F–6117	Sub. Code
	7BCA1C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

First Semester

Commerce with Computer Applications

C AND DATA STRUCTURE

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. Define constants in C.
2. What is the purpose of break statement in C?
3. How are arrays declared in C?
4. Define a string. Give an example.
5. What are library functions?
6. Write the syntax of a structure.
7. What type of value is stored in a pointer variable?
8. What is a file pointer?
9. What is a depth of a tree?
10. Define stack.

Part B (5 × 5 = 25)

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

11. (a) Briefly explain the various C data types.

Or

(b) Explain switch statement in C.

12. (a) Write a 'C' program to find the smallest element in an array.

Or

(b) Discuss about writing strings to screen.

13. (a) Explain the need for user defined functions.

Or

(b) Explain arrays within structures with an example.

14. (a) Write a C program to print the address of a variable along with its value using pointer.

Or

(b) Explain various file opening modes in C.

15. (a) Write a note on classification of data structures.

Or

(b) How will you add an item and delete an item to/from a queue? Explain.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain briefly the different input and output operations available in C.

17. Discuss in detail on arithmetic operations on characters.

18. Explain nesting of function with a 'C' program.

19. Explain I/O operations on files with a program.

20. Explain insertion into linked list with algorithm and example.

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F–6118	Sub. Code
	7BCA2C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

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. What is an inline function in C++?
2. What are the advantages of OOP?
3. What are the characteristics of static data member?
4. What is a Destructor?
5. What is a virtual base class?
6. What is a Pointer? Give an example.
7. What are the two different methods to open a file?
8. What is a Binary file?
9. Define 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 operators in C++.

Or

(b) Explain the switch statement with an example.

12. (a) Explain Constructor with default argument with an example,

Or

(b) Explain overloading Constructor with an example.

13. (a) Explain C++ stream classes.

Or

(b) Explain Pointer to objects concept with an example.

14. (a) Explain File pointers and their manipulators with example.

Or

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

15. (a) Explain the user defined template with an example.

Or

(b) Explain the Exception handling constructs in C++ with an example.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

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

17. Explain array of objects concept with a program.

18. Explain Hierarchical Inheritance with a program.

19. Write a C++ program to store the student details in a binary file.

20. Explain class template with a program.

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F–6119	Sub. Code
	7BCA3C1

B.C.A DEGREE EXAMINATION, NOVEMBER 2021.

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 is Data?

2. What is an ER diagram in DBMS?

3. What is a Primary Key?

4. What is fully functional dependency?

5. What is Parallel database?

6. What are the advantages of distributed databases?

7. What is Composite Index?

8. Define Privileges?

9. What is SQL?

10. What is a Trigger?

Part B (5 × 5 = 25)

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

11. (a) Explain about Constraints.

Or

(b) Describe about the database administrators.

12. (a) Explain the features of good Relational database design.

Or

(b) Explain Multi Valued dependencies.

13. (a) Describe about distributed query processing.

Or

(b) Write a short notes on Interquery parallelism.

14. (a) Explain about indexes.

Or

(b) How to create and maintain the tables?

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

Or

(b) Explain about packages with example.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about Database languages.

17. Explain the various forms of Normalization.

18. Explain the database System Architecture.

19. Explain about the users Privileges and Roles.

20. Write a program to find the factorial of a number using procedure.

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F–6120	Sub. Code
	7BCA4C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

Fourth Semester

Computer Application

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 OOP?

2. What is WWW?

3. What is meant by Associativity of operator?

4. What are the bitwise operators available in java?

5. How will you create an Object? Give an example.

6. What is meant by visibility control?

7. What are the advantages of thread?

8. What is an exception?

9. Write the syntax of APPLET tag.

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

Part B (5 × 5 = 25)

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

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

Or

(b) Explain the java tokens.

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

Or

(b) Explain switch statement with an example.

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

Or

(b) Write a java program to find the smallest number 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) How will you pass parameters to an applet? Explain with an example.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain command line argument with a java program.

17. Write a java program to find the sum of first odd numbers between 200 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 multhreading concept to display the ten numbers with a delay of 250 ms. [use any method].

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

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F–6121	Sub. Code
	7BCA5C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

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 JIT compilation?

2. Write the difference between Asp and Asp.Net.

3. What is an event?

4. What is the use of rich text box?

5. Define function.

6. What is the use of progress bar?

7. What is an exception?

8. Write any two string functions.

9. What is data adapter?

10. Difference between ADO and ADO.NET.

Part B (5 × 5 = 25)

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

11. (a) Explain the features of ASP.NET.

Or

(b) Explain solution explorer and properties window.

