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P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Third Semester, B.E. - Information Science and Engineering
Semester End Examination; Dec - 2017 / Jan - 2018
OOP with Java

Time: 3 hrs   *Max. Marks: 100*

Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.

UNIT - I

1 a.	Compare how object oriented programming is different from procedure oriented programming.	4
b.	Illustrate with an example program in C++, how default values for formal arguments of function are applied in C++? Explain.	8
c.	Create a class called BOOK with five data members and two member functions to read and print book details. Write a program in C++ to implement the same.	8
2 a.	What are Inline functions? Explain with an example program in C++, how Inline function is different from member function of a class?	8
b.	Explain the following with an example : i) Reference variable ii) class iii) function overloading iv) structure.	8
c.	With an example snippet code, how console input and output in C++ are handled.	4

UNIT - II

3 a.	Differentiate between static allocation of memory and dynamic allocation of memory.	4
b.	What are constructors and destructors? List out their special characteristics.	8
c.	Explain different access specifiers in C++ with an example program.	8
4 a.	Create a base class STAFF (Name, Id) and derived classes TEACHING and TECHNICAL. TEACHING class having specialized data member; specialization and TECHNICAL class having specialized data member; skill. Write an overriding member functions; Display( ) of base class and derived classes to display the read data members in a proper format.	10
b.	Explain different kinds of Inheritance with an example snippet code for each.	10

UNIT - III

5 a.	Explain the following with a snippet code: i) Virtual function ii) Pure virtual function. iii) Virtual constructor iv) Virtual destructor	10
b.	Explain operator overloading concept with an example program overloading any two binary operators.	10

6	a.	Explain the mechanism of virtual function with respect to complier interpretation.	10
	b.	Write a program in C++ to overload increment and decrement operators (prefix and postfix).	10

UNIT - IV

7	a.	With a neat diagram explain the class hierarchy of streams in C++.	10
	b.	What are text files and binary files? Give examples (any two) for each.	4
	c.	List out the limitations of Exception Handling.	6
8	a.	Write C++ program to sort a list of integer numbers and floating point numbers by creating function templates (apply selection sorting technique to sort).	10
	b.	Illustrate with an example program to use try/ throw/catch constructs of C++.	10

UNIT - V

9	a.	Explain any five buzzwords of Java.	10
	b.	With an example snippet code, explain arrays in Java. Write all different alternatives of declaring an array.	10
10	a.	Create class called STACK with an integer array and Top of the Stack (TOS) as data members. Write methods PUSH( ) and POP( ) members to add/ remove an element from stack. Write Java program to implement the operations of STACK.	10
	b.	List out the applications of super keyword in Java.	4
	c.	With an example Java program, explain how final keyword can be used with inheritance?	6

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