F–2647

Sub. Code
7BCA1C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

Computer Application

C AND DATA STRUCTURE

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the fundamental data types available in C?

2. Where we will use branching statements? Give an example.

3. How will you declare a 2D array? Give an example.

4. Write any Four String handling functions in C.

5. Define Recursion?

6. Define Union.

7. How will you close a File?

8. What is the difference between a variable and a pointer?

9. Define Queue.

10. Define Binary Tree.

Part B (5 × 5 = 25)

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

11. (a) Explain the output functions available in C with example.

Or

(b) Explain switch statement with example.

12. (a) Explain any Five string handling functions in C with example.

Or

(b) Write a C program to print the Pri me numbers in an array of 10 numbers.

13. (a) Explain function with argument and return type with a program.

Or

(b) How will you create and intialize a structure? Explain with an example.

14. (a) Write a C program to find the simple interest using pointers.

Or

(b) Write a C program to find the sum of the elements of an array using pointers.

15. (a) How will you add an item and remove an item to/from a Stack? Explain with an example.

Or

(b) Explain the operations on a Queue with example.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write a C program to find the sum of the numbers that are divisible by Three and not divisible by Five, between 100 and 200.

17. Write a C program to multiply two matrices of order *m X n* and *n X m*.

18. Write a C program to calculate the net pay of an employee using array of structures. (Assume your own data)

19. Write a C program to copy the content of one file into another file.

20. Explain the Insertion and Deletion operations into a Linked List with example.

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F–2648

Sub. Code
7BCA2C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Computer Application

PROGRAMMING in C++

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the different types of expression available in C++?

2. Define Function.

3. What is the different between the static data member and non static data member?

4. What is a Destructor?

5. What is an abstract class?

6. Write down the C++ stream classes.

7. How will you open a file?

8. What is the difference between the text (ASCII) file and Binary file?

9. Write down the advantages of Function Template.

10. Write any four exception types.

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) Explain the do-while loop with an example.

12. (a) Explain Constructor with Default argument with an example.

Or

(b) Explain Multiple Constructor in a Class with an example.

13. (a) Explain unformatted I/O operations.

Or

(b) Explain Pointer to Derived class concept with an example.

14. (a) Explain the sequential input and output operations in a File with example.

Or

(b) Explain the various file opening modes with example.

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

Or

(b) How will you use multiple arguments in function template? Explain with an example.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain any two branching statements in C++ with example.

17. Write a C++ program to swap (interchange) a data member in two different classes using friend function.

18. Explain virtual base class with a C++ program.

19. Write a C++ program to store the students details(name, rollno, class, height, weight) in a binary file.

20. Explain the Exceptions handling constructs with an example.

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F–2649

Sub. Code
7BCA3C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Computer Application

DATABASE MANAGEMENT SYSTEMS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Write the Database languages.
2. What is the difference between a Strong entity set and a Weak entity set?
3. Define Tuple and Domain.
4. What do you mean by Data Dictionary?
5. What is meant by Client-Server architecture?
6. What do you mean by Homogeneous Database?
7. Define Sequence.
8. Define Role.
9. Write any two DCL commands.
10. Define Transaction.

Part B (5 × 5 = 25)

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

11. (a) Explain the purpose of Database Management system.

Or

(b) Explain the Relational Database system.

12. (a) Explain Decomposition using functional dependencies with example.

Or

(b) Explain the 3NF with example.

13. (a) Explain the Interquery Parallelism.

Or

(b) Explain parallel systems.

14. (a) Explain with an example how will you create and manipulate a table?

Or

(b) Explain how will you create Synonym? Give example.

15. (a) Explain FOR-LOOP command with an example.

Or

(b) Explain Triggers with an example.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain

    (a) E-R Diagrams

    (b) E-R Design issues.

17. Explain the Database design process.

18. Explain the Network types.

19. Describe any ten DML commands with example.

20. Write a procedure to calculate the EB bill. [assume your own tariff].

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F–2650

Sub. Code
7BCA4C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

Computer Application

JAVA PROGRAMMING

(CBCS – 2017 onwards)

Time : 3 hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is a web browser?
2. What is meant by Type Casting?
3. What are the logical operators available in java?
4. What are the loop statements available in java?
5. What do you mean by method overriding?
6. What is final class?
7. Define Package.
8. How will you block a Thread?
9. How will you add an Applet to an HTML file?
10. Write the syntax of the method which is used to draw a line. Give an example.

Part B (5 × 5 = 25)

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

11. (a) Explain Command line argument with an example.

Or

(b) Explain the java data types with example.

