F–1632

Sub. Code
7BCE1C1

B.Sc. DEGREE EXAMINATION, APRIL 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. Define keyword and identifier.

2. Evaluate the expression

   (a) $(5*2)/(1+1)$

   (b) $5*2/1+1$

3. What are the functions used for Reading and writing a character?

4. What is ? : operator? Give an example.

5. What is an array? How to declare it?

6. What are the functions used for reading and writing a string?

7. What is local scope?

8. What is the heterogeneous data structure in 'C'? Give an example.

9. What is dereferencing operator?

10. Define sequential file.

Part B (5 × 5 = 25)

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

11. (a) Explain basic structure of 'C' programs.

Or

(b) What are the Datatypes supported by 'C'?

12. (a) Explain decimal, floating-point and character formats in 'C'.

Or

(b) Compare entry control loop with exit control loop.

13. (a) Write a 'C' program to find sum of 10 numbers using array.

Or

(b) Explain about dynamic array.

14. (a) Write a 'C' program to process marks of 10 students using structure.

Or

(b) What is the advantage of union over structure?

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

Or

(b) Explain any five operations associated with files.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain operator precedence and associativity.

17. Write a 'C' program to arrange 10 numbers in ascendening order using for loops.

18. Explain any five string functions with suitable example.

19. What is user-defined function? Explain passing arguments by value and by reference.

20. Write a 'C' program to create a data file containing register number name and course for 10 students.

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F–1633

Sub. Code
7BCE2C1

B.Sc. DEGREE EXAMINATION, APRIL 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. Define symbolic constant.

2. What is reference variable?

3. What is inline function?

4. What is a member functions?

5. What is the purpose of operator overloading?

6. What is inheritance?

7. What is pointer?

8. What are uses of keyword 'this'?

9. How to detect beginning and end of a file?

10. What is sequential file?

Part B (5 × 5 = 25)

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

11. (a) What is software crisis? Explain.

Or

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

12. (a) Explain parameterized constructor with an example.

Or

(b) What is the purpose of copy constructor? Explain with an example.

13. (a) Write a C++ program to overload ++ operator.

Or

(b) Explain friend function with an example.

14. (a) Write a C++ program to illustrate virtual function.

Or

(b) Explain use of manipulator in output.

15. (a) Explain any five operations related with files.

Or

(b) Write a C++ program to create data file containing name, street, city of ten students.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain Basic concepts of object oriented programming.

17. Write a C++ program to implement complex number addition and subtraction.

18. Explain multilevel and multiple inheritance with suitable example.

19. Explain stream classes in brief.

20. Explain function template and class template with an example.

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F–1634

Sub. Code
7BCE3C1

B.Sc. DEGREE EXAMINATION, APRIL 2019

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. What is Abstract Data Type?

2. What are the significance of Data Structure?

3. What is the difference between array and linked list representation of queue?

4. What is stack?

5. Define full binary tree.

6. Define skewed binary trees.

7. Define algorithm.

8. How to analyse an algorithm?

9. Define lonaprack problem.

10. Define dynamic problem.

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

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

11. (a) What are special types of matrices? Explain.

Or

(b) What are the limitations and the benefits of Linked List?

12. (a) Explain any two applications of stack.

Or

(b) Write algorithm for push and POP operations on stack.

13. (a) Explain expression trees.

Or

(b) Explain Threaded binary trees.

14. (a) Explain General method of Divide and Conquer.

Or

(b) Explain finding the maximum and minimum problem.

15. (a) Explain algorithm for job sequencing with deadline problem.

Or

(b) Explain Graph representation.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain insection and deletion operations on doubly linked list.

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

18. Explain tree traversals algorithm.

19. Explain merge sort algorithm.

20. Explain all pair shortest algorithm.

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F–1635

Sub. Code
7BCE4C1

B.Sc. DEGREE EXAMINATION, APRIL 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 is significance between Java and Internet?

2. What are variables and constants?

3. What are special operators supported by Java?

4. List out any four mathematical functions supported by Java.

5. What is an object?

6. What are the purpose of private and protected qualifier?

7. What is the advantage of a package?

8. What is thread synchronization?

9. What is applet?

10. What is the purpose of graphics class?

Part B (5 × 5 = 25)

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

11. (a) What are the data types supported by Java?

Or

(b) Explain Java program structure.

12. (a) Explain operator precedence and associativity.

Or

(b) Compare entry restricted and exit restricted loops.

13. (a) What is interface? How is it used in Java?

Or

(b) Briefly explain about wrapper classes.

14. (a) Explain extending the thread class with an example.

Or

(b) Explain implementing threads using 'Runnable' Interface.

15. (a) Write a Java Program to draw circles and ellipses.

Or

(b) Write a Java Program to draw line graph.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain Java features and Java Environment.

17. Write a Java program to sort ten names.

18. Explain method overloading and method overriding with suitable Java program.

19. Write Java program to illustrate creating and using a package.

20. Explain about Applet life cycle.

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F–1729	Sub. Code
	7BCEA1

U.G. DEGREE EXAMINATION, APRIL 2019

Computer Science

Allied — OFFICE AUTOMATION

(Offered by the Department of Computer Science)

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 60 Marks

Part A (10 × 1.5 = 15)

Answer **all** questions.

1. What are the page layout orientation settings are available in MS-Word document?

2. Write the steps to create a table in a word document.

3. How will you create the superscript and subscript text in a word document?

4. How will you insert Page Number in a word document?

5. How will you create labels in a word document?

6. How will you create a text box in a word document?

7. What are the rules followed for enter a formula in a excel worksheet?

8. How will you select a cell, a row, a column, entire worksheet in Excel?

9. What are the types of Powerpoint views?

10. How will you create a table in MS-Access?

Part B (5 × 3 = 15)

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

11. (a) Write the steps for find and replace comment.

