

**TKN/KS/16/5963**

**Bachelor of Computer Application (B.C.A.)  
Semester—II (C.B.S.) Examination  
PROGRAMMING IN C++  
Paper—I**

Time—Three Hours] [Maximum Marks—50

- Note :—** (1) All questions are compulsory and carry equal marks.  
(2) Draw neat and labelled diagrams wherever necessary.

**EITHER**

1. (a) Write down the features of OOP's. 5  
(b) Define a class employee with the following details :

Data members

Employee\_code

Emp\_Name

Emp\_SAL

member functions

get\_data( )

display( )

Define the member function get\_data( ) outside the class. 5

**OR**

- (c) Explain the Access specifiers in C++. 5
- (d) What are static data members ? Explain its use, scope and lifetime. 5

**EITHER**

2. (a) What is constructor ? Explain copy constructor with an example. 5
- (b) Write down the rules of operator overloading. List the operators which cannot be overloaded. 5

**OR**

- (c) What is unary operator ? Write down unary operator overloading function with a suitable example. 5
- (d) Explain constructor with default arguments with an example. 5

**EITHER**

3. (a) Explain new and delete operators with an example. 5
- (b) What is inheritance ? Explain single inheritance with an example. 5

**OR**

- (c) What is this pointer ? Explain this pointer with a suitable example. 5
- (d) Explain multiple inheritance with a suitable example. 5

**EITHER**

4. (a) Explain Fault tolerant design techniques. 5
- (b) Explain the Exception handling model. 5

**OR**

- (c) Explain abstract classes with examples. 5
- (d) List various exceptions and give its uses in object programming. 5
5. Attempt **ALL** :—
- (a) What is inline function ? How will you make a member function defined outside the class inline ? 2½
- (b) Explain constructor overloading. 2½
- (c) Explain pointer to objects. 2½
- (d) Explain any two rules for handling exception successfully. 2½

**Bachelor of Computer Application (B.C.A.) Semester-II Examination**

**PROGRAMMING IN "C++"**

**Paper—I**

Time : Three Hours]

[Maximum Marks : 50

- Note :—**(1) Draw neat and labelled diagram wherever necessary.  
 (2) All questions are compulsory and carry equal marks.

**EITHER**

1. (a) Explain the features of object oriented programming language. 5  
 (b) Explain different access specifiers with suitable example. 5

**OR**

- (c) Write a program to find factorial of a given number using class. 5  
 (d) Explain various element of object oriented programming. 5

**EITHER**

2. (a) What is operator overloading ? Explain rules for operator overloading. 5  
 (b) What is copy constructor ? Write a program in C++ to show the use of copy constructor ? 5

**OR**

- (c) Write a program to add two complex numbers by overloading binary operator +. 5  
 (d) What is Destructor ? Explain features of destructor using suitable example. 5

**EITHER**

3. (a) Write a program in C++ to demonstrate Array of object. 5  
 (b) What is inheritance ? Explain different types of inheritance. 5

**OR**

- (c) What is dynamic object ? Write a program to illustrate the use of dynamic object. 5  
 (d) Write a note on 'This Pointer'. 5

**EITHER**

4. (a) What is virtual function ? Give rules of defining virtual function. 5  
 (b) Explain fault tolerant design techniques. 5

**OR**

- (c) What is exception handling ? Give the list of exception. 5  
 (d) Write a program in C++ illustrating the use of pure virtual function. 5

5. (a) What are data members and member function ? 2½
- (b) What is Parameterized Constructor ? 2½
- (c) What is the use of new and delete operator ? 2½
- (d) Explain memory allocation failure exception. 2½

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Time : Three Hours]

[Maximum Marks : 50

- Note :—(1) Draw neat and labelled diagram wherever necessary.  
(2) All questions are compulsory and carry equal marks.

**EITHER**

1. (a) Explain any three object oriented features in C++. 5  
(b) Create a class Bank\_Account having the data members :  
Acc\_No., Name, Acc\_type, Amount  
Member functions :  
getdata( ) 5  
display( )

**OR**

- (c) Explain the access specifiers in C++. 5  
(d) Write a program in C++ to add two integers X and Y using a class. 5

**EITHER**

2. (a) Explain parameterized constructions with an example. 5  
(b) Write a program in C++ to count the no of objects created in a class. 5

**OR**

- (c) Write a program in C++ to overload the increment operator ++. 5  
(d) Explain constructor overloading. 5

**EITHER**

3. (a) What are dynamic objects ? Write a program to illustrate its creation and deletion. 5  
(b) Explain the types of inheritances in C++ 5

**OR**

- (c) Write a program in C++ to illustrate single inheritance. 5  
(d) Write a short note on this pointer. 5

