S–2084

Sub. Code
22BCE1C1

B.Sc. DEGREE EXAMINATION, APRIL 2024

First Semester

Computer Science

PROGRAMMING IN C

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. List the types of operators.
2. How to declare a variable as Constant?
3. Define Scanf.
4. What is goto statement?
5. Write the procedure to declare an Array.
6. List the common operations performed on strings in C.
7. Define Recursion.
8. Write syntax of Union.
9. How to declare and initialize pointers?
10. What is File?

Part B (5 × 5 = 25)

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

11. (a) Explain the types of Constants in detail.

Or

(b) Discuss about bitwise and conditional operators in detail.

12. (a) Describe about formatted output of Real numbers and Integer numbers.

Or

(b) How to switch statement differ from if statement? Explain with example.

13. (a) Write a program to print Multiplication Table in C.

Or

(b) Illustrate two-dimensiona1 array representation in C.

14. (a) Describe about functions with no arguments with example.

Or

(b) Write a note on Size Structures.

15. (a) How to access a variable through its pointers? Explain.

Or

(b) Describe about command line arguments in detail.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe in detail about Type Conversions with example.

17. Explain about For loop with example.

18. Discuss in detail about String handling functions with example.

19. Elucidate the scope and lifetime of variables in functions in detail.

20. Discuss in detail about Pointers and Structures with example.

———————

S–2085

Sub. Code
22BCEA1

U.G. DEGREE EXAMINATION, APRIL 2024

Computer Science

Allied – MS OFFICE

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. What is taskbar?
2. List the major benefits of using MS windows.
3. What are the mouse operations in MS word?
4. Write the procedure to insert header in word.
5. What is column freezing?
6. What are the different views of worksheet?
7. Define handouts.
8. Write the procedure to add graphics in presentation.
9. What is database?
10. What are the parts of access window?

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

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

11. (a) Describe the different types of menus available in windows.

Or

(b) Write the procedure to copy and move files from one drive to another

12. (a) Write short notes on toolbar and their icons.

Or

(b) Compare spellcheck and thesaurus.

13. (a) Describe various datatypes in excel.

Or

(b) Write short notes on hiding and splitting concept in MS excel.

14. (a) How can you create a new presentation in power point?

Or

(b) Discuss about slides and its different views in presentation.

15. (a) Write the steps to create table in MS access.

Or

(b) How will you use the mouse to copy the data In MS access?

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain in detail about windows accessories.

17. What are the various operations available in main menu bar in MS word? Explain.

18. Explain in detail about the procedure to format cells in excel.

19. Write the procedure to create an animated slide show.

20. Discuss the steps to create a report in MS access.

———————

S–2086	Sub. Code
	22BCE2C1

B.Sc. DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science

OBJECT ORIENTED PROGRAMMING WITH C++

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Differentiate tokens and identifiers.

2. What is manipulator?

3. Define object.

4. Why do we need constructor?

5. Write the procedure to define operator overloading.

6. Write the syntax of derived class.

7. Define virtual function.

8. Write a note on stream class.

9. Illustrate the syntax of opening and closing file.

10. Define template.

Part B (5 × 5 = 25)

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

11. (a) Illustrate the structure of C++ with suitable program.

Or

(b) Describe about expressions and its types with example.

12. (a) How to define member function using class?

Or

(b) Discuss in detail about parameterized constructor.

13. (a) Illustrate the rules for overloading operators.

Or

(b) Write a note on virtual base class.

14. (a) Write the procedure to create pointers to derived class.

Or

(b) Write shorts notes on :

(i) precision()

(ii) fill ().

15. (a) Discuss about the various file modes available in C++.

Or

(b) Describe the general format of function template with the suitable example.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a detailed note on looping statement with suitable example.

17. How to pass object as function arguments? Explain with example.

18. Write a C++ program to implement multiple inheritance?

19. Explain in detail about unformatted I/O operations with suitable example.

20. Explain in detail about file pointers and their manipulators.

———————

S–2087	Sub. Code
	22BCEA2

U.G. DEGREE EXAMINATION, APRIL 2024

Computer Science

Allied — DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Grey Code?

2. Construct the circuit diagram of AND Gate.

3. Define Quad.

4. What is even parity?

5. State the four basic cases of binary addition.

6. How to represent 2's Complement?

7. Define opcode.

8. Differentiate microprocessor and microprogram.

9. Write the features of interrupt.

10. Compare magnetic disk and magnetic tape.

Part B (5 × 5 = 25)

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

11. (a) Convert Binary number to decimal of 1101.11.

Or

(b) Write short notes on Excess 3 code.

