

F-4614

Sub. Code

7BCE6C1

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Sixth Semester

Computer Science

COMPUTER NETWORKS

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Explain the terms reliability and security with respect to computer networks.
2. Define protocol and list any two protocols.
3. What is the significance of twisting in twisted pair cable?
4. What is data rate?
5. Why does the data link protocol always put the CRC in a trailer rather than in a header?
6. What are the responsibilities of data link layer in internet model?
7. What are the different types of routing?
8. What is a datagram?

9. List any four factors necessary for a secure network.
10. Differentiate symmetric and asymmetric key cryptography.

Part B (5 × 5 = 25)

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

11. (a) Explain the different categories of networks.

Or

- (b) List and explain briefly the network hardware components.

12. (a) Explain mobile telephone system briefly.

Or

- (b) Explain wireless transmission media in detail.

13. (a) Explain FDMA in detail.

Or

- (b) Explain the types of errors and their detection mechanisms briefly.

14. (a) Explain addressing in detail.

Or

- (b) Explain transport services briefly.

15. (a) Explain how Electronic mails are send and received

Or

- (b) List and explain the functionalities provided in the application layer.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain OSI reference model.
 17. Explain various types of guided transmission media.
 18. Explain Channel allocation problem in detail.
 19. Explain Routing algorithms in detail.
 20. Explain Public key algorithms in detail.
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Sub. Code

7BCE6C2

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Sixth Semester

Computer Science

COMPUTER GRAPHICS

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is vector display?
2. What is a pixel?
3. What is display file interpreter?
4. What is meant by line style?
5. What is inverse transformation?
6. What are the matrices used for scaling transformation?
7. What is segment visibility?
8. Define windowing.
9. What is raster display?
10. What is echoing?

Part B

(5 × 5 = 25)

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

11. (a) Describe antialiasing of lines.

Or

- (b) Explain the distance between a point and line.

12. (a) Discuss the features of display devices and display files.

Or

- (b) Describe the polygon representation.

13. (a) Explain rotation and translation.

Or

- (b) Discuss raster scan techniques.

14. (a) Explain line clipping algorithm.

Or

- (b) Describe multiple windowing.

15. (a) Explain the characteristics of sampled devices.

Or

- (b) Describe the simulation of a locator.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. (a) Describe the methods for character generation.

- (b) Explain the attributes of line segments.

17. Explain the polygon filling algorithms.

18. Explain the structure of segment table and the operations on segments.
 19. Explain Sutherland-Hodgman algorithm.
 20. Describe the salient features of input devices and explain event handling.
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Sub. Code

7BCE6C3

**B.Sc DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Sixth Semester

Computer Science

SOFTWARE ENGINEERING

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. How you will define a problem?
2. What are the factors to consider in setting Project goals?
3. What are the major factors that influence software cost?
4. What are the development effort multipliers are available for software reliability.
5. What is meant by cohesion and coupling.
6. What are the uses of decision table?
7. What is meant by validation?
8. Define : System Testing.
9. What is meant by source code metric?
10. What is meant by configuration management?

Part B

(5 × 5 = 25)

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

11. (a) Explain about the phased Life-cycle model in detail.

Or

- (b) Explain the content of an architectural design specification.

12. (a) Explain about the staffing - level estimation of cost.

Or

- (b) Explain the format of a software requirements specification.

13. (a) Describe about integrated top down development.

Or

- (b) Describe about Jackson structured programming in detail.

14. (a) Explain about the coding style in detail.

Or

- (b) Explain about unit testing.

15. (a) Explain the software maintenance techniques.

Or

- (b) Explain about the managerial aspects of software engineering.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain the Characteristics of software requirements specification document in detail.
17. Describe about the requirements analysis in software engineering.
18. Describe the design guidelines in software design.
19. Explain the levels of software testing.
20. Explain the necessity of software maintenance.

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Sub. Code

7BCEE3A

**B.Sc DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Sixth Semester

Computer Science

Elective – VB .NET AND ASP.NET PROGRAMMING

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. How will you define a variable in VB.NET?
2. Write the syntax of IF....ELSE format in VB.NET.
3. How will you create combo boxes in VB.NET?
4. How will you create Status and progress bar?
5. Define: Inheritance.
6. Write the syntax for create a class.
7. Write the syntax of `import` directive in ASP.NET.
8. Draft the `global-asax` application file.
9. Write the syntax for creating connection object.
10. Write the syntax for SQL insert in ADO.NET.