12. (a) Write a window-based application to find the average of five subject marks. Assume that the five subject marks are entered in text boxes and the average is also displayed in a text box.

Or

(b) Explain the properties of radio button.

13. (a) How do you create menus?

Or

(b) Explain masked textbox and link label control.

14. (a) Explain sub procedure with example.

Or

(b) Explain pass by value and pass by ref with example.

15. (a) Highlight the features of ADO.NET.

Or

(b) Explain about data provider and dataset.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about arrays with an example.

17. Explain about form with an example.

18. Write a .Net program to check the entered user name and password are valid or not.

19. Explain the various types of dialog boxes.

20. Explain the concept of data binding and data source controls in ADO.NET.

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F–6122	Sub. Code
	7BCA5C2

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

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 are the types of Integer Representation?

2. What is meant by normalization in floating point representation?

3. What is meant by symbolic code?

4. What is meant by double-precission addition?

5. What are the data transfer instructions?

6. What are the characteristics of RISC computers?

7. What is meant by divide over flow?

8. Write the isolated versus memory-mapped I/O.

9. Write the steps for writing in to cache memory.

10. Draw the memory hierchy diagram.

Part B (5 × 5 = 25)

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

11. (a) Explain the five types of complements.

Or

(b) Describe about the binary adder in detail.

12. (a) Write the micro-operations and describtions for the following.

(i) BSA

(ii) BUN

Or

(b) Explain about second pass assembler.

13. (a) Describe the types of addressing modes.

Or

(b) Explain about stack operations.

14. (a) Explain about input-output processor in detail.

Or

(b) Describe about Daisy-chain priority interrupt.

15. (a) Explain about direct mapping in cache memory.

Or

(b) Explain about associative memory page table in detail with reference to virtual memory.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the types of Register-Reference instructions.

17. Explain about shift operations in detail.

18. Explain about General Register organization in detail.

19. Explain the DMA transfer.

20. Describe the characteristics of multi processor.

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F–6123	Sub. Code
	7BCAE1A

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

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 a markup language?

2. What is an unordered list?

3. What are the methods used to display a text in Java Script?

4. What are the Data types used in JavaScript?

5. Write the operator procedure of Javascript.

6. Write the description of ParseInt ( ) and ParseFloat ( ) Functions.

7. Write the methods of Math object.

8. What are the properties of form object?

9. How a function is created in VB Script?

10. What are the operators used in VB Script?

Part B (5 × 5 = 25)

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

11. (a) Explain the FRAMESET tag with example.

Or

(b) Create your class timetable in the Web Site. Write the browser output.

12. (a) Explain the operators used in Java Script with simple example.

Or

(b) Explain the Arrays to functions in Java Script with an example.

13. (a) Describe any two loop structures in java Script.

Or

(b) Explain about the Recursive Functions in java Script.

14. (a) Explain the methods of String Object.

Or

(b) Explain about the Trigonometric methods of math object.

15. (a) Explain about the flow control of code in VB Script.

Or

(b) Write a Simple program with input box and Msg box.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Design a Applications form for Job employment in the web site which consists of all form elements.

17. Explain about memory Concepts in Java Script.

18. Explain about the programmer defined functions in Java Script.

19. Explain about the Number Object in Java Script.

20. What are the objects are used in VB Script. Explain

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F–6124	Sub. Code
	7BCAE2A

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

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. Write some of the graphics system software.

3. What is meant by Geometric Transformation?

4. What is shearing transformation?

5. Define Shielding.

6. What is a concave polygon?

7. What is the difference between 2D and 3D transformations?

8. What are the basic concepts of 3D transformation?

9. What is the use of Interface?

10. What is command language?

Part B (5 × 5 = 25)

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

11. (a) Explain any three graphics input devices.

Or

(b) Write the Bresenham's line drawing algorithm.

12. (a) Explain the 2D additional transformations with matrix..

Or

(b) Explain the transformation principles.

13. (a) Explain the convex polygon clipping with an example.

Or

(b) Explain the viewing transformation.

14. (a) Explain 3D composite transformation with example.

Or

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

15. (a) Explain the components of user interface.

Or

(b) Explain the information display.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write and explain the circle drawing algorithm.

17. Describe the 2D basic transformation with example.

18. Explain the windows and viewpoints with an example.

19. Explain the 3D translation and rotation transformation with example.

20. Describe the styles of command language.

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F–6125	Sub. Code
	7BCA6C1

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

Sixth Semester

Commerce with Computer Application

DATA MINING AND WAREHOUSING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Write a note on OLAP.