12. (a) Explain any three types of expressions in Java with example.

Or

(b) Explain nested – if statement with an example.

13. (a) Explain method overloading with an example.

Or

(b) Explain Interface with an example.

14. (a) How will you add classes to a package? Explain with an example.

Or

(b) Explain multiple catch clauses in Java with an example.

15. (a) Write a java program to draw concentric circles (Three numbers).

Or

(b) Write a java program to draw a Polygon with six sides.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain

(a) WWW

(b) Java features

17. Write a Java program to print the roots of a quadratic equation using OOP's concept.

18. Write a java program to count the number of odd numbers that are divisible by 7 in an array.

19. How will you create the Thread by implementing runnable interface? Explain with a java program.

20. How will you display numerical values in an Applet? Explain with a program.

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Sub. Code
7BCA5C1

B.C.A. DEGREE EXAMINATION,
NOVEMBER 2019

Fifth Semester

Computer Applications

.NET PROGRAMMING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is dynamic array in visual basic language?
2. What is CLR Environment?
3. What is the basic difference between method and event?
4. What is an event driven programming?
5. List out any two properties and one event and combo box control.
6. What is the difference between List box control and combo box control?
7. List out any two built in mathematical function with examples.
8. What is unstructured error handling?
9. What is a Database?
10. What are the advantages of ADO over other Data controls?

Part B (5 × 5 = 25)

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

11. (a) Explain .NET framework class Library.

Or

(b) Explain datatypes supported by VB Language.

12. (a) Explain the difference between procedure oriented and object oriented programming.

Or

(b) Explain about Input Box and Message Box.

13. (a) Explain about Picture Box and Rich Text Box.

Or

(b) Explain about Link Label and checked List Box.

14. (a) Explain open File Dialog Box with suitable example.

Or

(b) Explain Save File Dialog Box with suitable example.

15. (a) How to create connection to a Database using ADO.NET? Explain.

Or

(b) Explain grid view with an example.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain VB.NET IDE.

17. Write short notes on Check Box, Radio Button, Group Box Label button controls.

18. Explain how to create menus?

19. Explain declaring, passing and returning arguments in functions.

20. Explain ADO.NET object model.

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Sub. Code
7BCA5C2

B.C.A. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Computer Application

COMPUTER SYSTEM ARCHITECTURE

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. List out the Logic Micro operations.
2. What is an interrupt cycle?
3. What are the Instruction used in Logic operations?
4. What is meant by table lookup Procedure?
5. Draw the diagram of Register set with common ALU.
6. Define PUSH operation in stack.
7. Draw the Hardware diagram for signed Magnitude addition.
8. What is meant by biased exponent?
9. Define: Hit ratio and Miss radio.
10. What is meant by Content Addressable Memory?

Part B (5 × 5 = 25)

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

11. (a) Explain the types of Complements with example.

Or

(b) Explain about the stored program organization.

12. (a) Explain about the second pass assembler.

Or

(b) Explain about the Program Interrupt.

13. (a) Explain the characteristics of CISC Computers.

Or

(b) Describe about the general register organization.

14. (a) Explain about the DMA transfers and DMA Controller.

Or

(b) Explain any one Division Algorthim.

15. (a) Explain about the typical ROM chip.

Or

(b) Explain the associative Mapping in Cache.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Describe about the Timing and control unit.

17. Describe about the Interrupt cycle.

18. Describe the Data transfer Instructions.

19. Explain about Hardware implementation for signed Magnitude Data.

20. Explain the Characteristics of Multiprocessor in detail.

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Sub. Code
7BCAE1A

B.C.A. DEGREE EXAMINATION,
NOVEMBER 2019

Computer Application

Elective – Web Design Technology

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. How can a image can be inserted into a HTML Web page?

2. What is a Frame in HTML?

3. Write the features of Javascript.

4. What are the types of arrays used in Javascript?

5. Write the Logical operators used in Javascript.

6. Write the syntax of 'if' selection structure in Javascript.

7. What is an identifiers in Javascript?

8. Write the syntax for Boolean object.

9. What is the use of msgbox?

10. What are the datatypes used in VB script?

Part B (5 × 5 = 25)

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

11. (a) Explain ordered list with an example.

Or

(b) Write a HTML Code to create Time Table.

12. (a) What are the arithmetic operators used in Javascript?

Or

(b) Explain about Multi subscripted Array.

13. (a) Explain the programmer defined function in Javascript.

Or

(b) Write the syntax of Do-while control structure with example.

14. (a) Explain the Javascript global function.

Or

(b) Explain about scope rules.

