

Reg. No.

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**B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019**

Second Semester

**IT18201 – OOPS USING C++ AND PYTHON***(Information Technology)***(Regulation 2018)****Time: Three Hours****Maximum : 100 Marks**

Answer ALL questions

**PART A - (10 X 2 = 20 Marks)**

	<b>CO</b>	<b>RBT</b>
1. What is the use of scope resolution operator in C++?	1	R
2. Differentiate constructors and normal functions in C++.	1	AN
3. Give the syntax for overloading with friend functions in C++.	2	R
4. Justify the need for virtual function in C++.	2	U
5. What is generic programming? What are its advantages and state some of its applications.	3	R
6. What is a container? List out the types of container in C++.	3	R
7. What is a function adaptor?	3	R
8. Differentiate between class variables and instance variables.	4	AN
9. Justify the need for self argument in class methods using Python.	4	U
10. Explain the syntax of singleton pattern.	5	U

**PART B - (5 X16 = 80 Marks)**

11. (a) Explain the different types of constructor with a suitable example using C++. (16) 1 U

**(OR)**

- (b) (i) Explain the basic features of Object oriented programming in C++. (8) 1 U
- (ii) Explain this pointer in C++ with an example. (8) 1 U

12. (a) Illustrate with an interactive operator overloaded C++ program for manipulating the matrices. Overload the operators + , - , -- and ++ (postfix and prefix). **(16) 2 AP**

**(OR)**

- (b) Illustrate with a suitable example using C++: **(16) 2 AP**  
(a) Multiple Inheritance.  
(b) Multilevel Inheritance.  
(c) Hybrid Inheritance .

13. (a) Differentiate the types of templates in C++ with the syntax. Explain class template with an interactive program of implementing stack operations. **(16) 3 AN**

**(OR)**

- (b) Classify the different methods of opening a file. Write an interactive program in C++ to Accept an input of student details and prints the result to a file. **(16) 3 AN**

14. (a) Write a program to illustrate the init() method ,del() method in python. Create a class with appropriate member functions to implement the class in python. **(16) 4 AP**

**(OR)**

- (b) (i) Illustrate with a suitable example about the modules and packages in python. **(10) 4 AP**  
(ii) Write a python code to illustrate the implementation of basic inheritance. **(6) 4 AP**

15. (a) Explain in detail about design patterns with a suitable code in python. **(16) 5 U**

**(OR)**

- (b) Explain the set and dictionary operations in Python. **(16) 5 U**