

GOVERNMENT POLYTECHNIC, SADAR, NAGPUR

(An Autonomous Institute of Government of Maharashtra)

TERM EXAMINATION 17 EVEN

COURSE NAME : OBJECT ORIENTED PROGRAMMINGS

COURSE CODE : CM1306

PROGRAMME : Diploma in Information Technology/Computer Engineering

TIME : 3 Hours

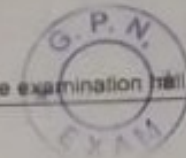
MAXIMUM MARKS : 80

INSTRUCTIONS :

ENROLLMENT NO. :

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- 1) All questions are compulsory.
- 2) Illustrate your answers with neat sketches wherever necessary.
- 3) Use of Non Programmable Electronic Pocket Calculators is permissible.
- 4) Figure to the right indicate full marks.
- 5) Assume suitable additional data if necessary.
- 6) Mobile phones & other similar electronic gadgets are strictly prohibited inside examination hall.



Marks
(20)

Q. 1 Attempt ANY TEN

- a) Define the following terms: i) Class ii) Object.
- b) Write any four application of Object Oriented Programming.
- c) Define i) Tokens ii) Keywords.
- d) What is function prototyping? Write its syntax.
- e) State different types of file modes.
- f) What is parameterized constructor used in C++?
- g) What is arrays of object.
- h) What do you mean by type conversion? Give example.
- i) Define inheritance and enlist its types.
- j) What is polymorphism? Explain with one example.
- k) What is the use of inheritance?
- l) Compare the following build in function of file stream classes i) get ii) get line ().
- m) What is a command line arguments?

Q. 2 Attempt ANY THREE

- a) Describe any four features of Object Oriented Programming.
- b) What is friend function? What are the merits and demerits of using the friend function?
- c) Illustrate the concept of constructor with default argument with the help of program.
- d) How memory allocation is done when multiple objects are created? Explain.
- e) Explain the concept of 'this' pointer with proper example.

Q. 3 Attempt ANY THREE

- a) What is copy constructor? When it is used implicitly for what purpose.
- b) Write a program to overload an '+' (binary plus) operation.
- c) Explain virtual function with suitable example.
- d) Write a program to display following formatted output using manipulator –
5 --- 25
6 --- 36
7 --- 49
- e) Explain exception handling mechanism in C++.

Q. 4 Attempt ANY THREE

- a) Write a program showing use of Run time polymorphism i.e. virtual functions.
- b) Differentiate between pop and oop (any four points).
- c) Give the syntax of following with respect to file :
i) read () ii) write ().
- d) How friend function is used to overload binary operator used in C++?
- e) What is nesting of member function? Explain it with proper example.

Q. 5 Attempt ANY TWO

- a) Explain the concept of virtual base class with its general syntax and suitable example.
- b) Write a program to calculate weight of objects of different planets using formula
Weight = m x g. Where m = mass of object, g = gravitational force
and declare g as static member variable.
- c) Write a program to open existing file in read mode and count number of spaces new lines and characters in file.

Q. 6 Attempt ANY TWO

(12)

- a) Write a program to accept two strings from user and concatenate one string to another using pointer to string.
 - b) Explain formatted console I/O operations.
 - c) Explain throwing and catching mechanism. Explain with suitable example with each.
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GOVERNMENT POLYTECHNIC, SADAR, NAGPUR

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TERM EXAMINATION 15 EVEN

COURSE NAME : OBJECT ORIENTED PROGRAMMING

COURSE CODE : CM1306/

PROGRAMME : Diploma in Information Technology / Computer Engineering

IT6408

TIME : 3 Hours

MAXIMUM MARKS : 80

INSTRUCTIONS

ENROLLMENT NO. :

1415051

- 1) All questions are compulsory.
- 2) Illustrate your answers with neat sketches wherever necessary.
- 3) Use of Non Programmable Electronic Pocket Calculators is permissible.
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Marks
(20)

Q. 1 Attempt ANY TEN

- a) Define: (i) Token (ii) Keywords. 2
- b) Give applications of C++. 1
- c) Define main () function. 3
- d) What do you mean by overloading? 6
- e) Enlist different C++ stream classes. 9
- f) What is virtual function? 6
- g) What is the use of "this" pointer? 2
- h) Give concept behind Inheritance.
- i) How memory allocation is done for objects? 4
- j) What is static data members? Give example. 4
- k) With the help of example, define constructor. 5
- l) What is derived class?
- m) Enlist different types of file modes. 10

