?

Or

(b) Write the functions of bullets in Word processing with an example.

12. (a) Give a note on numbering in the document formatting.

Or

(b) List out the tools used for paragraph alignment in document formatting.

13. (a) Discuss the arithmetic formula handling in the Excel sheet.

Or

(b) Briefly discuss the entering text and data in the Excel sheet.

14. (a) How to create data fields in the MS-Access?

Or

(b) Specify the data records in MS-Access.

15. (a) What is the understanding of slide typecasting?

Or

(b) Write down the steps to add animation effects in the PowerPoint.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a detailed note on toolbar tools used in a Word document with its diagram.

17. Explain the indentation in document formatting with its example.

18. How to create various type of charts in excel sheet? Give an example.

19. Demonstrate the designing queries in the MS-Access.

20. Create a PowerPoint by applying the special object.

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S–4477

Sub. Code
23BCE2S2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

Computer Science

INTRODUCTION TO HTML

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. What does URL stand for, and what does it refer to?
2. What is meant by Web browser and list any four well-known web browsers?
3. List any four block level text elements.
4. What is the usage of <!DOCTYPE html> declaration in HTML5?
5. What are the types of list supported by HTML?
6. What is the purpose of using the Marquee element?
7. How is Colspan attribute used in html?
8. What is meant by Frameset?
9. Write the usage of button element in HTML?
10. What is the need of field set element in HTML?

Part B (5 × 5 = 25)

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

11. (a) Explain in brief about how do web browsers work?

Or

(b) How does the internet work and who regulates the internet?

12. (a) Explain the Document structure tags of HTML with an example.

Or

(b) Explain the text formatting features available in HTML with an example.

13. (a) Explain briefly about BR and HR in HTML.

Or

(b) Write a HTML code using image to create a profile card of a school student.

14. (a) Explain briefly about Table and cell alignment in HTML with an example.

Or

(b) Discuss about Targeted links and Write a HTML code for represent Targeted links.

15. (a) Write a HTML code to create a form to get rail passenger details.

Or

(b) Write a HTML code to create a form to get movie tickets.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain in detail about the static and dynamic WebPages?

17. Discuss the Block level text elements of HTML with an example.

18. Explain in detail about the Hyperlink? And Write a HTML code for creating Hyperlink.

19. Write a HTML program to display your semester examination time table.

20. What are HTML form elements? Develop a patient registration form for doctor's appointment using HTML form elements.

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S–4478	Sub. Code
	23BCE3C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Computer Science

DATA STRUCTURE AND ALGORITHMS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. List out the areas in which data structures are applied
2. State the advantage of ADT.
3. What are the draw backs of single linked list?
4. What are the advantages of linked list?
5. Define Dequeue.
6. List applications of stack.
7. Define Height of tree.
8. Define in -order traversal.
9. State the logic of selection sort algorithm.
10. What is the output of quick sort after the 3rd iteration given the following Sequence?

    24 56 47 35 10 90 82 31

Part B (5 × 5 = 25)

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

11. (a) Differentiate linear and non-linear data structure.

Or

(b) Explain Big Oh Notation with example.

12. (a) Differentiate arrays and linked lists.

Or

(b) Show the ways in which list ADT can be implemented.

13. (a) Write an algorithm for Push and Pop operations on Stack using Linked list.

Or

(b) Compare the working principles of stack and queue data structure.

14. (a) Write insertion, deletion and searching operations on AVL tree.

Or

(b) What is a binary search tree? How do you insert an element into a binary search tree?

15. (a) Describe the algorithm to sort the following array: 77, 33, 44, 11, 88, 22, 66, 55 using Shell Sort.

Or

(b) Write algorithm for merge sort.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. What do you mean by Array? Describe the storage structure of array.

17. What is linked list? Write and explain the algorithm for create and traverse operations in single linked list with example.

18. What is Queue? Explain its operation and implement it using array.

19. Briefly explain graph traversal algorithms

20. Write an algorithm to implement Bubble sort with suitable example.

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S–4479

Sub. Code
23BCE3S1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Computer Science

WEB DESIGNING

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Outline the function of CSS in Web designing.
2. Compare HTML and XML.
3. What is padding in Box model?
4. How do you include external fonts in a webpage using CSS?
5. State the importance of ' ' and '' tags?
6. What is DHTML? Why it is importance in web designing?
7. Define instance of operator in JavaScript.
8. Write a for loop in JavaScripe that prints numbers from 1 to 5 to the console.
9. What is meant by form validation?
10. Name three built-in JavaScript objects and describe their primary use.

