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Second Semester M.Tech. Degree Examination, June/July 2011
Advanced Computer Concepts for Automation

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1** a. Define and explain the different types of automation. (08 Marks)
b. Explain the concepts of parallel processing, multiprocessing, multithreading operations. (06 Marks)
c. Discuss the different types of network topologies used for communication. (06 Marks)
- 2** a. Discuss the concepts used in object oriented languages. (06 Marks)
b. What are constructors? Explain the different types of constructors. (06 Marks)
c. Write a C++ program to create a class called complex and implement the following overloading functions ADD that return a COMPLEX number.
i) ADD(a, s2) – where a is an integer and s2 is a complex number.
ii) ADD(s1, s2) – where s1 and s2 are complex numbers. (08 Marks)
- 3** a. Explain the friend function with an example. What are the merits and demerits of using friend function? (10 Marks)
b. Explain the method of data hiding in classes. (04 Marks)
c. What is inheritance? Explain the various forms of inheritance. (06 Marks)
- 4** a. Explain the use of virtual function, with an example. (06 Marks)
b. What are the templates? Explain the template functions. (08 Marks)
c. What is function prototyping? Explain with example. (06 Marks)
- 5** a. What are exceptions? With an example, clearly explain the exception handling mechanism in C++. (12 Marks)
b. Explain the salient features of JAVA. (08 Marks)
- 6** a. Compare file system with database management system and explain the features of DBMS (10 Marks)
b. With a neat sketch, explain the database system structure. (10 Marks)
- 7** a. Explain the different notations of ER diagram. Write an ER diagram for a bank. (10 Marks)
b. Discuss the security and authorization issues required for database. (05 Marks)
c. Explain the three schema architecture of DBMS. (05 Marks)
- 8** Write short notes on :
a. Data warehouses
b. Distributed operating system
c. Protocols
d. Network topology. (20 Marks)

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