**EITHER**

4. (a) Explain virtual functions with an example. 5  
(b) How will you handle an uncaught exception ? Explain. 5

**OR**

- (c) Write the rules for virtual functions. 5  
(d) Explain the fault tolerant design technique. 5

5. Attempt All :

- (a) Write a note on inline functions. 2½  
(b) Write any three rules for operator overloading. 2½  
(c) Write a note on abstract classes. 2½  
(d) Explain try and catch block in C++. 2½

**NRT/KS/19/2219**

**Bachelor of Computer Application (B.C.A.) Semester—II Examination**

**PROGRAMMING IN “C++”**

**Paper—I**

Time : Three Hours]

[Maximum Marks : 50

- Note** :— (1) All questions are compulsory and carry equal marks.  
(2) Draw neat and labelled diagram wherever necessary.

**EITHER**

1. (a) Elaborate various elements of object oriented programming. 5  
(b) Create a class called as sample with : 5  
(i) Data members as  
(1) x which is of integer type.  
(2) y which is of integer type.  
(ii) Member functions :  
(1) getdata ( )  
(2) display ( )  
Define getdata function inside the class. Give outside class definition of the display function.  
(iii) Create an object of sample class  
(iv) How will you access the getdata ( ) function ?

**OR**

- (c) Explain following access specifiers — 5  
(i) Private  
(ii) Protected  
(iii) Public.  
(d) Write a program to find factorial of a given number using class. 5

**EITHER**

2. (a) What is a constructor ? Write a program in C++ to demonstrate the use of it. 5  
(b) Write a program in C++ overloaded unary operator (++). 5

**OR**

- (c) What is copy constructor ? Write a program in C++ to show the use of copy constructor. 5  
(d) What is a destructor ? Write a program to illustrate how the destructor gets invoked implicitly by compiler. 5

**EITHER**

- 3. (a) Write a program in C++ to demonstrate Array of object. 5
- (b) What is inheritance ? Explain different types of Inheritance. 5

**OR**

- (c) Explain Rules for defining pointer to object in C++. 5
- (d) Write a program in C++ to demonstrate working principle of constructor in derived classes. 5

**EITHER**

- 4. (a) What are the rules that satisfy compiler requirements while creating virtual function for implementing late binding ? Explain. 5
- (b) What is Exception ? Explain exception handling model in C++. 5

**OR**

- (c) What is virtual function ? Illustrate the use of virtual function with suitable example. 5
- (d) What is abstract class ? Explain. 5
- 5. (a) What is inline function ? Explain. 2½
- (b) What is Parameterized constructor ? Explain. 2½
- (c) What are 'new' and 'delete' operators ? Explain. 2½
- (d) Explain Rules for Handling Exception successfully. 2½

## Bachelor of Computer Application (B.C.A.) Semester-II (C.B.S.) Examination

## PROGRAMMING IN "C++"

## Paper—I

Time : Three Hours]

[Maximum Marks : 50

- Note** :— (1) Draw neat and labelled diagram wherever necessary.  
 (2) All questions are compulsory and carry equal marks.

**EITHER**

1. (a) Explain any three object oriented features in C++. 5  
 (b) Create a class Bank\_Account having the data members :  
 Acc\_No., Name, Acc\_type, Amount  
 Member functions :  
 getdata( )  
 display( ) 5

**OR**

- (c) Explain the access specifiers in C++. 5  
 (d) Write a program in C++ to add two integers X and Y using a class. 5

**EITHER**

2. (a) Explain parameterized constructions with an example. 5  
 (b) Write a program in C++ to the count the no of objects created in a class. 5

**OR**

- (c) Write a program in C++ to overload the increment operator ++. 5  
 (d) Explain constructor overloading. 5

**EITHER**

3. (a) What are dynamic objects ? Write a program to illustrate its creation and deletion. 5  
 (b) Explain the types of inheritances in C++. 5

**OR**

- (c) Write a program in C++ to illustrate single inheritance. 5  
 (d) Write a short note on this pointer. 5

**EITHER**

4. (a) Explain virtual functions with an example. 5  
 (b) How will you handle an uncaught exception ? Explain. 5

**OR**

- (c) Write the rules for virtual functions. 5  
 (d) Explain the fault tolerant design technique. 5

5. Attempt **All** :

- (a) Write a note on inline functions. 2½  
 (b) Write any three rules for operator overloading. 2½  
 (c) Write a note on abstract classes. 2½  
 (d) Explain try and catch block in C++. 2½



**Bachelor of Computer Application (B.C.A.) Semester—II (C.B.S.) Examination**  
**PROGRAMMING IN “C++”**  
**Paper—I**

Time : Three Hours]

[Maximum Marks : 50

**N.B. :—** (1) **All** questions are compulsory and carry equal marks.

(2) Illustrate your answer with suitable diagrams wherever necessary.

