F–8209

Sub. Code
7BCA2C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Second Semester

Computer Applications

PROGRAMMING IN C++

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is Data Abstraction?
2. What are the advantages of OOP?
3. Define Object.
4. What is a Destructor?
5. What is meant by nesting of Class?
6. Write any Four manipulators used in C++.
7. How the end of File can be detected?
8. What are the file opening modes?
9. What is a user defined Template?
10. What is the difference between an Exception and an Error?

Part B (5 × 5 = 25)

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

11. (a) Explain various types of operators available in C++.

Or

(b) Explain any two loop statements in C++ with example.

12. (a) Explain Constructors with default argument with an example.

Or

(b) Explain dynamic Constructor with an example.

13. (a) Explain Multiple Inheritance with an example.

Or

(b) Explain Constructors in derived classes with an example.

14. (a) Explain the sequential Input and Output operations in C++ with example.

Or

(b) Explain the various File pointers and their manipulators.

15. (a) Explain the various Exceptions in C++.

Or

(b) Explain the Exceptions in Constructors.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a C++ program to print the first 20 Fibonacci series.

17. Explain friend function with a C++ program.

18. Explain polymorphism with a program.

19. Write a C++ program to search the particular record in a file with phone number.

20. Explain Multiple arguments in a function template with example.

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F–8210

Sub. Code
7BCA3C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Third Semester

Computer Applications

DATABASE MANAGEMENT SYSTEMS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is a Relational Database?

2. What are the E-R design issues?

3. What are the features of good Relational database design?

4. What are the advantages of Normalization?

5. What is a Distributed System?

6. What do you mean by Interquery parallelism?

7. Define View.

8. What is a Synonym?

9. What is the structure of PL/SQL?

10. What is a Stored procedure?

Part B (5 × 5 = 25)

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

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

Or

(b) Explain the Semi structured Databases.

12. (a) Explain the Boyce Codd Normal form.

Or

(b) How will you model Temporal Data? Explain with an example.

13. (a) Explain the Network types.

Or

(b) Explain the Distributed query processing.

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

Or

(b) Explain any five DML commands with example.

15. (a) Explain package with an example.

Or

(b) Explain the various types of Triggers with example.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the purpose of Database systems.

17. Explain the decomposition using Multivalued Dependencies.

18. Explain the I/O parallelism.

19. How will you create a Role and manipulate the Role? Explain with example.

20. Write a function to calculate the Income tax. Assume your own data.

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F–8211	Sub. Code
	7BCA4C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Fourth Semester

Computer Applications

JAVA PROGRAMMING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What are the benefits of Object Oriented Programming?
2. What is meant by Java Virtual Machine (JVM)?
3. What is the use of type conversion in java?
4. Write any Four mathematical functions available in java?
5. How will you add variables to a Class? Give an example.
6. What is a Wrapper class?
7. What are the advantages of Multithreading?
8. Define package.
9. How an applet differ from an application?
10. Write the syntax of the method which is used to draw a rectangle.

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 type casting in java with example.

12. (a) Explain the operators in java.

Or

(b) Explain *nesting of if* statement with an example.

13. (a) Explain nesting of methods with an example.

Or

(b) How will you extend an interface? Explain with an example.

14. (a) Explain the life cycle of a thread.

Or

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

15. (a) Write the Applet tag with all options. Explain with an example.

Or

(b) How will you pass parameters to an Applet? Explain with an example.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a java program to find the smallest of three numbers using command line argument.

17. Write a Java program to print the prime numbers between 200 and 500 using while loop.

18. Explain method overriding with a java program.

19. Explain creating and importing a package with a program.

20. Write a Java program to draw a Polygon with Three sides.

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F–8212	Sub. Code
	7BCA5C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022.

Fifth Semester

Computer Applications

.NET PROGRAMMING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define loop.

2. What is constant?

3. Differentiate procedure and function.

4. What are the various methods supported by form?

5. What is the use of combo box?

6. List out any two proprietor of Link Label.

7. Differentiate pass by value and pass by ref.

8. Differentiate MDI and SDI.

9. What are the examples of a database?

10. What are the features of Ado.NET?

Part B (5 × 5 = 25)

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

11. (a) Write short notes on properties Window.

Or

(b) Discuss about various datatypes supported by Vb.

12. (a) Write short notes on event driven programming.

Or

(b) What is procedure? Give example.

13. (a) Explain about progress bar.

Or

(b) Explain the proprietor of Text box and Masked Text box.

14. (a) Write a note on exception handling.

Or

(b) Discuss about String functions.

15. (a) Write a short note on ADO.NET.

Or

(b) How do you add the record in a database?

