F–0427	Sub. Code
	7BCA2C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

Second Semester

Computer Application

PROGRAMMING IN C++

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. Define Token. Give an example.

2. Define Function.

3. What is a static data member?

4. What is the difference between a member function and a Constructor?

5. Define Inheritance

6. What is the use of ***this*** Pointer?

7. How will you close a File?

8. What is the purpose of tellg() and seekp( ) functions?

9. What is a Template?

10. What is an Uncaught Exception?

Part B (5 × 5 = 25)

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

11. (a) Explain the while loop with an example.

Or

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

12. (a) Explain static member functions with an example.

Or

(b) Write down the rules for a Constructor.

13. (a) Explain pointer to derived classes with an example.

Or

(b) Explain the C++ stream classes.

14. (a) Explain the operations on files.

Or

(b) Explain command line argument with an example.

15. (a) Explain the exception handling model in C++.

Or

(b) Explain any Five rules for handling Exceptions.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the different types of expressions in C++ with example.

17. How will you pass an object as argument? Explain with an example.

18. Explain Multi level inheritance with a C++ program.

19. Explain the various file opening modes with example.

20. Write a C++ program to swap two integers, two float numbers and two double numbers using function template.

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F–0428

Sub. Code
7BCA3C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

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. Define Database.
2. What do you mean by weak entity set?
3. What is the advantages of decomposition in dbms?
4. What is functional dependency?
5. What is distributed query processing?
6. What are the advantages of distributed database?
7. Define Schema.
8. What is data integrity?
9. What is trigger?
10. Define Package.

Part B (5 × 5 = 25)

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

11. (a) Explain the purpose of Database System.

Or

(b) Describe the Transaction Management.

12. (a) Explain First normal form with example.

Or

(b) Describe the features of good relational design.

13. (a) Explain about Homogeneous and Heterogeneous databases.

Or

(b) Describe about Distributed Systems.

14. (a) Explain about views.

Or

(b) How do you create and maintain the tables?

15. (a) Explain about cursor with example.

Or

(b) Write a procedure to find the factorial of given number.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain about database languages.

17. Describe about third normal form with example.

18. Describe about centralized and client server architecture.

19. Explain about user privileges and roles.

20. Explain various types of triggers with example.

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F–0429	Sub. Code
	7BCA4C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

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 are the applications of OOP?

2. What is WWW?

3. What is meant by Associativity of operator?

4. Write any four mathematical functions available in java.

5. What are the characteristics of a static data member?

6. What is a Wrapper class?

7. How will you hide the classes in java?

8. What is the difference between an error and an exception?

9. Write the syntax of APPLET tag.

10. Write the syntax of the method which is used to draw a Circle.

Part B (5 × 5 = 25)

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

11. (a) Explain the basic concepts of OOP.

Or

(b) Explain command line argument with an example.

12. (a) Write a java program to print the first 20 Fibonacci series.

Or

(b) Write a java program to find the biggest of three numbers.

13. (a) Explain Method Overloading with an example.

Or

(b) Write a java program to find the sum of add numbers in an array.

14. (a) How will you create a package and accessing a package? Explain with an example.

Or

(b) Explain the exception handling in java with an example.

15. (a) How will you display the numerical values in an Applet? Explain with an example.

Or

(b) Write a java program to demonstrate the "Passing parameters to an Applet".

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain (a) Java features (b) Tokens in java.

17. Write a java program to find the sum of the even numbers between 100 and 300 that are not divisible by 5.

18. How will you extend an interface? Explain with a java program.

19. Write a Java program using multithreading concept to display the ten numbers with a delay of 500 ms. [use any method].

20. Write a Java program to draw a ellipse within a rectangle with different colors.

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F–0430	Sub. Code
	7BCA5C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023.

Fifth Semester

Computer Application

. NET PROGRAMMING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is the use of loop?

2. What are the operators are available in .Net?

3. List some of the properties of Label control.

4. Write any two properties and methods of form.

5. Write the important properties of progress bar.

6. Write the uses of list box.

7. What is sub procedure?

8. Write a short note on MDI form.

9. What is the use of data grid view?

10. What is a dataset?

Part B (5 × 5 = 25)

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

11. (a) Explain if statement with example.

Or

(b) Explain for loop with example.

12. (a) Explain about Numeric Up Down control.

Or

(b) Describe about message box and Input box with example.

13. (a) Explain about checked list box with example.