Part B

(5 × 5 = 25)

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

11. (a) Write the syntax for functions in VB.NET to find the factorial of a number.

Or

- (b) Explain the VB IDE in detail.

12. (a) Explain how you will create Input box and msg box. Write a sample program.

Or

- (b) Explain how Tooltips are created in VB.NET.

13. (a) Create a class for students information.

Or

- (b) Explain about the directory class.

14. (a) Describe the compare and range validator.

Or

- (b) Describe the dropdown list and listbox controls.

15. (a) Describe the ADO.NET object model.

Or

- (b) Explain with syntax of Executescalar() method.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the structured Exception Handling.
17. Explain how scroll bars and timers are created in VB.NET.

18. Explain with example Graphics class.
 19. Explain the Repeater and Data list Controls.
 20. Describe the single value Data binding.
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Sub. Code

7BCEE3B

**B.Sc DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations
Sixth Semester
Computer Science**

**ELECTIVE— PROGRAMMING WITH LINUX, APACHE,
MYSQL AND PHP (LAMP)
(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is apache?
2. What are the rules followed for PHP variables.
3. How will you create a user defined function in PHP?
4. What are the types of arrays present in PHP?
5. How will you create cookies with PHP?
6. How will you start a PHP session?
7. How will you open a file in PHP?
8. How will you create a image in PHP?
9. How PHP connect to MySQL.
10. Write the string functions used in MySQL.

Part B

(5 × 5 = 25)

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

11. (a) Write the basic syntax for a simple PHP file.

Or

- (b) Explain the for loop statement of PHP.

12. (a) Explain the syntax of PHP class.

Or

- (b) How will you access the cookies with PHP.

13. (a) Explain about the date and time function in PHP.

Or

- (b) How will you starting a PHP session?

14. (a) Explain how you will read and write a file in PHP.

Or

- (b) How you will draw a new image in PHP.

15. (a) Explain how a table is created in MySQL.

Or

- (b) Explain with syntax of replace and delete commands in MySQL.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write the steps for configure the Apache web server.
17. Explain with syntax PHP functions– Returning values.
18. Explain about sending mail on form submission.

19. Explain about the using images created by scripts.
 20. Explain the stored procedures in MySQL.
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7BCE1C1

B.Sc. DEGREE EXAMINATION, APRIL 2021 &

Supplementary / Improvement / Arrear Examinations

First Semester

Computer Science

PROGRAMMING IN C

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define the term variable and constant.
2. What are bitwise operators?
3. Write the purpose of putchar function.
4. What will happen if break statement is not used in switch case in C?
5. List out the features of arrays.
6. Define string.
7. What is the need for functions?
8. How to declare a member in a structure?
9. What is pointer?
10. Write the functions for random access file processing.

Part B

(5 × 5 = 25)

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

11. (a) What are keywords? List the rules for naming a variable in C.

Or

- (b) Write a note on type conversion in expression.

12. (a) Write a program to find the sum of numbers from 1 to N.

Or

- (b) Explain the use of printf and scanf functions with all formatting facilities.

13. (a) Discuss how to initialize a one dimensional and two dimensional arrays with suitable example.

Or

- (b) Write a program to check whether a given string is palindrome or not.

14. (a) Explain the steps in writing a function in C program with example.

Or

- (b) Explain the concept of union with example.

15. (a) Write a short note on declaring and initializing pointers.

Or

- (b) Discuss on file modes.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write a detailed note on data types in C with example.
 17. Discuss on control structure with example.
 18. Write a program to multiply two matrices.
 19. Explain the concept of pass by value and pass by reference. Write a C program to swap the content of two variables using pass by reference.
 20. Describe command line arguments with example C program.
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7BCE2C1

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
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Second Semester

Computer Science

OBJECT ORIENTED PROGRAMMING WITH C++

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Write the applications of C++.
2. Define Encapsulation and Data hiding.
3. What are the applications of inline function?
4. Define parameterized constructor.
5. What are the uses of function overloading?
6. List out the uses of inheritance.
7. Define 'this' pointer.
8. List some predefined streams.
9. Write the use of functions malloc() and free()
10. What is Function Template?

Part B

(5 × 5 = 25)

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

11. (a) Explain the basic concepts of object oriented programming.

Or

- (b) Discuss the control structures in C++.

12. (a) Write a C++ program using inline function.

