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[5252]-167

S.E. (Computer) (Second Semester) EXAMINATION, 2017
OBJECT ORIENTED AND MULTICORE PROGRAMMING
(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Neat diagrams must be drawn wherever necessary.

(ii) Figures to the right side indicate full marks.

(iii) Use of calculator is allowed.

(iv) Assume suitable data if necessary.

1. (a) Explain the following concepts related to Object Oriented Programming : [6]

(1) Array of objects

(2) Class as ADTs

(b) What are characteristics of friend function ? Write a code to overload ">>" operator using friend function. [6]

Or

2. (a) What is significance of : [6]

(1) Data encapsulation

(2) Data abstraction and Information Hiding with reference to Object Oriented Programming ?

P.T.O.

- (b) Explain with suitable examples : [6]
(1) Function prototypes
(2) Default and constant arguments.
3. (a) Explain with suitable examples : [6]
(1) Virtual destructors
(2) Early and Late binding
- (b) What is importance of : [6]
(1) Pure Virtual Functions
(2) Hybrid Inheritance ?
- Or*
4. (a) What are difference streams operators supported by C++ for Managing Console I/O Operations ? [6]
- (b) What do you mean by Multicore and Multiprocessors Systems? What are challenges of software development with these systems ? [6]
5. (a) Explain the following : [8]
(1) Hardware thread
(2) Software thread
(3) Hybrid thread
(4) User level thread.
- (b) Describe scheduling and managing policy of thread with respect to multithreading environment [5]

Or

- 6.** (a) Explain method of thread creation and joining with suitable code. [8]
- (b) What do you mean by context switch ? What are similarities and differences between thread and process ? [5]
- 7.** (a) What do you mean by race conditions and deadlock ? Explain use of read-write-locks to prevent race conditions and deadlocks. [8]
- (b) What are different thread strategy approaches that can be used while creating a multithreaded application ? [5]

Or

- 8.** Write short notes on : [13]
- (1) Message Queue
 - (2) POSIX Semaphore
 - (3) Relationship between co-operating tasks.