**EITHER**

1. (a) Explain any five features of OOPs. 5  
 (b) Explain the following access specifiers with example : 5  
 (i) Private (ii) Public (iii) Protected

**OR**

- (c) Explain the syntax for declaring class and creating object with example. 5  
 (d) Explain the difference between a member function declared inside and outside body of class. 5

**EITHER**

2. (a) Explain syntax for defining parametrized constructor with suitable example. 5  
 (b) List operators that can not be overloaded. Write program to overload unary operators ++ operator. 5

**OR**

- (c) Explain copy constructor with suitable example. 5  
 (d) Explain the Rules for operator overloading. 5

**EITHER**

3. (a) Explain dynamic array declaration and transversing. 5  
 (b) Explain the creation and deletion of Dynamic object. 5

**OR**

- (c) Explain multiple inheritance with example. 5  
 (d) Explain constructor in derived class. How is base class constructor called from derived class constructor ? 5

**EITHER**

4. (a) What are the rules for virtual functions ? 5  
 (b) Explain when do we make a virtual function “pure” ? What are the implications of making a function a pure virtual function ? 5

**OR**

- (c) Explain Exception handling model. 5  
 (d) What is a fault ? Explain fault tolerant design techniques. 5

5. Attempt **All** :

- (a) Explain access specifiers. 2½  
 (b) What is a copy constructor and destructor ? 2½  
 (c) Differentiate between constructor and destructor. 2½  
 (d) How will you catch an uncaught exception ? 2½

**NTK/KW/15 – 5963**

**Second Semester Bachelor of Computer  
Application (B. C. A.) Examination**

**Paper–I**

**PROGRAMMING IN C++**

Time : Three Hours ]

[ Max. Marks : 50

- N.B. : (1) All questions are compulsory and carry equal marks.  
(2) Draw neat diagram wherever necessary.

**EITHER**

1. (a) Explain the different characteristics of OOP. 5  
(b) What is static data member and static member function ? Explain any two characteristics of a static data member. 5

**OR**

- (c) How private, public and protected works with class ? Explain with example. 5  
(d) Write the syntax for Inline function. Explain Inline function with suitable example. 5

**EITHER**

2. (a) Define operator overloading. List the rules for operator overloading. List operators that can not be overloaded. 5

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Contd.

- (b) What is constructor ? Discuss with example parameterized constructor. 5

**OR**

- (c) What is copy constructor ? Demonstrate it with suitable example. 5
- (d) What is constructor with default argument ? Explain it with suitable example. 5

**EITHER**

3. (a) Explain pointer to objects. Write a program to illustrate it. 5
- (b) What is inheritance ? Discuss multilevel Inheritance with example. 5

**OR**

- (c) What is visibility mode ? What are the different inheritance visibility mode ? 5
- (d) Explain "this" pointer. Write a program to demonstrate the use of 'this' pointer. 5

**EITHER**

4. (a) What is virtual function ? Write a program to demonstrate use of virtual function. 5
- (b) What are various error handling functions supported by C++ ? 5

**OR**

- (c) What is Exception Handling ? Explain handling uncaught exception. 5

- (d) What are the rules for creating virtual functions? Gives the need for pure virtual function.

5

5. Solve Any **ten** :—

- (a) What is data member in Class ?
- (b) What is access specifier ?
- (c) What is member function ?
- (d) What is destructors ?
- (e) What do you mean by Unary operator overloading ?
- (f) Define destructor.
- (g) What is Abstract class ?
- (h) Write a syntax to define Array of object.
- (i) What is Hierarchical Inheritance ?
- (j) What is fault tolerant, design ?
- (k) List the different exception.
- (l) Write syntax for pure virtual function. 1 × 10

**Bachelor of Computer Application (B.C.A) Semester—II (C.B.S.) Examination****PROGRAMMING IN “C++”****Paper—I**

Time : Three Hours]

[Maximum Marks : 50

**N.B. :**— (1) **All** questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagram wherever necessary.

**EITHER**

1. (a) What is object ? Explain the features of object oriented programming. 5  
(b) How will you define member function in ‘C++’ ? Explain. 5

**OR**

- (c) Explain the following :  
(i) Public  
(ii) Private  
(iii) Protected. 5  
(d) How will you access member functions within a class ? Explain with example. 5

**EITHER**

2. (a) What is a constructor ? Explain with example parameterized constructor. 5  
(b) Write notes on :  
(i) Constructor  
(ii) Destructor. 5

