CS508 Modern Programming Languages

Mid Term Examination – Spring 2006

Time Allowed: 90 Minutes

Please read the following instructions carefully before attempting any of the questions:

1. Attempt all questions. Marks are written adjacent to each question.

2. Do not ask any questions about the contents of this examination from anyone.

  a. If you think that there is something wrong with any of the questions, attempt it to the best of your understanding.

  b. If you believe that some essential piece of information is missing, make an appropriate assumption and use it to solve the problem.

  c. Write all steps, missing steps may lead to deduction of marks.

**WARNING: Please note that Virtual University takes serious note of unfair means. Anyone found involved in cheating will get an `F` grade in this course.

Question No. 1	Marks : 2

Ada pointers are called Access types.

★ TRUE
★ FALSE

Question No. 2	Marks : 10

Give the short answers of the following:

a) Comparison between functional and imperative languages?
Differentiate between the Dynamic Type binding and Static type binding?

Question No. 3	Marks : 15

Convert the following C code into equivalent LISP code using the most appropriate constructs:

```
switch (VAR) {
        case 'M' :
        case 'P' :
        case 'L' :
        case 'C' :
        case 'S' :
                cout << "THIS IS A MPL CS COURSE";
                break;
        case 'F' :
        case 'O' :
        case 'L' :
        case 'L' :
        case 'O' :
        case 'W':
                cout << "FOLLOW";
                break;
        default:
                cout << "ANY OTHER";
}
```

Question No. 4	Marks : 2

Dynamic binding occurs at:

★ Compile Time
★ Design Time
★ Link Time
★ Run Time

Question No. 5	Marks : 15

Convert the following Ada code into equivalent C code.

case ch **is**

```
      when 'A' | 'E' | 'I' | 'O' | 'U' =>
            putline("this is an uppercase vowel");
      when 'J' .. 'N' =>
            putline("between uppercase J and N");
      when others =>
            putline("something else");
end case;
```

Question No. 6   **Marks : 2**

The dangling pointer problem is partially alleviated by Ada design.

★ TRUE
★ FALSE

Question No. 7   **Marks : 2**

Which statement is wrong about Static variables?

★ They are bound to memory cells before the execution of program
★ They use to direct access the memory.
★ There is run time overhead of allocation and de-allocation of memory.
★ Storage can't be shared among variables

Question No. 8   **Marks : 2**

Prolog language falls under the domain of:

★ Scientific Applications
★ Business Applications
★ Special Purpose Languages
★ None of these