

<b>F-2627</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCE1C1</b>
----------------

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

**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. How to define symbolic constants?
2. What is key word? Define identifier.
3. How to read and write a character in 'C'?
4. What is formatted output?
5. How to declare one dimensional array in 'C'?
6. What is multi dimensional array?
7. What is prototype?
8. Define recursion.
9. How to access a variable through pointers?
10. What is file pointer?

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

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

11. (a) Explain data types supported by 'C'.

Or

- (b) Explain conditional and bitwise operators in 'C'.

12. (a) Explain about formatted output with suitable example.

Or

- (b) Explain it...else if structure with suitable example.

13. (a) Explain about dynamic array.

Or

- (b) Explain any five string functions.

14. (a) Explain scope and visibility of a variable.

Or

- (b) Compare structure and union.

15. (a) Write a function in 'C' to swap two numbers using pointers.

Or

- (b) Explain any five file operators.

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

Answer any **three** questions.

16. Explain operator precedence and Associativity.
17. Explain rules for coding for...loops with suitable example.

18. Write a 'C' program to average given 10 names in alphabetical order.
  19. Explain user-defined functions? What is passing argument by value and by reference?
  20. Write a 'C' program to create student file certain name, register number, mark1 mark2 and mark3
-

<b>F-2628</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCE2C1</b>
----------------

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

**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. What is function prototyping?
2. What is derived data type?
3. Define static data member.
4. Define destructor.
5. What is operator overloading?
6. What is protected member?
7. What is the purpose of 'this' keyword?
8. What is stream class?
9. What are different modes of opening a file?
10. What is file pointer?

**Part B**

(5 × 5 = 25)

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

11. (a) Explain software evolution.

Or

- (b) Explain applications of object oriented programming.

12. (a) Explain Nested member function with an example.

Or

- (b) Explain memory allocation of objects.

13. (a) Explain single inheritance with an example.

Or

- (b) Explain about nested classes with an example.

14. (a) Explain about pointed to derived class.

Or

- (b) Write short notes stream classes.

15. (a) Explain function template with an example.

Or

- (b) Explain class template with an example.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Explain benefits of objects oriented programming.
  17. Write a C++ program to illustrate copy constructor.
  18. Write a C++ program to overload binary + operator.
  19. Explain pure virtual function with an example.
  20. Write a C++ program to declare the results of an Examination. The required data are available in stud. dat file.
-

<b>F-2629</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCE3C1</b>
----------------

**B.Sc DEGREE EXAMINATION, NOVEMBER 2019**

**Third Semester**

**Computer Science**

**DATA STRUCTURE AND COMPUTER ALGORITHMS**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define Array.
2. Define Linked List.
3. What is the limitation of linear queue?
4. What is ADT stack?
5. Define Binary Tree, Degree of a node and Degree of a tree
6. What is expression tree?
7. What is algorithm?
8. What is the principle used in Divide and conquer?
9. What is solution for optimal storage on tapes?
10. What is Dynamic problem?

**Part B** $(5 \times 5 = 25)$ Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the need for Data structure

Or

- (b) Explain the insertion and deletion operation in Array

12. (a) Explain the Push and pop operations on stack.

Or

- (b) Explain any one application of stack.

13. (a) Explain about Threaded binary Trees.

Or

- (b) Explain Tree Traversals.

14. (a) Explain the procedure for finding maximum and minimum

Or

- (b) Sort the following numbers using quick sort.

5    2    20    7    10

15. (a) Explain kruskal Algorithm

Or

- (b) Explain All pairs shortest path procedure.

**Part C** $(3 \times 10 = 30)$ Answer any **three** questions

16. Explain the operations of insertion and Deletion of doubly linked list.

17. Explain dequeue and enqueue operations on linear queue and circular queue



18. How are tree represented in memory? Explain any one application of trees.
  19. Explain merge sort Algorithm with an example.
  20. How are graphs represented in memory? Explain depth first Algorithm.
-

<b>F-2630</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCE4C1</b>
----------------

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

**Fourth Semester**

**Computer Science**

**JAVA PROGRAMMING**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What are Web Browsers?
2. How are command line arguments handled in Java?
3. How are Arithmetic expressions evaluated?
4. What is conditional operator?
5. What is the purpose of keyword 'final'?
6. What is interface?
7. What is a package?
8. What is thread priority?
9. What is the use of keyword 'throws'?
10. How do pass parameters to the applet?

**Part B****(5 × 5 = 25)**Answer **all** questions, choosing either (a) or (b).

11. (a) Explain features of Java.

Or

- (b) How is Type casting done in Java?

12. (a) Explain bitwise operators with suitable example.