Or

(b) How do you create menu? Give example.

14. (a) Explain about mathematical functions.

Or

(b) Describe about structured error handling.

15. (a) How do you display the 'student' table records in a datagrid view?

Or

(b) How do you create connection to a database using ADO.NET?

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about Relational and Logical operators.

17. Write a program to design a calculator.

18. Explain about masked text box and rich text box.

19. Explain about pass by value and pass by ref.

20. How do you edit, save, add and delete the records in a database?

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F–0431	Sub. Code
	7BCA5C2

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023.

Fifth Semester

Computer Application

COMPUTER SYSTEM ARCHITECTURE

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is a bus?

2. Define instruction cycle.

3. What are the instructions used in arithmetic operation?

4. What are the advantages of machine language?

5. What is a register?

6. Define POP operation in stack.

7. Draw the hardware diagram for signed magnitude subtraction.

8. What do you mean by priority interrupt?

9. Define ROM.

10. What is static RAM?

Part B (5 × 5 = 25)

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

11. (a) Explain about the stored program organization.

Or

(b) Explain about the common bus system.

12. (a) Explain about loops in the programming language.

Or

(b) Describe various logic operations with example.

13. (a) Explain about the various types of addressing modes.

Or

(b) Differentiate RISC and CISC processor.

14. (a) Describe the general purpose register organization.

Or

(b) Briefly describe the instruction formats.

15. (a) Analyze the memory hierarchy in terms of speed, size and cost.

Or

(b) Explain the characteristics of multiprocessors.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Describe about the timing and control unit.

17. Explain subroutine with an example.

18. Explain about data transfer and manipulation instructions.

19. Explain about Daisy chaining priority interrupt.

20. Explain about virtual memory.

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F–0432

Sub. Code
7BCAE1A

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

Fifth Semester

Computer Application

Elective — WEB DESIGN TECHNOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is header?

2. How to insert a line breaks in HTML?

3. What is Java Script?

4. What is WWW?

5. What are Java Script Data Types?

6. What are the logical operators in Java Script?

7. What is Global Variable?

8. What is the use of Boolean Object?

9. Name some string functions in VB Script.

10. What is the uses of Msg Box function in VB Script?

Part B (5 × 5 = 25)

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

11. (a) Explain the basic structure of an HTML document.

Or

(b) Write about text formatting in HTML.

12. (a) Explain briefly about decision making in Java Script.

Or

(b) Explain passing arrays to function.

13. (a) Explain the structure of If-If else.

Or

(b) Write a Javascript program for print n numbers using do….while.

14. (a) Explain scope rules.

Or

(b) Explain recursion.

15. (a) Explain various operators of VB Script.

Or

(b) Explain input boxes and write a suitable VB Script program using input boxes.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe forms with suitable code in HTML.

17. Explain in detail about arrays in Java Script with suitable code.

18. Explain functions in Java Script.

19. Explain various objects available with Java Script.

20. Describe string manipulations in VB Script.

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F–0434

Sub. Code
7BCAE2A

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

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. Define aspect ratio.

2. What are the disadvantages of DDA algorithm?

3. Define Rotation.

4. What is transformation?

5. What is clipping?

6. What is a viewport?

7. What is composite transformation?

8. Define scaling.

9. Define user interface.

10. Differentiate CUI and GUI.

Part B (5 × 5 = 25)

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

11. (a) Describe about Input devices.

Or

(b) Explain about the applications of computer graphics.

12. (a) Explain about matrix representation of composite transformation.

Or

(b) Explain in detail about 2D Rotation.

13. (a) Explain the method of Cohen and Sutherland line clipping in detail.

Or

(b) Explain about CONVEX polygon clipping.

14. (a) Explain about 3D Mirror reflection.

Or

(b) Describe about 3D scaling.

15. (a) Explain about command language.

Or

(b) Explain about Information display.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe about output devices.

17. Explain in detail about 2D Basic transformation.

18. Explain about viewing transformations.

19. Explain about 3D composite transformations.

20. Explain about User Interface.

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F–0435	Sub. Code
	7BCAE2B

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

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 is Virtual Machine?
2. What is a CPU scheduler?
3. What is a Critical section?
4. What is Resource Allocation Graph?
5. What is a Physical address space?
6. What is the purpose of Segmentation?
7. What is Thrashing?
8. What are the types of File?
9. What is memory protection?
10. What is meant by Encryption?