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about object explorer and code designer.

17. Write a program to change the background colour using Radio button.

18. Explain the properties of List box and Checked List box.

19. Explain Unstructured Error handling.

20. How do you access the database using ADO.NET? Explain.

F– 8213	Sub. Code
	7BCA5C2

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Fifth Semester

Computer Applications

COMPUTER SYSTEM ARCHITECTURE

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is meant by memory transfer?

2. Write the descriptions for LDA and STA instructions.

3. What is assembly language? Give an example.

4. What are the shift operations?

5. Write the expression A*B + C*D into reverse polish notation.

6. What is implied mode of addressing?

7. What is meant by divide overflow?

8. Write the purpose of the communication link in input-output interface.

9. What is meant by burst transfer and cycle stealing?

10. What is meant by Bootstrap loader?

Part B (5 × 5 = 25)

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

11. (a) Describe about the common bus system in detail.

Or

(b) Explain the stored program organization.

12. (a) Explain about the subroutines with example.

Or

(b) Explain the concept of program interrupt.

13. (a) Explain the general register organizations in detail.

Or

(b) What are the characteristics of reduced instruction set computers?

14. (a) Explain about the booth multiplication algorithm.

Or

(b) Explain about Daisy chain priority interrupt.

15. (a) Explain about the writting into Cache.

Or

(b) Describe page replacement principle in virtual memory.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the binary adder and binary adder – substracter.

17. Explain about the input-output instructions.

18. Describe the various addressing modes with example.

19. Explain about parallel priority encoder in detail.

20. Explain about the auxillary memory with diagram.

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F– 8214

Sub. Code
7BCAE1A

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Fifth Semester

Computer Applications

Elective – WEB DESIGN TECHNOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is the use of body section in HTML?
2. What is flame in HTML?
3. What is internet?
4. What are the features of JavaScript?
5. List some JavaScript keywords.
6. What are the logical operators in JavaScript?
7. What are the scopes of a variable in JavaScript?
8. What is recursion?
9. What is VBScript?
10. How to declare array in VBScript?

Part B (5 × 5 = 25)

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

11. (a) Explain some text formatting tags.

Or

(b) Explain briefly about tables.

12. (a) Explain decision making statements in JavaScript.

Or

(b) Explain multi subscripted array.

13. (a) Explain 'do-while' statement and write JavaScript program for sum of 10 natural numbers.

Or

(b) Explain 'for' loop with suitable JavaScript program.

14. (a) Explain String object.

Or

(b) Explain Boolean and Number objects.

15. (a) Explain string manipulators in VBScript.

Or

(b) Explain Msgbox and Inputbox in VBScript with suitable program.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain in detail about list with suitable examples.

17. Explain in detail about arrays in JavaScript with suitable program.

18. Explain functions in JavaScript with suitable program.

19. Discuss Math and Date objects.

20. Explain various operators used in VBScript.

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F–8216

Sub. Code
7BCAE2A

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Fifth Semester

Computer Applications

Elective — COMPUTER GRAPHICS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the uses of Computer Graphics?
2. What are the Hard copy output devices?
3. What is Geometric Transformation?
4. What is Shearing transformation?
5. What is the condition for PointClipping?
6. What is a Convex Polygon?
7. What are the basic 3D transformations?
8. Write down the matrix representation 3D Rotation.
9. What is Information Display?
10. What is an Interface?

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

Answer **all** questions.

11. (a) Explain the Bresenham's Circle drawing algorithm.

Or

(b) Explain the Graphics Input Devices.

(i) scanner

(ii) tablet

12. (a) Explain the Composite transformation with example.

Or

(b) Explain the Translation transformation with example.

13. (a) Explain the Line clipping with an example.

Or

(b) Explain the Window to Viewport transformation with an example.

14. (a) Explain the 3D composite transformation.

Or

(b) Explain 3D Mirror Reflection transformation with an example.

15. (a) Explain the styles of command language.

Or

(b) Write short notes on Feedback.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write and explain the DDA line drawing algorithm.

17. Explain the 2D basic transformations with example.

18. Write and explain Sutherland Hodgman polygon clipping algorithm.

19. Explain the 3D Translation and Scaling transformations with example.

20. Explain the components of User Interface.

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F–8217	Sub. Code
	7BCAE2B

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Fifth Semester

Computer Applications

Elective — OPERATING SYSTEM

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is Operating System?
2. What is Interprocess Communication?
3. What are the problems raised in Critical section?
4. What is a Deadlock?
5. What is a Logical address?
6. What is Paging?
7. What is Virtual Memory?
8. Define File.
9. What is an I/O system?
10. What is meant by authentication?