Or

- (b) Compare if .. else if with switch statement.

13. (a) Write a Java program to illustrate method overloading.

Or

- (b) What is abstract class? Explain.

14. (a) Write a Java program to illustrate Divide by zero exception.

Or

- (b) Explain syntax of exception handling code.

15. (a) Write a Java program to line and Rectangle for the given co-ordinates.

Or

- (b) How to use control loops in Applets?

**Part C****(3 × 10 = 30)**Answer any **three** questions.

16. Explain about Java environment and JVM.
17. Write a Java program to sort Ten numbers in ascending order.

18. Explain multiple inheritance in Java.
  19. Explain Thread life cycle with suitable example.
  20. Explain Applet life cycle with suitable example.
-

<b>F-2631</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCE5C1</b>
----------------

**B.Sc DEGREE EXAMINATION, NOVEMBER 2019**

**Fifth Semester**

**Computer Science**

**OPERATING SYSTEM**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define operating system.
2. What is process control Block?
3. What is mutual exclusion?
4. What is critical section?
5. What are different levels of scheduling?
6. What is Non Preemptive scheduling?
7. What is contiguous memory allocation?
8. Define multi programming.
9. Define file system.
10. What is Data Hierarchy?

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

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

11. (a) Discuss process states.

Or

- (b) What are the goals of operating system?

12. (a) Explain software solution to the mutual exclusion problem.

Or

- (b) Explain concurrent programming.

13. (a) Write short notes on deadlock recovery.

Or

- (b) Explain any two processor scheduling Algorithms

14. (a) Explain memory management.

Or

- (b) Explain variable partition multi programming.

15. (a) Explain about file organization.

Or

- (b) Discuss free space management.

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

Answer any **three** questions.

16. Explain operating system components.

17. Explain the role of semaphores.

18. Explain Banker's Algorithm.

19. Explain page replacement strategies.
  20. Discuss disk scheduling. Explain which scheduling policy is suitable.
-

<b>F-2632</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCE5C2</b>
----------------

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

**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. What are different types of database users?
2. Define Relational Database.
3. What is First Normal form?
4. What is Function closure ( $F^+$ )?
5. What is the advantage of client-server architecture?
6. What are the types of Network?
7. What is the command to create a table?
8. Define Index.
9. Define Transaction.
10. What is the structure of a PL/SOL program?



**Part B**

(5 × 5 = 25)

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

11. (a) Explain Different views of Data.

Or

- (b) Explain Aggregation in E-R model.

12. (a) Explain functional dependency with suitable example.

Or

- (b) Explain BCNF.

13. (a) Explain Distributed Transactions.

Or

- (b) Explain Distributed query processing.

14. (a) Write short notes on data integrity.

Or

- (b) Explain user privileges with suitable examples.

15. (a) Explain stored procedure with an example.

Or

- (b) Explain cursor with suitable example.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Explain components of DBMS with a neat diagram.
17. Explain multivalued function dependency with fourth normal form.

18. Briefly discuss about parallel databases.
  19. Write short notes on maintaining tables, views and Indexes.
  20. Explain about packages.
-

<b>F-2633</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCEE1A</b>
----------------

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

**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 the purpose of Backup process?
2. What is meant by Delivery Process?
3. What is Data Warehouse?
4. What is the purpose tuning the data warehouse?
5. What is knowledge Discovery in Database?
6. What is Data mining?
7. What is OLTP?
8. What is Ruzzy Logic?
9. What is the need for association Rule?
10. Define Large Itemset.

**Part B****(5 × 5 = 25)**

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

11. (a) Explain cleaning and transforming data.

Or

- (b) Explain role of query manager in process Architecture.

12. (a) Explain Tuning the data load.

Or

- (b) What are the functions of warehouse manager?

13. (a) Explain Data mining metrics.

Or

- (b) Discuss Datamining from a Database perspective.

14. (a) Explain about Decision Support System.

Or

- (b) Explain Dimensional modeling.

15. (a) Explain increment Rules in Association Rules.

Or

- (b) Explain how to measure quality of Rules.

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

Answer any **three** questions.

16. Explain Extract and load process in system process.
  17. Discuss about Capacity Planning and Tuning in process.
  18. Discuss Social implications of Data mining.
  19. Write short notes on Neural networks and Genetic Algorithms.
  20. Explain Basic Algorithm used in Association rules.
-

<b>F-2634</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCEE1B</b>
----------------

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

**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. Write the HTML tags used for horizontal rules and line breaks.
2. Write the HTML Syntax for creating Frames.
3. What is meant by cascading style sheet?
4. How will you design a drop down menu?
5. Write the Attributes of SCRIPT tag in Javascript.
6. Write the Syntax of For structure in Javascript.
7. Write the scope rules of Javascript.
8. Write the Syntax of string object.
9. What is meant by DOM tree?
10. What is meant by XML Name spaces?

