PRINCE OF SONGKLA UNIVERSITY

FACULTY OF ENGINEERING

Final Examination : Semester II   Academic Year : 2003

Date : 18 February 2004   Time : 9.00 - 12.00

Subject : 217-452   Real-time Software   Room : R300

Attempt all questions.

1. From your drilling machine specification designed in your class assignment,

    (a) Show its functional structured design.   (5)

    (b) Show its object-oriented design.   (5)

2. Detail

    (a) the role of diagrams in software development.   (4)

    (b) the basic diagram types used in your drilling machine class assignment.   (6)

3. From the drilling machine class assignment, draw

    (a) context diagram   (5)

    (b) data flow diagram   (5)

4. Describe the use of UML in the drilling machine class assignment for,

    ● requirements analysis   (2)

    ● design   (2)

    ● implementation   (2)

    ● testing, integration and debugging   (2)

    ● maintenance   (2)

5. In the drilling machine class assignment, show the need for and use of the following software development tools:

- Software debuggers (4)
- Hardware debuggers (3)
- Logic analysers. (3)

6. In your drilling machine class assignment,

   (a) How does documentation supports the various phases of the software life cycle?

   (4)

   (b) Explain the underlying concepts of your software testing. (3)

   (c) Explain your static and dynamic testing. (3)

K. Thongnoo