Part B (5 × 5 = 25)

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

11. (a) Explain the three main ways to apply CSS styles to a web page.

Or

(b) Describe the difference between inline, internal, and external CSS. Provide an example of each.

12. (a) Explain how can you set an image as a background on web pages.

Or

(b) Differentiate between "ID" and "Class" with suitable examples.

13. (a) Explain how DHTML can be used to create an interactive web page.

Or

(b) Provide a simple example of how JavaScript can be used to change the content of a web page dynamically.

14. (a) Write a JavaScript code which checks the contents entered in a forms text element. If the text entered is in the lower cases convert to upper case.

Or

(b) Write a JavaScript program to find factorial of a number.

15. (a) Discuss the concept of DOM. Explain getElementByld() method with an example.

Or

(b) Write a JavaScript function that checks if a text input field with ID username is empty and display an alert if it is.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Create a simple webpage that displays a heading, a paragraph and a button. Style the webpage using CSS to meet the following requirements :

- The heading (<h1>) should be aligned to the left and have a color of your choice.
- The paragraph (<p>) should be justified and have font size of 14 px.
- The button (<botton>) should have background color, white text and rounded corners. When the user hovers over the button, its background color should change.

17. Write the CSS code to crate a container with the following properties :

- A width of 300 px and a height of 200 px.
- A solid border of 2px.
- Padding of 10px around the content.
- A margin of 20px on all sides.
- Use box-sizing : border-box; to ensure that the padding and border are included within the width and height.

18. Develop a web application for an online analytics tool that requires real-time updates of user data displayed on the dashboard. The application uses Dynamic HTML (DHTML) to dynamically refresh parts of the page, such as User statistics and interactive charts based on user inputs and interactions Additionally, the application needs to communicate with a remote data service using Distributed Component Object Model (DCOM) to fetch and update this data. Describe how you would implement DHTML to ensure that User interactions result in immediate updates to the web page, and explain how DCOM would be utilized to retrieve data from a remote server. Discuss the JavaScript methods you would use for real-time content updates and outline the process for integrating DOOM to handle remote data interactions.

19. Build a JavaScript program to convert temperature from Celsius to Fahrenheit and vice versa.

20. Write a JavaScript function that validates a form containing fields for email and password. Ensure that the email is in the correct format and the password meets minimum length requirements. Display appropriate error messages if validation fails.

S–4480

Sub. Code
23BCE3S2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Computer Science

MULTIMEDIA SYSTEMS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define multimedia.
2. How does hypermedia differ from hypertext in multimedia?
3. What are the key considerations when making still images for multimedia projects?
4. Explain the significance of colour image file formats in multimedia design.
5. Differentiate between analog audio and digital audio.
6. List out the role of the frequency spectrum in understanding Sound?
7. What is the purpose of animation in multimedia?
8. Define digital video and explain its relevance in multimedia applications.
9. Define the hardware needs for multimedia production.
10. Define the hardware requirements necessary for successful multimedia production.

Part B (5 × 5 = 25)

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

11. (a) Explain the role of fonts and faces in multimedia design. How do they impact user experience?

Or

(b) Discuss the importance of delivering multimedia content effectively to the audience. What factors should be considered during delivery?

12. (a) Compare digital audio and MIDI audio. How are they used in multimedia applications?

Or

(b) Discuss Vaughan's Law of Multimedia Minimums. How does it impact sound design in multimedia projects?

13. (a) Explain the concept of digital audio sampling. How does the sampling rate affect the quality of digital recordings?

Or

(b) How can you avoid clipping and achieve high-quality digital audio recordings?

14. (a) Discuss the principles of animation. How do these principles contribute to creating engaging animations?

Or

(b) Describe the process of shooting and editing video for multimedia projects.

15. (a) Explain the role of authoring systems in multimedia development. How do they facilitate the creation of interactive content?

Or

(b) Discuss the challenges and considerations when working with digital video containers in multimedia projects.

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

Answer any **three** questions.

16. Describe the process of font editing and design in multimedia applications. How can font choices enhance or detract from the overall user experience?

17. When adding sound to a multimedia project, what factors should be considered to ensure an effective and engaging user experience?

18. Describe the process of editing digital audio files. What are the essential aspects to consider during audio editing for multimedia projects?

19. How can animation enhance storytelling in multimedia? Discuss the role of motion and principles in creating compelling animated content.

20. As part of a multimedia production team, what collaborative processes and tools are essential for successful project completion?

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