

S. S. Jain Subodh P.G. College, Jaipur (Autonomous)

Programme- BCA, Semester-I

Paper: PBCA101: Programming in C

Assignment 2026

Note- Attempt four questions, one question from each unit. Write answer with good presentation. Each question carries equal marks.

Unit – I

1. Define with suitable example -
(a.) Constants, Variables, Data Types and Expressions.

(b.) Define flowchart and Explain various symbols used in Flow Chart. Draw a flow chart to find average of three numbers.
2. (a.) What are operators in C? Explain various operators with suitable example.
(b.) What is an algorithm? Write an algorithm to find maximum among three number.

Unit – II

3. Write a C program to check whether a person is eligible to vote or not.
4. (a.) What is an array? Write a C program to accept five numbers from the user and display them.
(b.) What is String? Explain String-handling functions with suitable example.

Unit – III

5. Explain the following with suitable example:
a) User-defined functions **b)** Parameter Passing in function **c)** Recursion **d)** Passing arrays to functions **e)** Passing string to functions
6. What is pointers? Explain pointer with suitable example.

Unit – IV

7. Differentiate between structures and unions. WAP to demonstrate structures and union.
8. What is file handling in C? Explain Opening and Closing a File, Input/output operations on Files with suitable example.

S.S. Jain Subodh PG College, Jaipur (Autonomous)

BCA I Semester

Paper Name – Web Application and Development

Assignment October 2026

Instructions to students: - Attempt any **four** questions selecting **at least 1 question from each unit**. Write answer in at least 500 words.

UNIT – I

- 1). What are Internet protocols? Explain the working and uses of HTTP, FTP, and SMTP protocols.
- 2). Explain the World Wide Web (WWW) and its major components. Discuss web browsers, web servers, proxy servers, and browser architecture.

UNIT – II

- 3). Explain the HTML5 structural tags <section>, <nav>, <article>, <aside>, <header>, and <footer>. Give suitable examples.
- 4). Explain how to create HTML tables, forms, hyperlinks, and images. Write suitable HTML examples for each.

UNIT – III

- 5). What is CSS? Explain CSS syntax and the three methods of applying CSS: inline, internal, and external style sheets.
- 6). Explain how CSS is used for web page design. Discuss styling of backgrounds, borders, text, fonts.

UNIT – IV

- 7). Explain JavaScript functions and program flow.
- 8). Explain form handling and validation using JavaScript.

S.S Jain Subodh P.G. (Autonomous) College

BCA Sem- I

Bachelor of Computer Applications
PBCA103 : Computer Fundamentals & Office Management

Assignment

Attempt one questions from each unit.

Unit- 1

Ques. 1- What is Memory? State different types of memories. Also explain the basic organization of a Computer.

Ques. 2- Solve the following :

- a. $(651.24)_8 \rightarrow (?)_2$
- b. $(5764)_{10} \rightarrow (?)_8$
- c. $(7051)_{16} \rightarrow (?)_2$
- d. $(11110110)_2 \rightarrow (?)_{16}$
- e. $(7F3B)_{16} \rightarrow (?)_{10}$
- f. $(8750)_{10} \rightarrow (?)_{16}$
- g. $(CAFE27)_{16} \rightarrow (?)_2$
- h. $(6.54)_8 \rightarrow (?)_{10}$

Unit- 2

Ques.1- What do you understand by Software in Computer? Also explain the meaning of operating system. How it works.

Ques. 2- Differentiate between Internet & Intranet. Also explain the E-Mail in detail

Unit-3

Ques.1- Explain cell referencing, AutoSum, absolute and relative addressing in MS. Excel.

Ques.2-. Explain different features of MS Word & Excel? How do create a Table in MS Word and Worksheet in Excel in detail.

Unit-4

Ques.1- Describe the steps for creating, viewing and managing a presentation.

Ques.2-. What is Microsoft Access? Explain the planning and creation of a database using Tables, Queries, Forms and Reports.

S.S. Jain Subodh P.G. College, Jaipur(Autonomous)

Programme – BCA I Semester

Paper – Mathematics for Computing

Assignment

Note: Attempt any five questions.

