

**Total No of Questions: [8]**

**SEAT NO. :**

**[Total No. of Pages : 2 ]**

**S.E. 2012 (Computer)**  
**Object Oriented and Multicore Programming**  
**(Semester - II)**

**Time:2 Hours**

**Max. Marks : 50**

**Instructions to the candidates:**

- 1) *Neat diagrams must be drawn wherever necessary.*
- 2) *Figures to the right side indicate full marks.*
- 3) *Use of Calculator is allowed.*
- 4) *Assume Suitable data if necessary*

- Q1) a) Define the following terms [8]  
1. Class  
2. Static data member  
3. Inline function  
4. Member access control  
b) Explain virtual destructor with example. [4]
- OR
- Q2) a) What is operator overloading? Write a program to overload [8]  
1. Operator + for concatenation of two strings  
2. Operator >> for reversing a given string  
3. Operator << for displaying a given string  
b) What is static member function? Give a example for the same [4]
- Q3) a) Explain following [9]  
1. Generic Programming  
2. RTTI  
3. Early binding and late binding  
b) What are core operating system services? [3]
- OR
- Q4) a) How to handle multiple exceptions occurred in a program? [5]  
b) What is POSIX\_SPAWN ( ) function? How to create a child process using [7]  
POSIX\_SPAWN ( ) function? Explain with example
- Q5) a) Explain following: [8]  
1. Hardware thread  
2. Software thread  
3. Hybrid thread  
4. User level thread  
b) Explain contention scope of a thread [5]
- OR
- Q6) a) Explain method of thread creation and joining with suitable code. [8]  
b) Explain scheduling policies of a thread. [5]
- Q7) a) Explain different PRAM models with respect to concurrent and exclusive [5]  
memory access.

- b) Explain following [8]  
1. POSIX semaphore  
2. MUTEX semaphore  
With their respective operations

OR

- Q8) a) What are MUTEX attribute object functions? [5]  
b) Explain thread strategy approach. [8]