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B 2189

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Fourth Semester

Electrical and Electronics Engineering

EE 237 — OBJECT ORIENTED PROGRAMMING

Maximum: 100 marks Time: Three hours

Answer ALL questions.

PART A $-(10 \times 2 = 20 \text{ marks})$

- 1. What are objects? How are they created?
- What is data abstraction? Illustrate with an example. 2.
- What is a reference variable? How it is advantageous? 3.
- Write short notes on new and delete operators.
- What is a constructor? Illustrate with an example. 5.
- Write short notes on dynamic initialization of objects. 6.
- 7. What is inheritance? Discuss its need.
- What is the difference between abstract base class and virtual base class? 8.
- 9. What is a template?
- Write a note on pure virtual function.

PART B - (5 × 16 = 80 marks)

Describe the major principles of object oriented programming with 11. illustrations. (10)

Or

Illustrate the concept of local variable declarations

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- (b) (i) Compare procedure oriented programming and object oriented programming with suitable real world examples. (10)
 - (ii) Write short notes on control structures in C++.
- 12. (a) (i) Write a brief note on standard input/output streams in C++. (8)
 - (ii) What is an inline function? What are the advantages of it? Write a program to illustrate the concept of inline functions. (8)

Or

- (b) Develop program, which receives objects as arguments, and return objects as return values. Illustrate the above using complex number objects. (16)
- 13. (a) Define a class String that could work as a user defined data type. Include constructors that will create un-initialized string and initialize an object with string constant at the time of creation of an object of string class. Include a function that adds two strings to make a third string. Write a main () test your class. (16)

Or

- (b) What is the need of operator overloading? Write a C++ code to overload ++ operator. Test your code using main () (16)
- 14. (a) Discuss about the various types of inheritances in C++ with neat sketches and examples. (16)

Or

- (b) What is dynamic binding? Illustrate with an example how it is implemented by virtual functions. (16)
- 15. (a) Consider any one application of electrical engineering. Define suitable classes and identify objects. Write a program to implement the application. (16)

Or

(b) Explain the exception handling mechanism in c++. Write a program to illustrate divide by zero exception. (16)

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