**Part B**

(5 × 5 = 25)

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

11. (a) Write the HTML Code for design a Web page and Insert Pictures in a Web page.

Or

- (b) Write the Code using HTML to Link the Web pages. Explain.

12. (a) Explain about how the style sheet is created?

Or

- (b) Explain about conflicting style.

13. (a) Explain how the variables are created in Javascript?

Or

- (b) Explain about the Assignment expression in Javascript.

14. (a) Describe the XML schema documents.

Or

- (b) Explain about Window object in detail.

15. (a) Explain about XML Vocabularies.

Or

- (b) How will you model the Document?

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

Answer any **three** questions.

16. Describe about nested and ordered list. Write the HTML.
  17. Describe about the Box Model and Text Flow.
  18. Explain about arrays and its types.
  19. Explain the Do-while structure with example.
  20. Describe about W3C XML schema documents.
-



<b>F-2635</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCEE2A</b>
----------------

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

**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** questions.

- Convert the following:
  - FFFF into Binary number
  - FFFF into Decimal number
- Write the truth table for NAND gate.
- Write the truth table for Ex-clusive OR gate.
- Write the Principle used in Encoder.
- Draw the circuit of Half-Adder.
- Do the following addition
  - 1010 + 1010
  - 101 + 101
- What are the Functions of Program Counter (PC) and Stock Pointer (SP)?

8. What are the Functions of Control Memory?
9. Write the definitions for Direct Addressing and Immediate addressing.
10. Draw the diagram of Memory hierarchy. Write the concept.

**Part B** (5 × 5 = 25)

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

11. (a) Write the Steps for Converting Binary into gray code with example.

Or

- (b) Derive the Basic Logic gates from NOR gates only.

12. (a) Explain in Principle used in BCD to Decimal decoder.

Or

- (b) Write the steps used in Product of Sum Simplification.

13. (a) Do the following using d's Complement Addition.

(i) 125	(ii) -50
-25	+25
—	—
—	—

Or

- (b) Write the Principle used in Binary Subtraction with example.

14. (a) Describe about Address sequencing.

Or

- (b) Explain the Common Bus System in detail.

15. (a) Explain the types of Interrupts in detail.

Or

- (b) Explain the Main Memory Briefly.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Do the following:

- (a) 111 11100 into Octal
- (b) 111 11100 into Hexadecimal
- (c)  $777_8$  into Binary
- (d)  $777_{10}$  into Binary

17. Simplify the following using K-Map method.

$F(A,B,C,D) = \sum_m (1,2,3,4,5,6,7,8,11,12,13,14)$  Draw the simplified Logic Circuit.

- 18. Explain about the Adder-Subtractor in detail.
  - 19. Describe about Symbolic Micro Instructions.
  - 20. Explain the types of Datatransfer and Manipulation Instructions.
-

<b>F-2636</b>
---------------

<b>Sub. Code</b>
------------------

<b>7BCEE2B</b>
----------------

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

**Fifth Semester**

**Computer Science**

**Elective – MICROPROCESSOR AND MICRO  
CONTROLLER**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Write the specifications of 8086 microprocessor.
2. What is meant by modular programming?
3. What are the conditional flags available in 8086 Microprocessor?
4. What is meant by closely coupled configuration?
5. Which principle used in I/O Interfacing?
6. What is meant by serial communication interface and parallel communication interface?
7. Draw the Block diagram of 8051 micro controller.
8. Write the dual role of port 0 of 8051 Micro controller.
9. What is meant by External memory interface?
10. What is meant by serial port programming?

**Part B****(5 × 5 = 25)**

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

11. (a) Explain the macros in 8086 Microprocessor.

Or

- (b) Explain the addressing modes of 8086 Microprocessor.

12. (a) Explain about the coprocessor in detail.

Or

- (b) Explain about the multiprocessor configurations.

13. (a) Explain about Timer in detail.

Or

- (b) Explain the concept of Traffic light control.

14. (a) Describe the features of 8051 Microcontroller.

Or

- (b) Explain about special function Registers of 8051.

15. (a) Describe about Keyboard interfacing.

Or

- (b) Describe about waveform generation interface.

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

Answer any **three** questions.

16. Explain about Interrupt service routines.
  17. Describe about the advanced Processors in detail.
  18. Describe about the Alarm controller interface.
  19. Describe the instruction set of 8051.
  20. Describe about stepper motor interfacing.
-