

F-7184

Sub. Code

7BCA1C1

B.C.A. DEGREE EXAMINATION, APRIL 2022

First Semester

Computer Applications

C AND DATA STRUCTURE

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What do you mean by character set?
2. What is bitwise operator?
3. Define Array.
4. How can read string from terminal?
5. What is a recursion?
6. What is structure?
7. How to increment the value of a variable using pointer?
8. What are the basic file operations?
9. What is data structure?
10. What is Tree?

Part B

(5 × 5 = 25)

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

11. (a) Describe the structure of a C program.

Or

- (b) Discuss about for loop.

12. (a) Explain the basic concept of two dimensional array.

Or

- (b) Write a C program to find the length of a given string using proper string handling function.

13. (a) What are the needs for user defined functions?

Or

- (b) Explain array of structures with suitable example.

14. (a) Write a short note on Pointer.

Or

- (b) Explain opening and closing a file.

15. (a) Write short note on Stack and its basic operations.

Or

- (b) Explain briefly about Linked List.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain various categories of operators in C.
17. What are string handling functions? Explain all with suitable examples.

18. Explain the categories of functions.
 19. Explain input output operations on files.
 20. Explain in detail about Queues.
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7BCA2C1

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

Second Semester

Computer Applications

PROGRAMMING IN C++

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Write the syntax of switch statement.
2. What are the basic concepts of OOP?
3. Define class and object.
4. What is a Destructor?
5. What are the advantages of Inheritance?
6. What is a Pointer? Give an example.
7. What's a Random Access File?
8. What is the purpose of tellp() and seekg() functions?
9. What is a user defined Template?
10. What is the difference between an error and an exception?

Part B

(5 × 5 = 25)

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

11. (a) Write a C++ program to count the numbers that are divisible by 4 and not divisible by 10 between 100 and 300.

Or

- (b) Write a C++ program to print the Armstrong number between 500 and 1500.

12. (a) Explain nesting of member function with an example.

Or

- (b) Explain friend function with an example.

13. (a) Explain virtual function with an example.

Or

- (b) Explain the manipulators in C++ with example.

14. (a) Explain the classes for File Stream Operations in C++.

Or

- (b) Explain Command line argument with an example.

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

Or

- (b) Explain the exceptions in constructor.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain any two loop statements with example.
17. Explain array of objects with a C++ program.

18. Explain Multi level Inheritance with a C++ program.
 19. Write a C++ program to display the details of the student whose height is greater than 165 cm. Assume that the file is an existing file with the fields name, regno, height, weight and marks obtained in four subjects.
 20. Write a C++ program to add three integers, three float numbers and three double numbers using function template.
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B.C.A. DEGREE EXAMINATION, APRIL 2022

Third Semester

Computer Applications

DATABASE MANAGEMENT SYSTEMS

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the applications of Database System?
2. What is a Constraint?
3. What is an Atomic Domain?
4. What is a Temporal Data?
5. What is meant by Centralized architecture?
6. What do you mean by Intraquery parallelism?
7. What is meant by Data Integrity?
8. What is a Privilege?
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 System.

Or

- (b) Explain Object based Databases.

12. (a) Explain the features of good Relational designs.

Or

- (b) Explain the Database Design process.

13. (a) Explain the Client-Server architecture with diagram.

Or

- (b) Explain the Distributed data storage.

14. (a) What is an index? How will you create Index?

Or

- (b) Explain any Five DML commands with example.

15. (a) Explain Cursors 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 E-R model for a Customer, Account and Branch with diagram.
 17. Explain the decomposition using functional Dependencies.
 18. Explain the various Network types.
 19. How will you create a table and alter a table? Explain with example.
 20. Write a procedure to calculate the EB bill. Assume your own data.
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7BCA4C1

B.C.A. DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Computer Applications

JAVA PROGRAMMING

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the features of java?
2. What is meant by type casting?
3. What do you mean by Operator precedence? Give example.
4. Write any four mathematical functions used in Java.
5. What is an Object?
6. Define Final class.
7. How will you hide classes?
8. What is an Exception?
9. How will you draw line graphs?
10. How will you add an Applet to a HTML file?

Part B

(5 × 5 = 25)

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

11. (a) Explain the java tokens with example.

Or

- (b) Explain the S/W and H/W requirements for java.

12. (a) Explain the operators in java.

Or

- (b) Explain any two loop statements in java with example.

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

Or

- (b) Explain Interface with a program.

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

Or

- (b) Explain Thread exceptions with example.

15. (a) Write a java program to draw rectangles within rectangle (Two numbers).

Or

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

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain (a) Java Data types (b) Web Browsers.
 17. Write a Java program to find the sum the even numbers that are divisible by 3 and not divisible by 5 between 100 and 200 using while loop.
 18. Explain method overriding with a program.
 19. Explain with a program, how will you create the Thread by extending Thread class.
 20. How will you pass parameters to an Applet? Explain with a program.
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7BCAE1A

B.C.A. DEGREE EXAMINATION, APRIL 2022

Fifth Semester

Computer Applications

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. What are the different types of links?
3. List some advantages of JavaScript
4. Define WWW.
5. What are JavaScript Data Types?
6. Is JavaScript a case-sensitive Language? Give an example.
7. How to create a function in JavaScript?
8. What is global scope in JavaScript?
9. Write the syntax for Inputboxin VBScript.
10. What are the data types used in VBScript?

Part B

(5 × 5 = 25)

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

11. (a) Explain general structure of HTML program.

