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**[5057]-256**

**S.E. (Computer) (Second Semester) EXAMINATION, 2016**

**OBJECT ORIENTED AND MULTICORE PROGRAMMING**

**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :-** (i) Attempt Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6, Q. No. 7 or Q. No. 8.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Assume suitable data, if necessary.

**1. (a) Explain the following terms with example : [8]**

- (1) Constant arguments
- (2) Reference variable
- (3) Static member functions
- (4) Inline functions.

**(b) Explain the difference between early and late binding. [4]**

P.T.O.

*Or*

- 2.** (a) What is operator overloading ? Explain the need of operator overloading. [4]
- (b) What is the ambiguity problem in inheritance ? How can it be resolved ? [4]
- (c) Explain in brief manipulators. [4]
- 3.** (a) What is an exception ? How is an exception handled in C++ ? [4]
- (b) What are the most commonly occurring problems when there is concurrent access to data or resources by multiple tasks ? [8]

*Or*

- 4.** (a) Explain *one* application of container class with suitable example. [8]
- (b) Explain the different activities in process creation. [4]
- 5.** (a) Explain architecture of thread with suitable block diagram. [8]
- (b) Explain the hardware thread and software thread. [5]

*Or*

- 6.** (a) Explain the `pthread_create` and `pthread_join` function. [8]
- (b) What are the different thread attribute. [5]

7. (a) Explain *four* basic synchronization relationships between any two tasks. [9]

(b) Write a short note on interthread communication. [4]

*Or*

8. (a) Explain delegation model in brief. [7]

(b) Explain in brief : [6]

(1) Critical section

(2) Message queue

(3) Mutex semaphore.