Or

- (b) Write a program using nested member functions.

13. (a) What is function overloading? Give example.

Or

- (b) What are constructors? How are they different from member functions?

14. (a) Explain virtual function and pure virtual function in detail.

Or

- (b) Discuss C++ stream classes with example.

15. (a) Explain any five operations related to file.

Or

- (b) Discuss file pointers and their manipulations.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the characteristics of object oriented programming.
17. Write a C++ program to implement complex number addition and multiplication.
18. Explain different types of inheritance with block diagram and give an example for each inheritance.
19. Explain the use of constant pointers and pointers to constant with an example.
20. Define function template. Write a C++ program to implement array representation of a stack for integers, characters and floating point numbers using class template.

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7BCE3C1

B.Sc. DEGREE EXAMINATION, APRIL 2021 &

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Third Semester

Computer Science

DATA STRUCTURES AND COMPUTER ALGORITHMS

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Give examples for linear and non-linear data structures.
2. List benefits and drawbacks of linked list.
3. Draw a stack and show the elements in the stack after executing the following set of instructions.

PUSH A

PUSH B

POP B

PUSH C

PUSH D

POP D

4. What operations can be performed on a queue data structure?
5. State the different binary tree traversal techniques.

6. State any two applications of trees.
7. Define space and time complexity.
8. Differentiate Linear and Binary search.
9. State the objective function and constraints involved in job sequencing with deadlines problem.
10. For the following adjacency matrix draw the graph.

$$\begin{pmatrix} 0 & 1 & 0 \\ 1 & 0 & 1 \\ 0 & 0 & 0 \end{pmatrix}$$

Part B

(5 × 5 = 25)

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

11. (a) Explain the operations that can be performed on an array.

Or

- (b) Explain with example how insertion can be performed on a circular linked list under the following three conditions.
 - (i) Element is to be inserted at the beginning
 - (ii) Element is to be inserted before a particular element
 - (iii) Element is to be inserted at the end.
12. (a) Explain how recursion can be implemented using stacks with an example.

Or

- (b) Explain how insertion and deletion can be performed in a circular queue.

13. (a) Explain the following terms with respect to trees:
Complete tree, height of a tree and skewed tree.

Or

- (b) Construct a complete binary tree from given array
in level order fashion.

1, 2, 3, 4, 5, 6

Find the height and level of the constructed tree.
Perform inorder traversal on the constructed tree.

14. (a) Perform merge sort on the following set of numbers.
Provide stepwise explanation.

23, 34, 45, 12, 67, 98, 11, 100, 120, 29

Or

- (b) Explain how maximum and minimum elements are
found in an array with suitable example.

15. (a) Solve the following instance of the knapsack
problem by greedy approach with $W = 16$. Explain
it.

Item	Weight	Profit
1	10	100
2	7	63
3	8	56
4	4	12

Or

- (b) Explain all pairs shortest path algorithm with an
example.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an algorithm to search a number and count the number of nodes in singly linked list.
17. Explain how stacks and queues can be implemented using arrays and linked list.
18. Explain threaded trees and expression trees with suitable examples.
19. Explain the general method of Divide and Conquer technique. Also explain how quick sort is performed using Divide and Conquer technique.
20. Explain finding the minimum cost spanning tree using Prim's algorithm.

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7BCE4C1

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
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Fourth Semester

Computer Science

JAVA PROGRAMMING

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Tokens.
2. What is meant by Constants?
3. Define Relational Operator.
4. Write the Syntax for Nested of If.
5. Define Class.
6. How to create an Array?
7. Define Packages.
8. What are the types of Errors?
9. Define Applet.
10. How to draw an Arcs using Graphics Programming?

Part B

(5 × 5 = 25)

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

11. (a) Write short notes on Java Features.

Or

- (b) Explain Type Casting.

12. (a) Discuss about Special Operators in Java.

Or

- (b) Explain about Mathematical Function and its significance.

13. (a) How to Access a Class Members in Java.

Or

- (b) Discuss about Abstract methods and Classes.

14. (a) Explain Naming Conventions, in Java.

Or

- (b) Explain about Multiple Catch statements.

15. (a) Explain about Applet Life Cycle.

Or

- (b) Describe Graphic Class.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Briefly discuss about Java Support Systems and their Environment.
17. Give a Brief explanation about Decision making and branching with suitable example.
18. Describe Multiple Inheritances with example.
19. Illustrate how to Manage Errors and Exceptions in Java.
20. Briefly discuss about how to design a Web Page using Applet Programming.