12. (a) Draw the logic circuit for $Y = A\overline{B}C + ABC$.

Or

(b) Write short notes on multiplexer.

13. (a) Illustrate logic circuit and truth table of Full adder.

Or

(b) Subtract the following 0100 1111 – 00000101.

14. (a) Illustrate the three instructions code formats in detail.

Or

(b) Write the procedure to map from instruction code to micro instruction address.

15. (a) State the three address instruction in detail with example.

Or

(b) Write short notes on I/O interface.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain in detail about universal logic gates with circuit diagram.

17. Illustrate seven segment decoder in detail.

18. Show the binary addition of 750_{10} and 538_{10} using 16 bit numbers.

19. Explain in detail about the phases of instruction cycle.

20. Discuss in detail about stack organization with block diagram.

———————

S–2088	Sub. Code
	22BCE3C1

B.Sc. DEGREE EXAMINATION, APRIL 2024

Third Semester

Computer Science

MICROPROCESSOR AND ITS APPLICATIONS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Compare 8085 and 8086.

2. What are Macros?

3. Differentiate External vs Internal bus.

4. What is meant by multiprogramming?

5. Write a note on Direct Memory Access.

6. What are the modes of operation of 8259 Interrupt Controller?

7. Write the function of subroutine.

8. Write a note on exception.

9. Compare BEQ and BNE.

10. What is multiplexer?

Part B (5 × 5 = 25)

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

11. (a) Describe the addressing modes of 8086 with examples.

Or

(b) Explain the different instructions used for input and output operation in I/O mapped I/O mode of 8086.

12. (a) Write short notes on System Bus Structure.

Or

(b) Explain in detail about IO programming.

13. (a) Explain serial communication interface with neat diagram.

Or

(b) Discuss about Memory Interfacing in detail.

14. (a) Illustrate the structure of ARM C Compiler.

Or

(b) Describe the principle features of ARM architecture.

15. (a) Discuss the control flow instruction in ARM.

Or

(b) Write short notes barrel shifter.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain briefly about internal hardware architecture of 8086 microprocessor with a neat diagram

17. Explain the loosely coupled architecture of 8086.

18. Give the Various modes and Applications of 8254.

19. Illustrate the components of CMOS.

20. Explain in detail about five stage pipeline ARM organization.

———————

S–2089	Sub. Code
	22BCE3C2

B.Sc. DEGREE EXAMINATION, APRIL 2024

Third Semester

Computer Science

DATA STRUCTURES AND COMPUTER ALGORITHMS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. Define Axiom.
2. List the operations of Queue.
3. What is dynamic storage management?
4. Define Binary Tree.
5. Write the properties of Binary Search Tree.
6. How to represent graphs?
7. Write the features of quick sort.
8. What is Binary Search?
9. Define dynamic programming.
10. What are the traversal techniques in binary search?

Part B (5 × 5 = 25)

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

11. (a) Illustrate two dimensional array representations with neat sketch.

Or

(b) Write a note on Multiple Stacks and Queues.

12. (a) Explain singly linked list with neat sketch.

Or

(b) How to represent the binary trees? Explain.

13. (a) Write about Heapsort algorithm.

Or

(b) What are the operations performed in sets? Explain.

14. (a) Write short notes on Asymptotic notation.

Or

(b) Explain about merge sort using divide-and-conquer method.

15. (a) Write about deadlines of job sequence with example.

Or

(b) How to find minimum cost in travelling salesman problem? Explain.

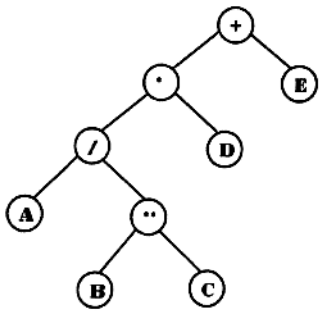
Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the stack operations in detail.

17. Show the results of binary tree traversal in below given tree:



18. Describe in detail about priority queues.

19. Explain a detailed note on Strassen's Matrix Multiplication.

20. Illustrate minimum spanning free with suitable example.

———————

S–2090	Sub. Code
	22BCEA3

U.G. DEGREE EXAMINATION, APRIL 2024

Computer Science

Allied – OPERATING SYSTEM

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Threads.
2. What is System calls?
3. Write a note on memory manager.
4. Define shared files.
5. List the conditions for deadlock.
6. Define Kernel structure.
7. How to view files in Linux?
8. What is the usage of mkdir and rm in directories?
9. Define awk programming.
10. List the various types of shell.

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

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

11. (a) Discuss in detail about Computer hardware in OS.