Part B (5 × 5 = 25)

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

11. (a) Explain any two types of Operating System.

Or

(b) Explain the components of Operating system.

12. (a) Explain the Classical problems of Synchronization.

Or

(b) Explain Critical Region with an example.

13. (a) What is Fragmentation? Explain External Fragmentation.

Or

(b) Explain Dynamic Loading and Linking with diagram.

14. (a) Explain the Directory structure.

Or

(b) Discuss free space management.

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

Or

(b) Explain the applications of I/O interface.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain (a) Scheduling criteria (b) Round Robin Scheduling algorithm.

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

18. Explain the Segmentation scheme with diagram.

19. Explain any three Page replacement methods with example.

20. Explain (a) Threat Monitoring (b) Access Matrix.

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F–8218

Sub. Code
7BCA6C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Sixth Semester

Computer Applications

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. Give any two applications of data mining.

3. List some classification techniques.

4. What is the difference between training set and test set?

5. What is Clustering?

6. Write a formula for finding the Euclidean distance between two points.

7. What is Web Data Mining?

8. What is Web content mining?

9. What is metadata?

10. What is OLAP?

Part B (5 × 5 = 25)

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

11. (a) List out data mining software.

Or

(b) Explain Naïve algorithm.

12. (a) Explain the basics of classification.

Or

(b) Explain decision tree rules.

13. (a) Explain briefly about the types of cluster analysis methods.

Or

(b) Explain computing distances in cluster analysis

14. (a) Write short notes on web content mining.

Or

(b) What are the functionalities of search engine?

15. (a) Explain briefly data warehousing basics.

Or

(b) Explain multidimensional view and data cube in data warehousing.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain data mining techniques.

17. Explain Naïve Bayes method in classification.

18. Explain partitioned methods of cluster analysis.

19. Discuss web structure mining.

20. Explain data cube implementation in data warehousing.

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F–8219	Sub. Code
	7BCA6C2

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022.

Sixth Semester

Computer Applications

COMPUTER NETWORKS

(CBCS –2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is meant by local loop in Telephone System?

2. What is the use of Transponders?

3. What are the types of ALOHA?

4. Which principle is used in a Simplex Stop and wait Protocol ?

5. What is meant by Session Routing?

6. Define : Subnet.

7. Write the Transport Protocol Classes.

8. Define : Multiplexing.

9. Write the function of user Agent in Electronic Mail.

10. What is Multimedia?

Part B (5 × 5 = 25)

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

11. (a) Explain the Applications of Networks.

Or

(b) Explain the Principles of Line-of-Sight Transmission.

12. (a) Explain Go back n protocol.

Or

(b) Explain about the Collison free Protocols.

13. (a) Describe about the Internet Multi-casting.

Or

(b) Explain about the Shortest Path Routing.

14. (a) Describe about the crash recovery.

Or

(b) Explain the UDP Protocol.

15. (a) Explain the Public Key Algorithm.

Or

(b) Describe about the DNS.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the technical details of Base band and Broad Band Co-axial Cable.

17. Describe the Sliding Window Protocols.

18. Explain the Renting and switching techniques.

19. Explain about the Measuring Networking Performance.

20. Explain :

    (a) Data Compression

    (b) Email.

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F–8220	Sub. Code
	7BCA6C3

B.C.A. DEGREE EXAMINATION, NOVEMBER 2022

Sixth Semester

Computer Applications

SOFTWARE ENGINEERING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the size categories for software products?

2. What are the Qualitative requirements of a software product?

3. What are the major factors that influence software cost?

4. What are the Desirable properties of a software Product?

5. Define : Structure of a Software Product.

6. Define : Verification in a Software design.

7. What is meant by Acceptance Testing?

8. What is meant by unit Testing?

9. Define : Quality Assurance of a Software Product.

10. What is meant by software verification Summary?

Part B (5 × 5 = 25)

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

11. (a) Explain the factors that influence quality and Productivity of a Software product.

Or

(b) Explain the phased life-cycle model in detail.

12. (a) Explain about the product complexity.

Or

(b) Explain about the Decision tables.

13. (a) Describe the Information Hiding in detail.

Or

(b) Describe about the Dataflow Diagrams.

14. (a) Explain about the Implementation activities in software maintenance.

Or

(b) Explain about the five Laws of Program Evolution.

15. (a) Explain about software quality Assurance plan.

Or

(b) Describe about ISO 900 quality standards in detail.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the Problems identified by respondents as important management problems and explain the methods to solve the problem.

17. Describe about Algorthimic Cost-model.

18. Explain about the Distributed design.

19. Describe about any two types of Testing.

20. Explain the statistical Quality Assurance

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