- 1) If $A = \{1, 2, 3\}$ and $B = \{2, 3, 4\}$, what is $(A \cap B) \cup (A \cup B)$?
- 2) Draw Venn diagrams of the following:
 - (i) The intersection of two sets.
 - (ii) The union of two sets.
 - (iii) Two disjoint sets.
 - (iv) The sets A and B if A subset of B.
- 3) A relation R on set $A = \{1, 2, 3\}$ is defined as $R = \{(1, 1), (2, 2), (3, 3), (1, 2), (2, 1)\}$. Which of the properties does R satisfy?
- 4) If $f(x) = x^2$ and $g(x) = x + 1$, then find $(f \circ g)(x)$, $(g \circ f)(x)$, $(f \circ f)(x)$ and $(g \circ g)(x)$.
- 5) If $z_1 = 5 + i$ and $z_2 = 3 - i$ then find
 - (i) $z_1 + z_2$
 - (ii) $z_1 - z_2$
 - (iii) $z_1 z_2$
 - (iv) z_1 / z_2
- 6) Find the modulus and argument of $z = 3 + 4i$.
- 7) If A.M. between two numbers is 20 and their G.M. is 16, then find H.M.
- 8) If first term of an A.P. is 12, last term is 32, number of terms is 11, then find the common difference.

S. S. Jain Subodh P.G. College, Jaipur(Autonomous)
B.C.A.- III Semester
Paper Code: PBCA301

Subject: Data Structures and Algorithms

Assignment 2026

Note- Attempt four questions, one question from each unit. Write answer in at least 500 words with good presentation. Each question carries equal marks.

Max. Marks- 20

UNIT-I

Q1. Define an algorithm and explain its important characteristics. Discuss the methods used for analyzing the efficiency of algorithms.

Q2. Explain the different searching and sorting techniques. Describe binary search, bubble sort, and selection sort with suitable examples.

UNIT-II

Q3. What is a linked list? Explain its representation and basic operations such as traversal, insertion, and deletion.

Q4. Differentiate between an array and a linked list. Explain singly, doubly, and circular linked lists with suitable diagrams.

UNIT-III

Q5. Explain the concept of a stack. Describe its implementation using an array and linked list, along with basic stack operations.

Q6. What is a queue? Explain its implementation using an array and linked list. Also discuss the different types of queues and their operations.

UNIT-IV

Q7. Explain the concept and terminology of trees. Describe Binary Search Tree (BST) representation and explain tree traversal techniques with suitable examples.

Q8. Define a graph and explain its different representations. Describe BFS and DFS graph traversal techniques with suitable examples.

S. S. Jain Subodh P.G. College, Jaipur (Autonomous)

Assignment

Programme: BCA III Semester

Paper: PBCA302 – Object Oriented Programming through C++

Unit-I

1. Describe the fundamental characteristics of Object-Oriented Programming language in detail.
2. Explain the evolution of Object-Oriented Programming (OOP). Compare Functional Programming and Object-Oriented Programming approaches.

Unit-II

3. What is Array? Explain the declaration and initialization of Array with help of suitable example.
4. What is Constructor and its characteristics? Define Parameterized Constructor with example.

Unit-III

5. What is inheritance? Explain the importance of inheritance in OOP and discuss the different types of inheritance in C++ with suitable examples
6. Explain function overloading and operator overloading in C++. Discuss unary and binary operator overloading with suitable programming examples.

Unit-IV

7. What is Exception? Explain Exceptional Handling Mechanism with Example.
8. Describe File handling Functions? Write a program to read data from a file and also print them to another file.

S. S. Jain Subodh P. G. College, Jaipur (Autonomous)

Assignment- October 2026

Programme-BCA III Semester

Paper Code- PBCA-303: Software Engineering

Max Marks-(4X5=20)

Note: Attempt any four questions selecting atleast one question from each unit.

UNIT-I

Q1. What are the characteristics of Software Engineering? Describe Software Requirements Specification.

Q2. Write short notes on following-

- a) Waterfall Model
- b) spiral Model

UNIT-II

Q3. Explain Software Project planning concepts in detail.

Q4. Write short notes on following-

- a) Problem-based estimation
- b) COCOMO Model

UNIT-III

Q5. What is Software Design? Explain its Principles.

Q6. Explain the Black Box Testing and White Box Testing strategies in detail.

UNIT-IV

Q7. Discuss the core concepts of Software Reliability and Software Safety.

Q8. Define Reverse Engineering and Restructuring within the context of software evolution.

