MODEL PAPER – 1
B.A / B.Sc (Computer Applications) – Semester 3
Paper: Object Oriented Programming using C++
Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Define Object-Oriented Programming.
2. Write basic concepts of OOP.
3. What are tokens in C++?
4. Define data types in C++.
5. What is function overloading?
6. Define class and object.
7. What is a constructor?
8. Define destructor.
9. What is inheritance?
10. Define polymorphism.
11. What is file handling?
12. Define exception handling.

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.(a) Explain principles of Object-Oriented Programming and its benefits.
OR
(b) Explain tokens, keywords, identifiers, and operators in C++.

14.(a) Explain functions in C++ including function prototyping and call by reference.
OR
(b) Explain classes and objects with member functions and arrays of objects.

15.(a) Explain constructors and destructors with suitable examples.
OR
(b) Explain operator overloading with rules and examples.

16.(a) Explain inheritance and its types with suitable examples.
OR
(b) Explain file handling operations and exception handling in C++.

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◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Explain applications of Object-Oriented Programming.
2. Define identifiers and constants in C++.
3. What is type compatibility?
4. Write about control structures in C++.
5. What is inline function?
6. Define friend function.
7. What is static member function?
8. Define copy constructor.
9. What is dynamic constructor?
10. Explain hierarchical inheritance.
11. What is this pointer?
12. Define file modes in C++.

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.(a) Explain tokens in C++ and discuss keywords, identifiers, and constants with examples.
OR
(b) Explain operators in C++ and operator precedence with suitable examples.

14.(a) Explain function overloading and inline functions with suitable examples.
OR
(b) Explain classes and member functions including static members and arrays within a class.

15.(a) Explain different types of constructors (parameterized, copy, dynamic) with examples.
OR
(b) Explain inheritance and its types (single, multilevel, multiple, hierarchical).

16.(a) Explain pointers, pointers to objects, and this pointer with examples.
OR
(b) Explain file handling operations including opening, closing, and updating a file.

MODEL PAPER – 3
B.A / B.Sc (Computer Applications) – Semester 3
Paper: Object Oriented Programming using C++
Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Write advantages of Object-Oriented Programming.
2. Define implicit type conversion with example.
3. What is operator overloading?
4. Define function prototyping.
5. What is call by reference?
6. Define virtual function.
7. What is destructor? Explain its need.
8. Define multilevel inheritance.
9. What is pointer to derived class?
10. Explain polymorphism.
11. What is file pointer?
12. Define exception handling in C++.

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.(a) Explain Object-Oriented Programming paradigm and applications of OOP.
OR
(b) Explain data types, variables, and type conversions in C++.

14.(a) Explain call by reference, return by reference, and inline functions with examples.
OR
(b) Explain friend functions and virtual functions with suitable examples.

15.(a) Explain operator overloading with rules and examples.
OR
(b) Explain inheritance and illustrate hybrid inheritance with diagram.

16.(a) Explain pointers, pointer to objects, and pointer to derived classes with examples.
OR
(b) Explain exception handling and file stream operations in C++.

MODEL PAPER – 4
B.A / B.Sc (Computer Applications) – Semester 3
Paper: Object Oriented Programming using C++
Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Define Object-Oriented Languages with examples.
2. What are expressions in C++?
3. Explain operator precedence with example.
4. Define main() function in C++.
5. What is return by reference?
6. Define arrays within a class.
7. What is friendly function?
8. Define parameterized constructor.
9. What is single inheritance?
10. Define pointer to object.
11. What are file stream classes?
12. Explain input/output operations in files.

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.(a) Explain tokens and expressions in C++ with suitable examples.
OR
(b) Explain operators and implicit conversions with suitable examples.

14.(a) Explain functions in C++ including function prototyping and return by reference.
OR
(b) Explain classes and objects including arrays of objects and static member functions.

15.(a) Explain constructors and destructors and write a program to demonstrate their use.
OR
(b) Explain inheritance and illustrate multiple inheritance with suitable example.

16.(a) Explain pointers, this pointer, and pointer to objects with examples.
OR
(b) Explain file handling including file modes, file pointers, and updating a file.

MODEL PAPER – 5
B.A / B.Sc (Computer Applications) – Semester 3
Paper: Object Oriented Programming using C++
Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Define Object-Oriented Programming paradigm.
2. Explain type compatibility in C++.
3. What is operator overloading? Give example.
4. Define function overloading with syntax.
5. What is virtual function? State its purpose.
6. Define copy constructor. Explain its use.
7. What is hybrid inheritance?
8. Define polymorphism with example.
9. What is this pointer? State its advantages.
10. Define file modes with examples.
11. What is exception? Give examples of exceptions.
12. Explain pointer to derived class.

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.(a) Explain Object-Oriented Programming concepts and applications with suitable examples.
OR
(b) Explain tokens, data types, variables, and operators in C++ with examples.

14.(a) Explain functions in C++ including function overloading, call by reference, and inline functions.
OR
(b) Explain classes and objects including member functions, static members, and friend functions.

15.(a) Explain constructors (default, parameterized, copy) and destructors with examples.
OR
(b) Explain operator overloading and inheritance with suitable examples.

16.(a) Explain pointers, virtual functions, and polymorphism with examples.
OR
(b) Explain file handling and exception handling in C++ with suitable examples.

UNIT-WISE IMPORTANT QUESTIONS

UNIT – I (OOP Concepts + Basics)

- Principles of Object-Oriented Programming
- Basic concepts of OOP (class, object, abstraction, encapsulation, inheritance, polymorphism)
- Benefits of OOP
- Applications of OOP
- Tokens in C++
- Keywords, identifiers, constants
- Data types in C++
- Operators in C++
- Operator precedence
- Control structures
- Type conversion (implicit conversion)

UNIT – II (Functions, Classes & Objects)

- Function prototyping
- Call by reference
- Return by reference
- Inline functions
- Function overloading
- Friend functions
- Virtual functions (basics)
- Class and object definition
- Member functions
- Static member functions
- Arrays of objects

UNIT – III (Constructors, Overloading, Inheritance)

- Constructors (default, parameterized)
- Copy constructor
- Dynamic constructor
- Destructors
- Operator overloading
- Rules for operator overloading
- Type conversions

- Types of inheritance
- Single inheritance
- Multiple inheritance
- Multilevel inheritance
- Hierarchical inheritance

UNIT – IV (Pointers, Files, Exception)

- Pointers in C++
- Pointer to objects
- this pointer
- Pointer to derived classes
- Virtual functions
- Polymorphism
- File handling in C++
- File modes
- File input/output operations
- Updating a file
- Exception handling