Q. 2 Attempt ANY THREE

- a) Illustrate object oriented programming. 1
- b) Explain type compatibility with example.
- c) Explain with example: (i) Put () (ii) get line (). 9
- d) With the help of program, Explain pure virtual function. 8
- e) Write a C++ program based on arrays of objects. 4

(12)

Catch

Q. 3 Attempt ANY THREE

- a) With the help of C++ program, explain default argument concept. 3
- b) Write a C++ program on dynamic initialization of objects.
- c) Write a program using command line argument to copy the contents of one file to another. 10
- d) Write short note on exception handling mechanism in C++. 11
- e) Write C++ program to overload binary operator.

(12)

Q. 4 Attempt ANY THREE

- a) Differentiate between procedure oriented and object oriented programming (minimum 4 points). 1
- b) Explain different data types available in C++. 2
- c) Explain friend function with the help of program. 3
- d) Explain constructor in derived classes.
- e) Explain error handling during file operation. 10

(12)

Q. 5 Attempt ANY TWO

- a) Write a program on object as function argument. Also explain the concept of pointers. 4
- b) Write a program on multiple inheritance. Also explain abstract classes. 7

(12)

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TERM EXAMINATION

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PROGRAMME: Diploma in Information Technology / Computer Engineering
TIME: 3 Hours
COURSE CODE: CM1306
MAXIMUM MARKS: 80

INSTRUCTIONS

- 1) All questions are compulsory.
- 2) Illustrate your answers with neat sketches wherever necessary.
- 3) Use of Non Programmable Electronic Pocket Calculators is permissible.
- 4) Figure to the right indicate full marks.
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ENROLLMENT NO. :

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Q. 1 Attempt ANY TEN

- a) Classify software evolution. 1
- b) List any four tokens/keywords used in C++. 2
- c) Discuss the programming paradigm in C++. 2
- d) List and define different derived data types. 2
- e) Explain the function prototyping. 3
- f) Define the following terms:
(i) Member function (ii) Data Member. 4
- g) Describe the concept of operator overloading. 6
- h) Describe the concept of constructor in OOPS. 5
- i) List different types of inheritance. 7
- j) Define 'this' pointer. 8
- k) Define the term stream. 9
- l) List the different modes of file in OOPS. 10
- m) Define Exception. 1

Marks
(20)

Q. 2 Attempt ANY THREE

- a) State the precedence of operators in object oriented programming. 1
- b) Illustrate making of outside function inline with example. 2
- c) Show the use of destructor with the help of example. 5
- d) State the different rules of overloading operator. 6
- e) Explain Polymorphism in detail. 8

(12)

Q. 3 Attempt ANY THREE

- a) Illustrate the compiling and linking in C++. 1
- b) Show the use of call by reference with the help of program. 3
- c) Describe Paraphrase Hierarchical inheritance. 3
- d) Describe the command line arguments. 10
- e) Illustrate the exception in constructors and destructors. 11

(12)

Q. 4 Attempt ANY THREE

- a) Define following terms:
(i) setw (ii) setprecision (iii) Symbolic Constant (iv) Creating Source file. 1
- b) Illustrate the function overloading in C++ with example. 3
- c) Show dynamic initialization of object in C++. 5
- d) Describe virtual base class in C++. 7
- e) List and define different stream classes in C++. 9

(12)

Attempt ANY TWO

- a) (i) Illustrate the concept of "object as a function argument".
(ii) Write a program to define Employee class with data member name, age, phone number, salary, address and position. Illustrate main function for the 15 employee. 10
- b) Describe and illustrate the Pure Virtual function. 8
- c) Describe and illustrate the "Error handling during file operation". 10

(12)

GOVERNMENT POLYTECHNIC, SADAR, NAGPUR

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TERM EXAMINATION 18000

COURSE NAME : OBJECT ORIENTED PROGRAMMING

COURSE CODE : CM1396

PROGRAMME : Diploma in Information Technology / Computer Engineering

TIME : 3 Hours

MAXIMUM MARKS : 80

INSTRUCTIONS :

ENROLLMENT NO. :

- 1) All questions are compulsory.
- 2) Illustrate your answers with neat sketches wherever necessary.
- 3) Use of Non Programmable Electronic Pocket Calculators is permissible.
- 4) Figure to the right indicate full marks.
- 5) Assume suitable additional data if necessary.
- 6) Mobile phones & other similar electronic gadgets are strictly prohibited inside examination hall.