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7BCE5C1

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
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Fifth Semester

Computer Science

OPERATING SYSTEM

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all the** questions.

1. What is meant by Batch Systems?
2. Define process control block.
3. What do you mean by Critical section problem.
4. Define 'Safe State'.
5. Define critical section
6. What is resource-allocation graph?
7. What is translation lookaside buffer (TLB)?
8. What are Pages and Frames?
9. What do you mean by First Fit?
10. What are the advantages of Linked Allocation?

Part B

(5 × 5 = 25)

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

11. (a) Distinguish between batch systems and time sharing systems.

Or

- (b) How message passing is carried out in inter process communication?

12. (a) Explain Peterson's solution for achieving mutual exclusion.

Or

- (b) Discuss the hardware solutions to the mutual exclusion problem.

13. (a) Write the conditions for deadlock. Explain deadlock detection and recovery in detail.

Or

- (b) Explain the following process scheduling algorithm
(i) Priority scheduling.
(ii) Shortest job first scheduling.

14. (a) What are the steps required to handle a page fault in demand paging?

Or

- (b) Free memory holes of sizes 15K, 10K, 5K, 25K, 30K, 40K are available. The processes of size 12K, 2K, 25K, 20K is to be allocated. How processes are placed in first fit, best fit, worst fit. Calculate internal as well as external fragmentation.

15. (a) Explain file system implementation using linked list.

Or

- (b) Discuss free space management in detail.

Part C

(3 × 10 = 30)

Answer any **three** questions.

- 16. Explain operating system functions and services in detail.
- 17. What is monitor? Explain solution for producer-consumer problem using monitor.
- 18. Consider the following snapshot.

	Allocated				Max				Available			
	A	B	C	D	A	B	C	D	A	B	C	D
P1	0	0	1	2	0	0	1	2	1	5	2	0
P2	1	0	0	0	1	7	5	0				
P3	1	3	5	4	2	3	5	6				
P4	0	6	3	2	0	6	5	2				
P5	0	0	1	4	0	6	5	6				

Answer the following questions using banker's algorithm:

- (a) What are contents of matrix end?
 - (b) Is the system in safe state?
 - (c) If request for process P2 arrives for (0, 4, 2, 0) Can the request be granted immediately?
- 19. Calculate page faults for (LRU, FIFO, OPT) for following sequences, 1,2,1,4,2,3,7,2,1,3,5,1,2,5, where page frame is three.
 - 20. Suppose the head of a moving- head disk with 200 tracks, numbered 0 to 199, is currently serving a request at track 143 and has just finished a request at track 125. If the queue of requests is kept in FIFO order: 86, 147, 91, 177, 94, 150, 102, 175, 130. What is the total head movement to satisfy these requests for the following Disk scheduling algorithms. (a)FCFS (b) Look (c) SCAN (d) C- SCAN (e) SSTF.

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7BCE5C2

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary / Improvement/ Arrear Examinations
Fifth Semester
Computer Science**

RELATIONAL DATABASE MANAGEMENT SYSTEMS

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Database management system.
2. What are different types of database users?
3. What is meant by atomic domain?
4. What are the features of good relational design?
5. What is the advantage of centralized architecture?
6. What is meant by Homogeneous database system?
7. What is sequence?
8. Define synonyms.
9. What is the structure of PL/SQL program?
10. Define Transaction.

Part B

(5 × 5 = 25)

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

11. (a) Explain components of E-R diagram with an example.

Or

- (b) What are E-R design issues?

12. (a) What is the purpose of functional dependency? Explain with an example.

Or

- (b) Write short notes on modeling temporal data.

13. (a) Write briefly about distributed data storage.

Or

- (b) Write briefly about distributed query processing.

14. (a) How to create and maintain a table?

Or

- (b) What are the purposes of Roles?

15. (a) Explain Trigger with an example.

