Total No. of Questions—8]   [Total No. of Printed Pages—3

Seat
No.

[4657]-576

S.E. (Computer) (Second Semester) EXAMINATION, 2014

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.

1.   (*a*)   What is a friend function ? How do you declare one ? When

is friend function compulsory ? Give an example.   [6]

(*b*)   What is virtual function ? Why do we need virtual function ?

When do we make a virtual function "pure" ? What are the

implications of making a function a pure virtual function ? [6]

Or

2.   (*a*)   Write short notes on :   [6]

(*a*) 'this' pointer

(*b*) Copy constructor.

P.T.O.

(*b*) What is operator overloading ? Name the operators that cannot be overloaded in C++ ? How do you declare an overloaded stream insertion and extraction operator ? [6]

3. (*a*) Distinguish between overloaded functions and function templates. Write a function template for finding the minimum value contained in an array. [6]

(*b*) Draw the state diagram for the process. Explain each process state briefly. [6]

Or

4. (*a*) What is an exception ? How is an exception handled in C++ ? What are the advantages of using exception handling mechanism in program ? [6]

(*b*) How can we create a child process from parent process ? Describe parent-child relation. [6]

5. (*a*) What do you mean by threads ? Write a threaded program in C++ and explain Pthread_join( ) function. [7]

(*b*) Compare threads and processes. Describe thread attributes. [6]

Or

6. (*a*) How can we pass command line arguments to the thread function ? Determine the number of threads using command line argument. [7]

(*b*) What are the types of thread ? Describe in brief. [6]

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7. (*a*) What is meant by critical section ? How can we manage critical section using mutex semaphore ? [6]

(*b*) Enlist concurrency models. Write a short note on any *two*. [7]

Or

8. (*a*) Can all threads in the process share global data, variables, and data structure ? If yes, explain with an example. [6]

(*b*) Describe the basic functions of POSIX message queue. [7]

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