Marks
(20)

Q. 1 Attempt ANY TEN

- a) Write the various features of object oriented programming. 1
- b) Define i) Tokens ii) Keywords. 2
- c) What is inline function? 3
- d) What is static data members? 4
- e) Explain the structure of C++. 5
- f) Explain constructors and destructors. 5
- g) Write the rules for overloading operator. 6
- h) What are the types of inheritances? 7
- i) What is the use of "this" pointer? 8
- j) State the different types of file mode. 10
- k) What types of error occurs during file operations. 10
- l) Differentiate between formatted and unformatted console I/O operations. 9
- m) Write the basic concept of exception handling. 11

Q. 2 Attempt ANY THREE

(12)

- a) Explain the concept of object oriented programming language. 4
- b) Explain dynamic initialization of variable with example. 2
- c) What is friend function? Give the rules for declaring a friend function. 3
- d) Explain parameterized constructors with giving an example. 5
- e) What is operator overloading? Explain type conversions in C++. 6

Q. 3 Attempt ANY THREE

(12)

- a) What is C++? State the various applications of it. (6 points) 1
- b) Differentiate between derived and user defined datatypes. (atleast 4 points) 2
- c) Explain main and inline function with the help of program. 3
- d) Explain copy constructors with the help of a program. 5
- e) Explain manipulation of strings using operators. 6

Q. 4 Attempt ANY THREE

(12)

- a) Write a program using classes and object having information of students such as name, DOB, branch and year having member function getdata () and putdata () using scope resolution operator. 7
- b) Illustrate multilevel and hybrid inheritance with neat sketch. 7
- c) Explain virtual function with the help of program. 3
- d) Write a program using command line argument to copy the contents of one file to another. 9
- e) Explain C++ stream classes in details. 9

Q. 5 Attempt ANY TWO

(12)

- a) Write a program using arrays of object and also explain memory allocation for objects. 7
- b) Explain constructors in derived classes using program. 7
- c) Explain pointer to derived classes with the help of a program. 8

GOVERNMENT POLYTECHNIC, SADAR, NAGPUR

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TERM EXAMINATION EVEN 14

COURSE NAME : OBJECT ORIENTED PROGRAMMING

COURSE CODE : CM1306

PROGRAMME : Diploma in Information Technology / Computer Engineering

TIME : 3 Hours

MAXIMUM MARKS : 80

INSTRUCTIONS

ENROLLMENT NO. :

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- 1) All questions are compulsory
- 2) Illustrate your answers with neat sketches wherever necessary
- 3) Use of Non Programmable Electronic Pocket Calculators is permissible
- 4) Figure to the right indicate full marks
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Marks
(20)

Q. 1 Attempt ANY TEN

- a) ~~Define~~ define data type ²
- b) Give applications of C++ ¹
- c) What is inline function? ³
- d) How to define member function outside? ⁴
- e) Define static data member ⁴
- f) Define i) Constructor ii) Destructor ⁵
- g) Define operator overloading ⁵
- h) What is inheritance? List types of inheritance. ⁷
- i) Define Virtual function ³
- j) What is use of '*' and '&' operator in Pointer? ⁴
- k) Define Manipulator ¹
- l) State different types of file modes. ¹⁰
- m) What is exception handling? ¹¹

(12)

Q. 2 Attempt ANY THREE

- a) What are different concept of object oriented programming? ¹
- b) What is type conversion? How it is performed? ⁵
- c) Explain with suitable example single inheritance ⁷
- d) Explain pointer to object in detail. ⁸
- e) Explain closing of a file. Give its syntax and example. ¹⁰

(12)

Q. 3 Attempt ANY THREE

- a) Differentiate between procedure oriented and object oriented programming ³
- b) Explain Call by Reference and Return by Reference. ³
- c) Explain memory allocation for the object. ⁴
- d) Explain the rule for operator overloading. ⁶
- e) Explain exception handling mechanism in C++. ¹¹

(12)

Q. 4 Attempt ANY THREE

- a) Explain dynamic initialization of an object. ⁵
- b) What is function overloading? Explain with example ³
- c) Explain with example unary operator overloading. ⁶
- d) Explain with example "this" pointer ²
- e) What is data file? What are different method of opening a data file. ¹⁰

(12)