S. S. Jain Subodh P. G. College, Jaipur (Autonomous)

Assignment- October 2026

Programme-B.C.A. Semester-V

Paper Code-BPCA-501 Computer Graphics

Max Marks-(4X5=20)

Note: Attempt any four questions selecting at least one question from each unit.

UNIT-I

Q1. What is Computer Graphics? Discuss its important Application Areas in detail.

Q2. Write notes on following (**any two**)-

- a)** HSV Color Model
- b)** Color Lookup Table
- c)** Graphical User Interface

UNIT-II

Q3. Explain 3-D Transformations and discuss Translation, Scaling, and Rotation in 3-D space with suitable matrices.

Q4. Describe Mid-point Circle Algorithm in detail with example.

UNIT-III

Q5. Explain the Sutherland–Cohen line clipping algorithm with its region codes and step-by-step procedure.

Q6. Explain Depth Sorting method and Area Subdivision methods of Visible Surface Detection with suitable example.

UNIT-IV

Q7. What is Digital Image Processing? Explain the major application areas of Digital Image

Q8. Processing with suitable examples.

Write notes on following (**any two**)-

- a)** Antialiasing
- b)** Convolution
- c)** Thresholding

**S. S. JAIN SUBODH P.G.(AUTONOMOUS) COLLEGE,
JAIPUR**

Affiliated to University of Rajasthan, Jaipur

BCA Semester V October 2026

Assignment

Subject: Software Engineering

Paper Code: BPCA502

Max. Marks: 20

Instructions to the Candidates

NOTE: Answer any four questions by selecting one from each unit.

Unit – I

- 1) What do you mean by Software Engineering? Explain its Applications, Components in detail.
- 2) Explain Software process models.

Unit - II

- 3) What is Software Project Planning? Explain its objectives and Software Sizing.
- 4) Explain COCOMO Model.

Unit – III

- 5) Explain Software Design Objectives, Principles and Design Concepts.
- 6) Explain following:
 - a. Software Data Design
 - b. Architectural Design
 - c. Procedural Design

Unit – IV

- 7) Explain all the objectives and principles of Testing.
- 8) Explain following:
 - a. White Box Testing and Black Box Testing
 - b. Verification & Validation
 - c. Integration Testing & System Testing

**S. S. JAIN SUBODH P.G.(AUTONOMOUS) COLLEGE,
JAIPUR**

Affiliated to University of Rajasthan, Jaipur

BCA Semester V October 2026

Assignment

Subject: Dot NET Technologies

Max. Marks: 20

Instructions to the Candidates

NOTE: From each unit candidates are required to answer any ONE question.

Unit-I

1. Explain Architecture of the .Net frame work with diagram.
2. What is namespaces explain with an example?

Unit-II

3. Explain different type of looping statements in C# with suitable examples.
4. Describe page life cycle events in detail.

Unit-III

5. What is State Management in ASP.Net? Describe client side and server side techniques with suitable examples?
6. Write short note with example:
 - (i) Rich Web Controls
 - (ii) Validation Controls

Unit-IV

7. Explain ADO.NET Object Model with examples.
8. Write short notes on:
 - (i) Databound Control
 - (ii) .Net DataProviders
 - (iii) ExecuteNonQuery(), ExecuteScalar(), ExecuteReader()

S. S. Jain Subodh P.G. College, Jaipur (Autonomous)

BCA – V Semester

ASSIGNMENT

Subject: Programming in Python

Paper Code: BPCA504A

Maximum Marks: 20

Attempt one question from each unit.

UNIT – I

Q1. Explain Python variables, data types, operators and built-in functions with suitable examples. (5)

Q2. Explain conditional and looping statements in Python. Discuss if, if-else, elif, for and while statements with suitable examples. (5)

UNIT – II

Q3. Explain lists and tuples in Python. Discuss their operators, built-in functions and methods with suitable examples. (5)

Q4. What are dictionaries and sets in Python? Explain dictionary methods and mathematical set operations with suitable examples. (5)

UNIT – III

Q5. What are Regular Expressions in Python? Explain commonly used special symbols and characters in Regular Expressions with suitable examples. (5)

Q6. Explain exception handling in Python. Discuss detecting, handling and raising exceptions, assertions and standard exceptions. (5)

UNIT – IV

Q7. Explain classes and objects in Python. How are classes created? Discuss instance methods and class variables with suitable examples. (5)

Q8. Explain inheritance and polymorphism in Python with suitable examples. Also describe type identification. (5)