Or

- (b) Explain function with an example.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain purpose of Database system.
 17. Discuss BCNF and Third Normal form.
 18. Discuss about Interquery and Intraquery parallelism.
 19. Explain about data integrity.
 20. Explain cursor with a PL/SQL program.
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Sub. Code

7BCEE1A

B.Sc. DEGREE EXAMINATION, APRIL 2021 &

Supplementary / Improvement / Arrear Examinations

Fifth Semester

Computer Science

Elective – DATA MINING AND DATA WAREHOUSING

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is data warehouse?
2. Why we have a separate data warehouse?
3. How are organizations using the information from data warehouse?
4. State the importance of Tuning Queries.
5. What is multidimensional data model?
6. Why preprocess the data?
7. What is OLAP?
8. Why are decision tree classifiers so popular?
9. How does classification differ from prediction?
10. What is multi level association rule mining?

Part B

(5 × 5 = 25)

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

11. (a) Describe about the data mining steps in the process of knowledge discovery.

Or

- (b) Discuss the typical process flow within a DWH.

12. (a) Elucidate the importance of Process and Load managers.

Or

- (b) Confer the tools to manage a data warehouse.

13. (a) Explain how Data warehouses differ from Operational Database Systems?

Or

- (b) Draw the architecture of a Typical Data Mining System.

14. (a) Describe the execution principle of DSS.

Or

- (b) Explain the types of OLAP servers with suitable diagrams. List its merits and drawbacks.

15. (a) Discuss how association rule mining on multidimensional data cubes could be performed.

Or

- (b) Discuss in detail about the kinds of patterns can be mined.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain the working principle of Query Management Process.
17. Discuss “Tuning the DWH” with an example.
18. Discuss about the major issues in Datamining.
19. Describe in detail about the basic algorithm of decision tree induction.
20. Generate association rules and calculate its confidence value for the frequent itemset {2, 3, 5} of the following transactional database and find out the strong rules of the above itemset where its minimum confidence threshold value is 67%.

TID	List of item-IDs
T100	1,3,4
T200	2, 3, 5
T300	1, 2, 3, 5
T400	2, 5

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7BCEE1B

**B.Sc. DEGREE EXAMINATION, APRIL 2021 &
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Fifth Semester

Computer Science

Elective – WEB DESIGN

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define common tags in short.
2. What is Void element?
3. Define Inline Style.
4. Write the uses of Padding Properties.
5. Define Condition operator.
6. Write down the uses of Break statement.
7. Define Recursion Function.
8. What is the use of Slice method of string object.
9. Define DOM.
10. State Event.

Part B

(5 × 5 = 25)

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

11. (a) Discuss about using Images as Hyperlinks.

Or

- (b) Explain Nested list with an example.

12. (a) Describe Positioning Element.

Or

- (b) Explain how to Create Dropdown Menus.

13. (a) Explain While Structure in brief.

Or

- (b) Discuss **for Statement** with an example.

14. (a) Discuss Scope Rules in brief.

Or

- (b) Explain Boolean and Number Objects.

15. (a) Explain Dynamic Styles.

Or

- (b) Discuss about Form processing with **onfocus** and **onblur**.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Discuss in detail about Forms.
 17. Explain Embedded Style Sheets in detail.
 18. Discuss about Logical Operators.
 19. Explain Sorting Arrays in detail.
 20. Discuss in detail about W3C XML schema documents.
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Sub. Code

7BCEE2A

B.Sc. DEGREE EXAMINATION, APRIL 2021 &

Supplementary/Improvement/Arrear Examinations

Fifth Semester

Computer Science

**Elective : DIGITAL PRINCIPLES AND COMPUTER
ORGANIZATION**

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Represent the decimal number 72 in Excess-3 Code
2. Expand ASCII. What is the ASCII value of 'D'?
3. Denote Demorgans law
4. Give an example for Associative Law.
5. Represent the Octal number 36 in 1's complement and 2's complement.
6. How do you subtract a number in 2's complement?
7. What is a Bus?
8. Define micro programmed control unit.

9. What is binary micro program?
10. What is an Instruction?

Part B (5 × 5 = 25)

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

11. (a) Convert the decimal number 44 into its equivalent gray code.

Or

- (b) Write the truth table and logical symbol of NOT and NAND gate

12. (a) Define Octets and Quads in Karnaugh Map

Or

- (b) Explain the working of 1:4 demultiplexer with logical circuit and truth table

13. (a) What is 2's complement of numbers? Represent the decimal number 62 in 2's complement

Or

- (b) Discuss on binary addition and subtraction with examples.