Part B (5 × 5 = 25)

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

11. (a) Explain the FCFS scheduling algorithm with example.

Or

(b) What is a Process? Explain the Inter Process Communication.

12. (a) Explain the Critical section problem. Give any one solution for the Critical section problem.

Or

(b) Explain the methods for handling Deadlock.

13. (a) Explain Dynamic loading and Linking with diagram.

Or

(b) Explain Internal and External Fragmentation with diagram.

14. (a) Explain Demand Paging with diagram.

Or

(b) Explain any two page replacement algorithms.

15. (a) Explain Authentication with an algorithm.

Or

(b) Explain the Threat monitoring methods.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the various types of Operating System.

17. Explain Monitors.

18. Explain the Paging scheme with diagram.

19. Explain

    (a) File Access Methods

    (b) File System structure.

20. Explain the I/O systems.

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F–0436	Sub. Code
	7BCA6C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

Sixth Semester

Computer Application

DATA MINING AND WAREHOUSING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is data mining?
2. List out some data mining tools.
3. What is classification?
4. What is a bayesian classifier?
5. What is clustering?
6. Compare clustering and classification.
7. Differentiate OLTP and data warehouse.
8. What is spatial mining?
9. Define web content mining.
10. What are the characteristics of data warehouse?

Part B (5 × 5 = 25)

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

11. (a) Explain about the applications of Data mining.

Or

(b) Describe about Apriori algorithm.

12. (a) Explain about Naive bayes method.

Or

(b) Describe about classification software.

13. (a) Write a brief note on cluster analysis.

Or

(b) Write a brief note on cluster analysis software.

14. (a) Describe about web usage mining.

Or

(b) Explain about web structure mining.

15. (a) Explain about characteristics of OLAP system.

Or

(b) Describe about data warehousing.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain about data mining techniques.

17. Explain about decision tree.

18. Explain about various types of cluster analysis methods.

19. Write a brief note on search engines architecture.

20. Explain about the guidelines for data warehousing.

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F–0437	Sub. Code
	7BCA6C2

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

Sixth Semester

Computer Application

COMPUTER NETWORKS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the 3 criteria necessary for effective Network?
2. What is a nanoband?
3. Define Protocol.
4. Write a short note on HDLC.
5. What is Fragmentation?
6. What is routing?
7. Define buffering.
8. What is Multiplexing?
9. Define Multimedia.
10. What is Cryptography?

Part B (5 × 5 = 25)

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

11. (a) Explain the Telephone system.

Or

(b) Write a brief note on ATM.

12. (a) Explain about Sliding Window Protocol.

Or

(b) Describe about PPP.

13. (a) Explain about Firewalls.

Or

(b) Explain about Packet switching.

14. (a) Describe about Internet Transport Protocols.

Or

(b) Discuss about Protocols for Gigabit Network.

15. (a) Explain about SNMP.

Or

(b) Explain about lossless compression.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Discuss about Transmission media.

17. Discuss about parity checking error detection method.

18. Explain about congestion control Algorithms.

19. Explain about TCP and UDP.

20. Describe about Secret and Public Key Algorithms.

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F–0438	Sub. Code
	7BCA6C3

B.C.A. DEGREE EXAMINATION, NOVEMBER 2023

Sixth Semester

Computer Application

SOFTWARE ENGINEERING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the objectives of Software Engineering?
2. What is meant by Software reuse?
3. Define requirements analysis.
4. What is Software life cycle?
5. What is Re-Engineering?
6. What do you mean by modularity?
7. What is software testing?
8. Define unit testing.
9. Define Software Quality cost.
10. What are the objectives of the Formal Technical Reviews?

Part B (5 × 5 = 25)

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

11. (a) Explain the managerial issues in software engineering.

Or

(b) Explain planning an organizational structure.

12. (a) Explain software cost factors.

Or

(b) Explain the components of Software Requirement Specification.

13. (a) Write short notes on Coupling.

Or

(b) Explain briefly about structured coding techniques.

14. (a) Explain System Testing.

Or

(b) Explain source code metrics.

15. (a) Explain software quality attributes.

Or

(b) Explain statistical software quality assurance.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain in detail about the quality and productivity factors.

17. Explain about software cost estimation techniques.

18. Describe about modules and modularization criteria.

19. Explain the various types of Black box testing.

20. Explain in detail about software reviews.

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