Eastern University, Sri Lanka
Second year/Second Semester in Science
2002/2003(A) & 2002/2003(Repeat)
Software Engineering Principles-CS 205

(Answer all questions)

Time: 1 hour

(Q1)

(A)

(a) Well-engineered software is defined as possessing four attributes. List these attributes and suggest four further attributes that such software might posses. Under what circumstances might these be more important?

(b) Briefly explain the different general models of software development

(c) Draw a block diagram showing the different stages of software lifecycle in the waterfall model and explain its final stage.

(B)

(a) Describe how data flow diagram may be used to document a system design

(b) Using examples give guidelines to draw flow diagrams

(Q2)

(A)

(i) What do you understand by the terms cohesion, coupling and adaptability.

(ii)Explain why maximizing cohesion and minimizing coupling leads to more maintainable systems

(B)

(a) How does the concept of an object in the Object-oriented model differ from the concept of an entity in the Entity-relational model?

(b) Using examples explain the difference between an object and object class

(c)In a library, the following books are available:

- Ken Follet, Pillars of the Earth, 1990
- Noah Gordon, The Madicus, 1987
- Nicholas Evans, The Horse Whisperer, 1995

For every library member, name, address, birth date and their number are saved. Hans Muller, born 1 March 1995 from Bochum borrows "Pillars of the Earth", that has to be returned not later than 12 May 1998. This date will be written into the book. Else Wallersee from Dortmund, born 26 March 1975 borrows "The Medicus" and "The Horse Whisperer". Both books have to be returned not later than 14 May 1998.

(i) Identify objects and their associations and depict them in an object diagram

(ii) Identify class and their associations on the basis of the objects found and depict them in a class diagram