Q. 5 Attempt ANY TWO

- a) Write a program on object as a function argument. ⁴
- b) Explain multilevel inheritance with example. ⁷
- c) What is C++ streams and C++ streams classes? Give difference between unformatted I/O operation and unformatted console I/O operation. ¹¹

(12)

Attempt ANY TWO

- a) Explain parameterized constructor and multiple constructor. ⁶
- b) How to throw and catch user created exception? ¹¹
- c) Explain sequential error handling during file operation. ¹⁰

GOVERNMENT POLYTECHNIC, SADAR, NAGPUR
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TERM EXAMINATION 18000

COURSE NAME
PROGRAMME
TIME

OBJECT ORIENTED PROGRAMMING

Diploma in Information Technology / Computer Engineering

3 Hours

COURSE CODE : CM1306

MAXIMUM MARKS : 80

ENROLLMENT NO. :

INSTRUCTIONS

- 1) All questions are compulsory
- 2) Illustrate your answers with neat sketches wherever necessary
- 3) Use of Non Programmable Electronic Pocket Calculators is permissible
- 4) Figure to the right indicate full marks
- 5) Assume suitable additional data if necessary
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Q. 1 Attempt ANY TEN

- a) Write the various features of object oriented programming. 1
- b) Define : i) Tokens ii) Keywords 2
- c) What is inline function? 3
- d) What is static data members? 4
- e) Give the structure of C++
- f) Define constructors and destructors.
- g) Write the rules for overloading operator
- h) What are the types of inheritances?
- i) What is the use of "this" pointer?
- j) State the different types of file mode.
- k) What types of error occurs during file operations
- l) Differentiate between formatted and unformatted console I/O operations.
- m) Write the basic concept of exception handling.

Marks
(20)

Q. 2 Attempt ANY THREE

- a) Explain the concept of object oriented programming language.
- b) Explain dynamic initialization of variable with example.
- c) What is friend function? Give the rules for declaring a friend function. ✓
- d) Explain parameterized constructors with giving an example.
- e) What is operator overloading? Explain type conversions in C++.

(12)

Q. 3 Attempt ANY THREE

- a) What is C++? State the various applications of it. (6 points)
- b) Differentiate between derived and user defined datatypes. (atleast 4 points)
- c) Explain main and inline function with the help of program.
- d) Explain copy constructors with the help of a program.
- e) Explain manipulation of strings using operators.

(12)

Q. 4 Attempt ANY THREE

- a) Write a program using classes and object having information of students such as name, DOB, branch and year having member function getdata () and putdata () using scope resolution operator.
- b) Illustrate multilevel and hybrid inheritance with neat sketch.
- c) Explain virtual function with the help of program.
- d) Write a program using command line argument to copy the contents of one file to another.
- e) Explain C++ stream classes in details.

(12)

Q. 5 Attempt ANY TWO

- a) Write a program using arrays of object and also explain memory allocation for objects.
- b) Explain constructors in derived classes using program.
- c) Explain pointer to derived classes with the help of a program.

(12)

GOVERNMENT POLYTECHNIC, SADAR, NAGPUR

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TERM EXAMINATION 13 EVEN

COURSE NAME : OBJECT ORIENTED PROGRAMMING'S

COURSE CODE : CM1306

PROGRAMME : Diploma in Information Technology / Computer Engineering

TIME : 3 Hours

MAXIMUM MARKS : 80

INSTRUCTIONS :

ENROLLMENT NO. :

- 1) All questions are compulsory.
- 2) Illustrate your answers with neat sketches wherever necessary.
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Marks
(20)

Q. 1 Attempt ANY TEN

- a) What is compiling and linking? 1
- b) Explain manipulators. 3
- c) Define inline function. Write its syntax. 3
- d) Define class and object with example. 4
- e) How member function of a class is defined? 4
- f) What is need of operator overloading? 6
- g) What is destructor? How many destructors can be defined in a single class? 5
- h) Define multiple inheritance. Give example. 7
- i) What is an abstract base class? 7
- j) Give significance of '&' and '*' operators. 8
- k) Write use of "this" pointer. 8
- l) Compare the following built in function of file stream classes.
i) get() ii) get line() 9
- m) State the different types of file modes. 10

Q. 2 Attempt ANY THREE

(12)

- a) Differentiate between procedure -oriented and object- oriented programming? (atleast four points). 1
- b) Explain with the help of program default arguments. 4
- c) What is static member function? Explain with program. 4
- d) Write C++ program to swap two numbers using call by reference. 9
- e) Explain the following- 9
i) if stream ii) of stream iii) write() iv) read()

