

Code No: R161215

R16**SET - 1****I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2018****OBJECT ORIENTED PROGRAMMING THROUGH C++**

(Com. to CSE, IT)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B**

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**PART -A**

1. a) Define dynamic binding. (2M)
- b) List out the types of constructors. (2M)
- c) Compare private and protected member access modes. (2M)
- d) Name the operators that cannot be overloaded. (2M)
- e) What is the default access mode for class members? (2M)
- f) What is generic programming? (2M)
- g) What is the difference between function overloading and function template? (2M)

**PART -B**

2. a) Give the structure of a C++ Program. (7M)
- b) Demonstrate encapsulation and polymorphism. (7M)
3. a) How members function is defined inside a class and outside the class? Explain with an example each. (7M)
- b) Define parameterized constructors. How to write them? Give an example. (7M)
4. a) Define operator overloading. Write the rules to overload operator. (7M)
- b) Define the term virtual base class and its implementation in C++. How it is used in function overriding? (7M)
5. a) How a pointer is declared and initialized? Give an overview of pointer arithmetic. (7M)
- b) Describe the mechanism of creating virtual functions in C++ with an example. (7M)
6. a) Write a program to create a template function for bubble sort and demonstrate the sorting of integers and characters. (7M)
- b) What are macros? How are they different from templates? Give an example. (7M)
7. What is a container? State and explain types of containers along with the iterators. (14M)

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**R16****SET - 2****I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2018****OBJECT ORIENTED PROGRAMMING THROUGH C++**

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Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B**

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PART -A

1. a) Compare OOP language and structured programming language. (2M)
- b) List the characteristics of a constructor. (2M)
- c) What is an inline function? What is the use of it? (2M)
- d) What is the use of scope resolution operator? (2M)
- e) Differentiate run –time polymorphism with compile time polymorphism. (2M)
- f) What is the use of this pointer? (2M)
- g) Define ADT. (2M)

PART -B

2. a) Describe the demerits of conventional programming with suitable examples. (7M)
- b) Give the principles of object oriented programming. (7M)
3. a) How to create a class? How to create an object? Explain with an example. (7M)
- b) In which order the constructors and destructors are executed? Explain with an example. (7M)
4. Write a C++ program to illustrate multiple and multilevel inheritance. (14M)
5. a) Write a C++ program to illustrate pure virtual functions. (7M)
- b) Discuss how dynamic allocation is done in C++ programming. (7M)
6. a) Explain the use of try, catch and throw for exception handling in C++. (7M)
- b) What is a class template? How is it different from a general class? Explain with an example. (7M)
7. a) Briefly explain the use of Vectors and lists. (7M)
- b) What is containership? How it differ from inheritance? (7M)

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R16**SET - 3****I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2018****OBJECT ORIENTED PROGRAMMING THROUGH C++**

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Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B**

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**PART -A**

1. a) Give the features of object oriented programming. (2M)
- b) Differentiate between class and structure. (2M)
- c) List the characteristics of a friend function. (2M)
- d) List the types of inheritances. (2M)
- e) Differentiate between early binding and late binding. (2M)
- f) Give the examples of user defined data types. (2M)
- g) How STL is different from C++ standard library? (2M)

**PART -B**

2. a) Compare the features of C programming language to that of C++programming language. (7M)
- b) How data and functions are organized in Object Oriented Program? Explain with an example. (7M)
3. a) Write a C++ program to define three overloaded functions to swap two integers, swap two floats and swap two doubles. (7M)
- b) What are the access privileges in C++? What is the default access level? Explain them. (7M)
4. a) Write a C++ program to implement single inheritance with public access specific. (7M)
- b) Discuss the usage of the keyword 'operator' in operator overloading. Explain with an example. (7M)
5. a) Write a program to implement the concept of virtual base class. (7M)
- b) What are pure virtual functions? How are they different from normal functions? (7M)
6. a) Write a C++ program to implement template to find minimum of two data items of type int, float, char and double. (7M)
- b) What is a function template? How is it different from a general method? Explain with an example. (7M)
7. a) Briefly explain the use of Maps and Iterators in STL. (7M)
- b) How STL algorithms are different from conventional algorithms? (7M)

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**R16****SET - 4****I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2018****OBJECT ORIENTED PROGRAMMING THROUGH C++**

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Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B**

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PART -A

1. a) What is data encapsulation? (2M)
- b) Give the importance of destructors. (2M)
- c) What are nested classes? (2M)
- d) Define pure virtual functions (2M)
- e) What is the use of namespace? (2M)
- f) Give the advantages and usage of macros. (2M)
- g) Distinguish between maps and multimaps (2M)

PART -B

2. a) Compare object oriented programming with procedure oriented programming. (7M)
- b) How does object oriented approach differ from object based approach? Give the applications of OOP. (7M)
3. a) How a class accomplishes data hiding? Explain with an example. (7M)
- b) Illustrate with an example the mechanism of defining a member function and overloading it. (7M)
4. With an example, explain the syntax for passing arguments to base class constructors in multiple inheritance. (14M)
5. a) Write a C++ program to illustrate runtime polymorphism using virtual functions. (7M)
- b) How to create a virtual destructor? What is the necessity of making it virtual? (7M)
6. a) Write a program using try block to detect and throw an exception if the condition "divide-by-zero" occurs. (7M)
- b) How can template be used for generic programming? (7M)
7. What is a container? Give the comparison of various containers used in STL programming. (14M)