Or

(b) How will you print a word document?

12. (a) How you change the styles of a word document?

Or

(b) How will you Insert Headers, footers in a word document?

13. (a) Explain the quick tables facility in word.

Or

(b) How will you insert shapes using drawing tools?

14. (a) Write the steps to insert a function in a worksheet.

Or

(b) Describe the organization of worksheet area.

15. (a) Explain the steps of Report wizard in Access.

Or

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

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about the cut-paste, copy-paste processes.

17. Describe the steps for spell check and grammar.

18. Explain the steps for mail merge facility.

19. How will you create a chart in Excel?

20. How will you insert rows, columns in a Excel Work Sheet?

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F–1730

Sub. Code
7BCEA2

U.G. DEGREE EXAMINATION, APRIL 2019

Computer Science

Allied : COMPUTER ORGANIZATION

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 60 Marks

Part A (10 × 1.5 = 15)

Answer **all** questions.

1. Which number system is used for Micro processor based programming?

2. Write the truth table and symbol for NAND gate.

3. Write the type of parity of the following number.

   (a) 110110

   (b) 110111

   (c) 101010

4. What are the applications of Encoder?

5. Write the complements of the following numbers.

   (a) 1101101 – is complement

   (b) 1111101 – 2's complement

6. Write the truth table of Half – Adder.

7. What are the phases of Instruction cycle?

8. What is meant by address sequencing?

9. Mention the names of Auxillary Memory devices.

10. What is meant by Implied Mode of Addressing and immediate Mode of Addressing?

Part B $(5 \times 3 = 15)$

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

11. (a) Do the following code conversion.

(i) 235 into Excess–3 code

(ii) 1010101010 – into gray code.

Or

(b) Derive the Basic logic gates from universal gates.

12. (a) Explain about the Universal Logic circuit of Multiplexers.

Or

(b) Explain about the Exclusive – OR gates.

13. (a) Add the 8–bit numbers 01010111 and 00110101. Then show the same numbers in Hexa decimal notation.

Or

(b) Show the Binary Subtraction of 125_{10} from 200_{10}.

14. (a) Explain about the binary Micro program.

Or

(b) Explain the types of Computer Instructions.

15. (a) Explain about the Arithmetic Pipe line.

Or

(b) Explain about the General Register Organization.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. (a) Express decimal 5280 in Excess – 3 code.

(b) Here is an excess –3 Number : 0110 1001 1100 0111 What is the decimal equivalent?

17. Simplify the following :

(a) $y = \overline{A}\,\overline{B}\,\overline{C} + \overline{A}B\overline{C} + A\,\overline{B}\,\overline{C} + AB\,\overline{C}$ using Boolean Laws.

(b) $y = F(A, B, C, D) = \sum_m (7, 9, 10, 11, 12, 13, 14, 15)$ using K–map.

18. Do the following 2's complement arithmetic addition.

(a) +83
+16

(b) +125
–68

(c) +37
–115

(d) –43
–78

19. Explain about the timing and control unit of a digital computer.

20. Explain how a stack is used for Evaluating arithmetic expressions?

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F–1731

Sub. Code
7BCEA3

UG DEGREE EXAMINATION, APRIL 2019

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. Define constant.

2. What is an identifier?

3. What is format used for getting integer as input?

4. What is the purpose of go to statement?

5. Define dynamic array.

6. How to initialize string variables?

7. What is local scope of variable?

8. What is proto type declaration?

9. How to initialize pointers?

10. What is the purpose of file?

Part B (5 × 3 = 15)

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

11. (a) Explain conditional operator.

Or

(b) What are data types supported by 'C'.

12. (a) Compare switch statement with if ..... else if.. statement .

Or

(b) Compare while.... loops with do... while loops.

13. (a) How to read and write strings.

Or

(b) Explain any five string handling functions.

14. (a) Explain structure with an example.

Or

(b) Explain unim with an example.

15. (a) Explain pointers and character strings.

Or

(b) Explain different modes of file operations.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain hierarchy of operators.

17. Operators rules for coding for..... loops with suitable examples.

18. Write a 'C' program to sort ten numbers.

19. Explain about user- defined function definition and function cell.

20. Explain error handling in I/O operations in files.

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F–1732

Sub. Code
7BCEA4

U.G. DEGREE EXAMINATION, APRIL 2019

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 the need for type cast operator?

2. What is symbolic constant?

3. What is static data member?

4. How is memory allocated for objects?

5. What is the purpose of overloading?

6. What is the advantage of inheritance?

7. Define pointers.

8. Define pure virtual function.

9. What are command-line arguments?

10. What is file pointer?

Part B (5 × 3 = 15)

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

11. (a) Explain about software evolution.

Or

(b) Explain logical and bit wise operators in C++.

12. (a) Explain static member functions.

Or

(b) Explain about parameterized constructor.

13. (a) Write a C++ program to overload binary + operator.

Or

(b) Write rules for overloading operators.

14. (a) Explain about pointers to derived classes.

Or

(b) Illustrate virtual function with an example.

15. (a) Explain about any six file operations.

Or

(b) Explain the role of file pointers.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Describe the basic concepts of object-oriented programming.

17. Explain friend function with an example.

18. Explain about multilevel and multiple inheritance.

19. Discuss managing output with manipulators.

20. Explain class template with an example.

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