14. (a) Write a short notes on Control Memory Organization

Or

- (b) Write a short notes on Register reference Instructions

15. (a) Write a brief note on Memory hierarchy

Or

- (b) Write a note on General Register Organization

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Construct the NOR gate and NOT gate using NAND and NOR
 17. Briefly discuss on Multiplexer and Demultiplexer
 18. Subtract $(11111)_2 - (1001)_2$ using 1's complement and 2's complement method
 19. Explain about Instruction cycle in detail.
 20. Explain in detail about RISC with its characteristics.
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F-5068

Sub. Code

7BCEA3

**U.G. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations
Computer Science
Allied – PROGRAMMING IN C
(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 60 Marks

Part A

(10 × 1½ = 15)

Answer **all** questions.

1. What are C tokens?
2. Define logical operators.
3. Give the difference between scanf() and gets() function.
4. Compare break and continue statement.
5. Give an example of initialization of string array.
6. Define null character.
7. List the elements of user defined function.
8. What is union?
9. How to access variable through its pointer?
10. Why files are needed?

Part B

(5 × 3 = 15)

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

11. (a) Write the structure of C program.

Or

- (b) Write a program to multiply and divide the given two numbers.

12. (a) Write the syntax for else if ladder with example.

Or

- (b) Compare while and do..while statement.

13. (a) What is dynamic? How it is initialized?

Or

- (b) Write a program to find whether a given string is palindrome or not.

14. (a) What is call by value and call by reference? Explain.

Or

- (b) Discuss about structures with example.

15. (a) Write a short note on pointers arithmetic.

Or

- (b) Give a note on command line argument.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe about arithmetic expression and its evaluation.
 17. Explain switch statement with example.
 18. List and explain string handling functions.
 19. Explain various categories of arguments and return types of functions.
 20. Discuss on Error handling during I/O operations.
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F-5069

Sub. Code

7BCEA4

**U.G. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Computer Science

Allied – PROGRAMMING IN C++

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 60 Marks

Part A

(10 × 1.5 = 15)

Answer **all** questions.

1. What is identifier?
2. What are Basic Data types?
3. How is memory allocated for static members?
4. Define constructor.
5. What is Operator overloading?
6. What are the operators can not be overloaded?
7. What is 'this' pointer?
8. What is virtual function?
9. What are different file modes?
10. What is sequential file?

Part B

(5 × 3 = 15)

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

11. (a) Write short notes on software Evolution.

Or

- (b) Explain structure of a C++ program.

12. (a) What is constant member function?

Or

- (b) Write short notes on copy constructor.

13. (a) Write a program segment that overloads ++ operator.

Or

- (b) How to make a private member inheritable?

14. (a) Explain C++ input stream class.

Or

- (b) Write notes on unformatted I/O operation.

15. (a) Write statements for opening and closing files.

Or

- (b) Write short notes on command-line argument.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain Basic concepts of OOP.

17. Explain about static Data member and static member functions with an example.

18. Explain single and multi level in heritance.
 19. Explain pure virtual function with an example.
 20. Write a C++ program to create a sequential file.
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F-5186

Sub. Code

7BCEA2

U.G. DEGREE EXAMINATION, APRIL 2021 &

Supplementary/Improvement/Arrear Examinations

Computer Science

Allied – COMPUTER ORGANIZATION

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 60 Marks

Part A

(10 × 1.5 = 15)

Answer **all** questions.

1. Convert decimal 88 to octal.
2. What is octal number system?
3. Give an example for Distributive law
4. Give an example for Associative law
5. Represent the decimal number 328 in 2's complement.
6. How do you subtract a number in 1 'complement?
7. What is Hardwired Control Unit?
8. Define Control word.
9. What are the four types of Instruction formats?
10. Expand CPU.

Part B

(5 × 3 = 15)

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

11. (a) Write the truth table and logical symbol of NOR gate.

Or

- (b) Write the truth table and logical symbol of NAND gate.

12. (a) Define Sum of Products method.

Or

- (b) List any 5 Boolean algebra functions

13. (a) What is 2's complement of numbers?

Or

- (b) Perform the Addition of 1101 and 1111 using 1 complement

14. (a) Write a short notes on Micro Program.

Or

- (b) Write down the steps in Instruction cycle.

15. (a) Write a brief note on One address instructions.

Or

- (b) Write a note on Implied Addressing Mode.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Construct the OR gate using NAND and NOR
17. List the applications of multiplexer.

18. Subtract $(11111)_2 - (1101)_2$ using 1's complement and 2's complement method.
 19. Explain Symbolic Microinstruction.
 20. Explain different addressing modes with an example.
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