15. (a) Explain the String Manipulation in VBscript.

Or

(b) How input boxes are created in VBscript? Explain.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Create a on-line Job application form using HTML.

17. How arrays passing to functions? Explain with example.

18. Write a Javascript program for the following.

19. Write a VBscript program to calculate the Income Tax. [Assume your own data].

20. Explain about Data objects in details.

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F–2654

Sub. Code
7BCAE1B

B.C.A. DEGREE EXAMINATION,
NOVEMBER 2019

Fifth Semester

Computer Applications

Elective – DESIGN AND ANALYSIS OF ALGORITHM

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Algorithm.
2. What is Time Complexity?
3. What is the principle used in greedy method?
4. What is the solution for optimal storage on tapes?
5. What is Dynamic Programming?
6. What is meant by multistage Graph?
7. What is Backtracking?
8. Define Hamiltonian Cycles.
9. State the Traveling salesman problem.
10. What is the principle used in Branch and Bound?

Part B (5 × 5 = 25)

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

11. (a) Explain finding the maximum and minimum problem.

Or

(b) Explain Selection sort Algorithm.

12. (a) Explain Prim's Algorithm to find out minimum spanning tree.

Or

(b) Explain Knapsack Problem using Greedy method.

13. (a) Explain All pair shortest path using Dynamic Programming.

Or

(b) Explain Reliability Design in Dynamic Programming.

14. (a) How to solve eight queen's Problem using Backtracking?

Or

(b) How to solve sum of subset problem using Backtracking?

15. (a) Explain General method for Branch and Bound method.

Or

(b) Explain how to solve Knapsack Problem using Branch and Bound method?

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain merge sort Algorithm with an example.

17. Explain how to solve Job sequencing with deadline using Greedy method.

18. How to find out optimal Binary search tree using Dynamic Programming?

19. Explain solving Graph colouring using Backtracking technique.

20. Explain how will you solve Travelling salesperson Problem using Branch and Bound method?

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Sub. Code
7BCAE2A

B.C.A. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Computer Application

Elective– COMPUTER GRAPHICS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer ALL questions

1. What is Frame Buffer?
2. Define Hard copy.
3. What do you mean by Geometric Transformation?
4. What is shearing transformation?
5. Define Clipping.
6. What is a Convex Polygon?
7. What are basic 3D transformations?
8. Write down the 3D transformation matrix for mirror reflection.
9. Define Interface.
10. What is the role of Feedback in User Interface design?

Part B (5 × 5 = 25)

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

11. (a) Explain the applications of Computer Graphics.

Or

(b) Explain various graphics input devices.

12. (a) Explain the 2D Transformation principles.

Or

(b) What is Composite transformation? Explain with an example.

13. (a) Explain the line segment clipping with an example.

Or

(b) Explain window to viewport transformation.

14. (a) Explain 3D translation transformation with an example

Or

(b) Explain 3D Rotation transformation with an example.

15. (a) Explain the command language.

Or

(b) Write short notes on Information Display.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write and explain the DDA line drawing algorithm.

17. Describe the 2D basic transformations with example.

18. Write and explain Sutherland Hodgman polygon clipping algorithm.

19. Explain the 3D composite transformation with example.

20. Explain the components of User Interface.

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Sub. Code
7BCAE2B

B.C.A. DEGREE EXAMINATION,
NOVEMBER 2019

Fifth Semester

Computer Application

Elective : OPERATING SYSTEM

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the goals of Operating System?

2. What is a Co-operating Process?

3. What are the problems raised in Critical section?

4. What is a Monitor?

5. What is an Overlay?

6. What are the advantages of sharing?

7. Define Thrashing.

8. Define File.

9. What are the applications of Interface?

10. What is meant by authentication?

Part B (5 × 5 = 25)

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

11. (a) Explain various operating system services.

Or

(b) Explain the structure of the Operating system.

12. (a) Explain semaphore can be used to solve critical section problem.

Or

(b) Explain critical region with an example.

13. (a) Explain various address binding methods.

Or

(b) Explain the two types of Fragmentation.

14. (a) Explain any one page replacement algorithm with an example.

Or

(b) Explain Demand paging with suitable diagram.

15. (a) Explain the Kernal I/O subsystem.

Or

(b) Explain the Threat monitoring methods.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain

(i) FCFS scheduling algorithm

(ii) Round Robin Scheduling algorithm.

17. Explain the Banker's algorithm for Deadlock avoidance.

18. Explain the Segmentation scheme with diagram.

19. Explain the various File allocation methods.

20. Explain

    (i) Encryption

    (ii) Access Matrix.

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