**OR**

- (c) Explain operator overloading with example. 5  
(d) Explain how unary and binary operators are overloaded. 5

**EITHER**

3. (a) Write notes on :  
(i) Array of Objects  
(ii) New and Delete Operators. 5  
(b) What is Inheritance ? Explain any two inheritances with example. 5

**OR**

- (c) What is Abstract Class ? Explain. 5
- (d) How will you derive a class from a base class ? Explain with an example. 5

**EITHER**

4. (a) Define virtual functions. Explain with example. 5
- (b) Explain the rules for handling exception in 'C++'. 5

**OR**

- (c) Explain pure virtual function. Give an example. 5
- (d) Write short notes on :
- (i) Exception Handling model
  - (ii) Uncaught Exception. 5
5. Attempt **ALL** questions :
- (a) Define Class. Explain with example. 2½
- (b) Why are constructors required ? Explain default constructor. 2½
- (c) Explain dynamic object with example. 2½
- (d) Why is exception handling required in 'C++' ? Explain. 2½

**Bachelor of Computer Application (B.C.A.) Semester-II Examination**

**PROGRAMMING IN “C++”**

**Paper-I**

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) All questions are compulsory and carry equal marks.  
(2) Draw neat and labelled diagram wherever necessary.

**EITHER**

1. (a) Explain the characteristics of object oriented programming. 5  
(b) What is a class ? What is class member ? How can we create an object ? 5

**OR**

- (c) Explain types of member functions in detail. 5  
(d) What are access specifier ? Why are they needed ? 5

**EITHER**

2. (a) What is a constructor ? Explain the concept of copy constructor with example. 5  
(b) Explain unary operator overloading with example. 5

**OR**

- (c) Explain the concept of constructor overloading with example. 5  
(d) What is a destructor ? Explain the order of execution constructor and destructor with example. 5

**EITHER**

3. (a) What is inheritance ? Give an example of multilevel inheritance. 5  
(b) What do you mean by dynamic object ? How can we create it ? 5

**OR**

- (c) How can we call base class constructor with derived class object ? Explain with example. 5  
(d) What is this pointer ? Explain its working with example. 5

**EITHER**

4. (a) What is the need of virtual function ? 5  
(b) How can we handle uncaught exception ? Explain with example. 5

**OR**

- (c) Explain the rules to declare virtual function. 5  
(d) What is exception ? Give the list of predefined exceptions. 5
5. Attempt all :
- (a) Define object member function. How can we access it ? 2½  
(b) What is a default constructor ? Explain with an example. 2½  
(c) What is pointer to object ? 2½  
(d) What is abstract class ? 2½



**Bachelor of Computer Application (B.C.A.) Semester—II Examination****PROGRAMMING IN C++****Paper—I**

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) All questions are compulsory and carry equal marks.  
 (2) Illustrate your answer with suitable diagram wherever necessary.

**EITHER**

1. (A) What is the purpose of static data member ? Explain with example. 5  
 (B) Write a program to implement class :—  
 (i) Data Members :  
 (a) Name of cricket Player.  
 (b) Score in last two matches.  
 (ii) Member Functions :  
 (a) To assign initial values.  
 (b) To compute total and average score.  
 (c) To display data.

Give the definition of display ( ) function outside the class. 5

**OR**

- (C) Explain features of OOP's. 5  
 (D) Write the syntax for inline ; function explain inline function with suitable example. 5

**EITHER**

2. (A) What is copy constructor ? Demonstrate it with suitable example. 5  
 (B) What is unary operator ? Write down unary operator overloading function with a suitable example. 5

**OR**

- (C) Write down the rules of operator overloading. List the operators which cannot be overloaded. 5  
 (D) What is constructor ? Explain constructor with default arguments with an example. 5

**EITHER**

3. (A) What is this pointer ? Write a program to illustrate the use of 'this' pointer. 5  
 (B) What is visibility mode ? What are different inheritance visibility modes ? Give an example. 5

**OR**

- (C) Explain pointer to objects. Write a program to illustrate it. 5  
 (D) What is inheritance ? List the types of inheritance. Explain any one inheritance with example. 5

**EITHER**

4. (A) What is virtual function ? Write a program to demonstrate use of virtual function. 5  
(B) What is Exception Handling ? Explain handling uncaught exception. 5

**OR**

- (C) What is a fault ? Explain fault tolerant design techniques. 5  
(D) Explain pure virtual function. Give an example. 5
5. Attempt All :—
- (A) Explain class and object. 2½  
(B) What is constructor overloading ? 2½  
(C) Explain the following :  
(i) New operator  
(ii) Delete Operator. 2½  
(D) Write a note on abstract class. 2½

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