Or

(b) Write a note on Semaphores of interprocess communication.

12. (a) Elucidate paging and paging tables in virtual memory.

Or

(b) Discuss about file operations in detail.

13. (a) Write a note on deadlock prevention.

Or

(b) Discuss about design goals in android.

14. (a) Write the procedure to create and view files in Linux.

Or

(b) Discuss about cat command in Linux.

15. (a) How to pass parameter as arguments in shell programming? Explain.

Or

(b) Write short notes on grep, fgrep and sort commands.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the process model and process states in detail.

17. Explain the procedure to implement file system in detail.

18. Describe Banker's algorithm in detail.

19. Elucidate disk related commands in Linux.

20. Explain the mathematical commands in shell programming.

———————

S–2091	Sub. Code
	22BCE4C1

B.Sc. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Computer Science

JAVA PROGRAMMING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is JVM?
2. List the types of constants.
3. Write a note on bitwise operators.
4. What is labeled loops?
5. Illustrate class in java.
6. How to create an array?
7. List the benefits of packages.
8. Define threads.
9. Write the syntax of Applet.
10. Define Graphics Class.

Part B (5 × 5 = 25)

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

11. (a) What are the data types available in Java?

Or

(b) Illustrate the structure of Java program with example.

12. (a) Write a note on increment and decrement operators.

Or

(b) Write the Java program to find the given number is leap year or not.

13. (a) Write a program to find rectangle area using constructor method.

Or

(b) Discuss about one dimensional array with example.

14. (a) Write the procedure to create package with example.

Or

(b) How to stop and block a thread? Explain.

15. (a) How to build code in an applet? Explain.

Or

(b) Explain in detail about life cycle of applet.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. How to implement Java program? Explain with example.

17. Illustrate looping statements in java with example.

18. Explain about interfaces with example.

19. Illustrate the life cycle of thread in detail.

20. How to use the control loops in applets? Explain with example.

———————

S–2092	Sub. Code
	22BCE4C2

B.Sc. DEGREE EXAMINATION, APRIL 2024.

Fourth Semester

Computer Science

OPERATING SYSTEM

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. When catch concurrency occur?
2. List the device manipulation commands in Unix.
3. What is context switch?
4. Compare preemptive kernel and non-preemptive kernel.
5. Differentiate soft affinity and hard affinity.
6. What is starvation?
7. Compare first fit, best fit and worst fit.
8. What is thrashing?
9. Define data stripping.
10. Compare tmpfs and objfs.

Part B (5 × 5 = 25)

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

11. (a) Write short notes on catching.

Or

(b) What are the services available in OS? Explain.

12. (a) What are the operators available in processes?

Or

(b) Write short notes on mutex locks.

13. (a) Discuss the approaches available in multiprocessor scheduling.

Or

(b) What are the strategies to recover from deadlock?

14. (a) Discuss in detail about fragmentation.

Or

(b) Write short notes on buddy system.

15. (a) Describe about C-SCAN scheduling.

Or

(b) Write short notes on storage structure.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Discuss in detail about system calls and its types.

17. Explain in detail about the usage and implementation of semaphores.

18. Write a detailed note on deadlock prevention.

19. Explain in detail about optimal page replacement algorithm with suitable example.

20. Describe about file access methods.

———————

S–2093	Sub. Code
	22BCEA4

U.G. DEGREE EXAMINATION, APRIL 2024

Computer Science

Allied — INTERNET AND WEB DESIGN

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Compare gateway and bridge.

2. What is intranet?

3. How to define CSS?

4. Write the procedure to create image map.

5. Compare checkbox and option button.

6. What is cell padding?

7. List the advantage of Javascript.

8. Write a note on break statement.

9. List the event mouse.

10. Write a note on anchor.

Part B (5 × 5 = 25)

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

11. (a) Write short notes on uniform resource locator.

Or

(b) Illustrate the features of HTTP protocol.

12. (a) Write short notes on HTML5 semantic tags.

Or

(b) How to create navigational aids? Explain.

13. (a) Write the procedure to create list in HTML5.

Or

(b) Illustrate user form creation in HTML5.

14. (a) What are the conditional statements available in Javascript?

Or

(b) Write any three string functions in Javascript with example.

15. (a) Write a note on onsubmit( ) and onload( ) events.

Or

(b) Discuss about document and layer in detail.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain in detail about domain name server with neat sketch.

17. How to position and format division in HTML5? Explain in detail.

18. Explain in detail the incorporation procedure of audio and video in HTML5.

19. How do you create an user defined function? Explain with example.

20. Explain in detail about mouse event handlers with example.

———————