Or

- (b) Explain ordered list.

12. (a) Write a JavaScript to find the biggest of three numbers.

Or

- (b) Explain JavaScript Arithmetic with examples.

13. (a) Explain 'if' and 'if-else' statements with suitable example.

Or

- (b) Explain arithmetic and Logical operators with suitable example.

14. (a) Explain Math object.

Or

- (b) Explain Date object.

15. (a) Explain Conditional statements in VBScript.

Or

- (b) Explain looping statements in VBScript.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain forms in HTML with suitable program.

17. Explain passing arrays to function with suitable JavaScript program.

18. Explain looping statements in JavaScript with suitable example.
 19. Discuss about objects in JavaScript.
 20. Explain arrays in VBScript with suitable program.
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7BCAE2A

B.C.A. DEGREE EXAMINATION, APRIL 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 applications of Computer Graphics?
2. What is the basic difference between DDA and Bresenham's line drawing algorithms?
3. What is the use of Geometric Transformation?
4. What is shearing transformation?
5. Define Aspect Ratio.
6. What is a Concave Polygon?
7. What are the basic 3D transformations?
8. Write down the 3D transformation equation for mirror reflection.
9. What is the need for User Interface?
10. What is a Feedback?

Part B

(5 × 5 = 25)

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

11. (a) Explain the Video display generation.

Or

- (b) Explain any two hard copy Output Devices.

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

Or

- (b) Explain the basic transformation principles with example.

13. (a) Explain the Convex Polygon clipping with an example.

Or

- (b) Explain the Viewing transformation with an example.

14. (a) Explain the basic concepts of 3D 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 Information Display.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write and explain the Bresenham's line drawing algorithm.
 17. Explain the 2D basic transformations with example.
 18. Write and explain the Line segment clipping algorithm.
 19. Explain the 3D Rotation and Scaling transformations with example.
 20. Explain the components of User Interface.
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7BCA6C1

B.C.A. DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Computer Applications

DATA MINING AND WAREHOUSING

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is Data Warehousing?
2. Define support and confidence.
3. Define decision tree.
4. Define over fitting.
5. Define Manhattan distance.
6. Write a note on CLUTO.
7. What is WWW?
8. What is a domain name server?
9. What is operational Data sources?
10. What is a dimension?

Part B

(5 × 5 = 25)

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

11. (a) Explain the applications of Data Mining.

Or

- (b) Write a note on improving the efficiency of the Apriori Algorithm.

12. (a) Discuss about Decision Tree rules.

Or

- (b) Explain any five classification software.

13. (a) Explain the basics of cluster Analysis.

Or

- (b) Explain the different types of cluster analysis methods.

14. (a) What are the major differences between searching conventional text and searching the web.

Or

- (b) Explain page Rank Algorithm.

15. (a) Explain Data warehousing design.

Or

- (b) Describe about Data warehouse metadata.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain any five Data Mining techniques.
 17. Explain the evaluation criteria for classification methods.
 18. Discuss briefly on Hierarchical methods in Cluster Analysis.
 19. Discuss in detail on web content mining.
 20. Explain the characteristics of OLAP Systems.
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7BCA6C2

B.C.A. DEGREE EXAMINATION, APRIL 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 Broad band and narrow band ISDN?
2. What are the goals of the computer networks?
3. What is a SLIP protocol?
4. Write the Collision free protocols.
5. Define : Internet multicasting.
6. What is meant by Subnet?
7. Define : Multiplexing.
8. What is a TCP protocol?
9. Which principle is used in Public Algorithm?
10. What is meant by Data compression?

Part B

(5 × 5 = 25)

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

11. (a) Explain about Telephone system.

Or

- (b) Describe about Transmission media.

12. (a) Describe about the any one Elementary Data Link Protocol.

Or

- (b) Describe about error detection and correction codes.

13. (a) Describe about ARP protocol.

Or

- (b) Describe about ATM LANs.

14. (a) How will you measure the performance of a network?

Or

- (b) Explain about the flow control mechanism in detail.

15. (a) Describe about SNMP

Or

- (b) Explain about any one secret key algorithm.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe about Reference Models.

17. Describe about Petrinet models.

18. Explain any two routing protocols.
 19. Explain the protocols for Gigabit networks.
 20. Explain the elements used in multimedia.
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7BCA6C3

B.C.A. DEGREE EXAMINATION, APRIL 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 is meant by Team Communication in software development?
2. What are the skills required for a software engineer?
3. What are the development multipliers for software reliability?
4. Write the format of a software requirements specification.
5. What are the uses of Data Dictionary?
6. Define : Walkthroughs.
7. What is meant by unit testing?
8. What are the maintenance tools used in Software maintenance?
9. What is meant by validation?
10. Define : Quality Assurance.

Part B

(5 × 5 = 25)

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

11. (a) Describe about the project structure in detail.

Or

- (b) Describe about the planning Phase-Dependent Tools.

12. (a) Explain about the staffing level estimation.

Or

- (b) Describe about the state oriented notations.

13. (a) Explain about coupling and cohesion.

Or

- (b) Explain about Pseudocode and structured English.

14. (a) Explain about the five laws of program evolution.

Or

- (b) Explain the automated tools for software maintenance.

15. (a) Explain about SQA plan.

Or

- (b) Explain the ISO-9000 quality standards.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the project size categories.
 17. Explain about the work breakdown structures in detail.
 18. Describe the Design Guidelines.
 19. Describe source code metrics in detail.
 20. Explain the formal technical reviews.
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