Q. 3 Attempt ANY THREE

(12)

- a) What is friend function? What is the use of it? Explain with the help of example. 3
- b) Describe the use of default parameters in constructor with suitable example. Explain array of objects with example. 5
- c) Overload increment operator for class 'point' having data members as x co-ordinate and y co-ordinate. 5
- d) Write a program using command line argument to copy the contents of one file to another. 11
- e) Explain exception handling mechanism in C++. 11

Q. 4 Attempt ANY THREE

(12)

- a) What are the basic concepts of oop's ? Explain. 1
- b) Write a short note on -
i) Scope resolution operator 2
ii) Type cast operators 2
iii) Reference variable 2
iv) Declaration of variable 2
- c) What do you mean by function overloading? Where do we use this concept? 6
- d) Explain error handling during file operations. 10
- e) Explain throwing and catching mechanism. Explain with suitable example. 11

Q. 5 Attempt ANY TWO

(12)

- a) Write a program to declare a class rectangle having data members length and breadth. Accept this data for one object and display area and perimeter of rectangle.
- b) Write a program that illustrates multiple inheritance.
- c) Write a program to create a text file and count number of lines.

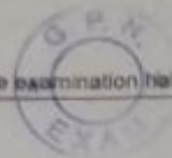
Q. 6 Attempt ANY TWO

(12)

- a) Write a program to display the string in reverse order.
 - b) Explain formatted console I/O operations. 9
 - c) Explain the term of exception in constructor and destructors with the help of program. 11
-

TERM EXAMINATION 17 EVEN**COURSE NAME : OBJECT ORIENTED PROGRAMMINGS****COURSE CODE : CM1306****PROGRAMME : Diploma in Information Technology/Computer Engineering****TIME : 3 Hours****MAXIMUM MARKS : 80****INSTRUCTIONS :****ENROLLMENT NO. :**

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- 4) Figure to the right indicate full marks.
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**Marks
(20)****Q. 1 Attempt ANY TEN**

- a) Define the following terms: i) Class ii) Object.
- b) Write any four application of Object Oriented Programming.
- c) Define i) Tokens ii) Keywords.
- d) What is function prototyping? Write its syntax.
- e) State different types of file modes.
- f) What is parameterized constructor used in C++?
- g) What is arrays of object.
- h) What do you mean by type conversion? Give example.
- i) Define inheritance and enlist its types.
- j) What is polymorphism? Explain with one example.
- k) What is the use of inheritance?
- l) Compare the following build in function of file stream classes i) get ii) get line ()
- m) What is a command line arguments?

Q. 2 Attempt ANY THREE**(12)**

- a) Describe any four features of Object Oriented Programming.
- b) What is friend function? What are the merits and demerits of using the friend function?
- c) Illustrate the concept of constructor with default argument with the help of program.
- d) How memory allocation is done when multiple objects are created? Explain.
- e) Explain the concept of 'this' pointer with proper example.

Q. 3 Attempt ANY THREE**(12)**

- a) What is copy constructor? When it is used implicitly for what purpose.
- b) Write a program to overload an '+' (binary plus) operation.
- c) Explain virtual function with suitable example.
- d) Write a program to display following formatted output using manipulator –
5 - - - 25
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7 - - - 49
- e) Explain exception handling mechanism in C++.

(12)**Q. 4 Attempt ANY THREE**

- a) Write a program showing use of Run time polymorphism i.e. virtual functions.
- b) Differentiate between pop and oop (any four points).
- c) Give the syntax of following with respect to file :
i) read () ii) write ().
- d) How friend function is used to overload binary operator used in C++?
- e) What is nesting of member function? Explain it with proper example.

(12)**Q. 5 Attempt ANY TWO**

- a) Explain the concept of virtual base class with its general syntax and suitable example.
- b) Write a program to calculate weight of objects of different planets using formula
Weight = m x g. Where m = mass of object, g = gravitational force
and declare g as static member variable.
- c) Write a program to open existing file in read mode and count number of spaces new lines and characters in file.

P.T.O.

Q. 6 **Attempt ANY TWO**

- a) Write a program to accept two strings from user and concatenate one string to another using pointer to string.
 - b) Explain formatted console I/O operations.
 - c) Explain throwing and catching mechanism. Explain with suitable example with each.
-