2. Define frequent itemset.

3. What is apriori classification?

4. What is the meaning of overfitting?

5. What is the difference between cluster analysis and classification?

6. Define Manhattan distance.

7. Define web structure mining.

8. Write a note on proxy.

9. What is a data warehouse?

10. Write about OLTP in brief.

Part B (5 × 5 = 25)

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

11. (a) Write and explain any five applications of data mining.

Or

(b) Write the basics of association rule mining.

12. (a) Discuss about decision tree.

Or

(b) Explain Naive Bayes method.

13. (a) Discuss about types of data in cluster analysis.

Or

(b) Explain density based methods.

14. (a) Explain web usage mining.

Or

(b) Write about search engine functionality.

15. (a) Explain the data warehousing design.

Or

(b) Explain data warehouse metadata.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain data mining techniques.

17. Explain other evaluation criteria for classification methods.

18. Explain partitional methods in cluster analysis.

19. Explain web content mining.

20. Explain the guide lines for data warehouse implementation.

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F–6126	Sub. Code
	7BCA6C2

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

Sixth Semester

Commerce with Computer Applications

COMPUTER NETWORKS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the functions of physical layer?

2. What is meant by ISDN?

3. What is meant by link management?

4. What is meant by error detection?

5. What is meant by multi-path routing?

6. What is meant by choke packets?

7. What are the factors that determine the quality of service?

8. What is meant by multiplexing?'

9. Which principle is used in secret key algorithm?

10. What is meant by SNMP?

Part B (5 × 5 = 25)

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

11. (a) Explain about the Baseband coaxial cable.

Or

(b) Explain about modems.

12. (a) Describe about the finite state machine models.

Or

(b) Describe about the carrier sense multiple access protocols.

13. (a) Explain about tunneling mechanism.

Or

(b) Explain about Internet multicasting.

14. (a) Explain the transport layer quality of service parameters.

Or

(b) Explain about the OSI transport service primitives.

15. (a) Describe about user agent in E-mail.

Or

(b) Explain the cryptography technique.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the network standardization in detail.

17. Explain about the error correcting codes.

18. Explain about the IP SUBNET in detail.

19. Describe the protocols for Gigabit networks.

20. Describe about the network security in detail.

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F–6127	Sub. Code
	7BCA6C3

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

Sixth Semester

Commerce with Computer Applications

SOFTWARE ENGINEERING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is meant by software reliability?

2. How programmers spend their time?

3. Define: Product complexity.

4. Which principle is used in decision table?

5. What is meant by modularity in software design?

6. Write the impact of GO TO statement in software design.

7. What is meant by validation testing?

8. List out the implementation activities in software development.

9. Define: Quality assurance.

10. List out the automated tools for software maintenance.

Part B (5 × 5 = 25)

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

11. (a) Explain the management problems in software engineering.

Or

(b) Explain about the planning of a software project.

12. (a) Explain the estimation of software maintence cost.

Or

(b) Explain about the relational notations.

13. (a) Describe about Cohesion in detail.

Or

(b) Explain about procedure templates and Psuedocode.

14. (a) Explain about the strategic issues in software testing.

Or

(b) Describe about source code metrics in detail.

15. (a) Explain the need for software quality assurance.

Or

(b) Explain about SQA plan.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the planning an organizational structure.

17. Describe about the staffing level estimation of cost estimation.

18. Explain about distributed system design.

19. Explain about the integration testing.

20. Explain about statistical quality assurance in detail.

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F–6460	Sub. Code
	7BCAE2B

B.C.A. DEGREE EXAMINATION, NOVEMBER 2021.

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 a Scheduler?

2. What is a Batch system?

3. What is a Monitor?

4. Define Deadlock.

5. What is meant by Dynamic Loading?

6. What is Logical address space?

7. What is Swapping?

8. Define virtual memory.

9. What is a Kernel?

10. What is I/O subsystem?

Part B (5 × 5 = 25)

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

11. (a) Explain the Real time system.

Or

(b) Explain the Components of the Operating System.

12. (a) Explain any one method to solve critical section problem.

Or

(b) Explain the classical problems of synchronization.

13. (a) Explain the types of Fragmentation.

Or

(b) Explain Contiguous memory allocation with diagram.

14. (a) Explain Demand Paging technique with diagram.

Or

(b) Explain FIFO page replacement algorithm with an example.

15. (a) Explain the I/O hardware.

Or

(b) How Transforming I/O requests to Hardware operations take place? Explain.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain (a) Priority scheduling algorithm (b) FCFS Scheduling algorithm.

17. Explain the Deadlock avoidance algorithm.

18. Explain the Segmentation scheme with diagram.

19. Explain the File system structure with diagram.

20. Explain (a) Encryption (b) Threats.

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