Fourth Semester Examination – 2006 .

SOFTWARE ENGINEERING & OOAD

Full Marks : 70

Time : 3 Hours

Answer Question No. 1 which is compulsory and any
five from the rest.

The figures in the right-hand margin indicate marks
for the questions.

1. Answer the following questions :   2×10

(a) What is the principal aim of the software
engineering ? Draw the pyramid diagram for
OOSE Architecture.

(b) What are the three different kind of testing
associated with System testing ?

(c) What are the prominent qualities of System
Design with OO method ?

P.T.O.

(d) What do you mean by software process ?

(e) What is the role of data dictionary in CASE environment ?

(f) Differentiate between object oriented analysis and object oriented design ?

(g) Define the term cohesion in the context of object-oriented design of systems.

(h) What are the advantages of encapsulation ?

(i) What is the difference between a coding standard and a coding guideline ?

(j) What is meant by a code walk-through ?

2. (a) Why should a requirement analyst avoid making any design decisions during requirements analysis ? Must a good programmer also be a good requirement analyst ?   5

(b) Discuss the major advantages of object oriented design methodologies over the data flow oriented design methodologies.   5

3. (a) What is meant by structural complexity of a program ? Define metric for measuring structural complexity of a program. How this is different from the computational complexity of a program ?   5

(b) Draw a data flow diagram for the inventory of a large medicine store.   5

4. (a) Why is it important to properly document a software product ? What are the different ways of documenting a software product ?   5

(b) What is stress testing ? Why is stress testing applicable to only certain types of systems ?   5

5. (a) What is regression testing ? Why regression testing is necessary? How is regression testing performed ?   5

(b) Discuss the relative merits of ISO 9001 certification and SEI CMM-based quality assessment.   5

6. (a) What are the different type of views that can be modeled using UML ? What are the different UML diagrams which can be used to capture each of the views ?   5

(b) What do you mean by repeatable software development ? Organizations assessed at which level of SEI CMM maturity achieves repeatable software development ?   5

7. (a) Discuss how the reliability changes over the lifetime of a software product. 5

(b) How cohesion and couplings are related ? Give an example where cohesion increases and coupling decreases. 5

8. (a) Define and differentiate between software engineering and software reengineering. 2.5

(b) If a module has a logical cohesion, what kind of coupling is this module likely to have with others ? 2.5

(c) Define the metrics to measure software reliability ? 2.5

(d) Define and differentiate between CASE tool and a CASE environment. 2.5