

LIB
4/11/15 AN

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 95311

5 Year M.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Sixth Semester

Software Engineering

ESE 061 — SOFTWARE DESIGN

(Regulation 2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the various view points of software design.
2. Why software design process is important in the software engineering?
3. Differentiate between coupling and cohesion.
4. List the advantages and disadvantages of using LOC as a metric
5. Why do we need different process models? Name few process models that are currently popular.
6. Name the steps to transform a DFD to a Structure.
7. Explain the tasks undertaken by the requirement engineer.
8. Why structured programming is needed?
9. Define object- relationship model.
10. What is an anti pattern?

PART B — (5 × 16 = 80 marks)

11. (a) (i) What is meant by the term modularity in the context of software design? Why modularity is considered desirable? Explain some of the benefits of modular design. (8)
- (ii) List and explain in detail the properties of the architectural design. (8)

Or

- (b) (i) Discuss about the metrics used for assessing the software design. (8)
 - (ii) Explain about the notations and the pragmatics used in the design of any software. (8)
12. (a) Define the term object oriented analysis. How it is different from traditional system analysis approach. Describe the three major activities required for performing object oriented analysis. (16)

Or

- (b) Explain the process of user interface design. Also list the guidelines of good user interface. (16)
13. (a) (i) Explain the process model that combines the elements of waterfall and iterative fashion. (8)
- (ii) Give a brief description of software prototyping and briefly discuss the various prototyping techniques. (8)

Or

- (b) Consider the following scenario :

ABC Videos is the local video store. To borrow Videos or DVD's, a customer must first apply for a membership card by completing an application form and providing identification. When hiring items, the customer presents the items together with their membership card to the clerk. The clerk then totals their rental. The customer pays the rental and issued a receipt that includes the return date for the items. Items rented are recorded on the Customer's record. If the items are overdue a notice is placed on the Customer records and the Customer must pay a Late fee the next time they borrow an item. A monthly report, together with the receipts for the daily banking from the store, is sent to the Accounting Department listing the monthly rentals and any late items outstanding
 - (i) Construct a Context Level DFD for the above. (8)
 - (ii) Decompose to a Level-O DFD. (8)
14. (a) Compare and contrast transform analysis and transactional analysis with examples. (16)

Or

- (b) What notation is really the best? What are the attributes of design notation? Explain them in detail. (16)

15. (a) A system is required to maintain an inventory of the contents of a warehouse. Items are delivered for the storage at any time during the day and must be allocated space. An identification label must be attached to each item before storage and some items need to be stored in a refrigerated unit. An item can be stored for any period of time but some items have an expiry date by which they must be removed from the warehouse. When items are removed they need to be labeled, packaged for delivery and put on the correct delivery truck. The truck driver should be given a list of delivery addresses for the items. The system should be able to generate reports showing the current contents of the warehouse and the last day's deliveries and collections.
- (i) Taking an object-oriented point of view, draw up a list of potential classes, attributes and external entities using the above specification. (8)
 - (ii) Starting with the classes that are identified, generate a class diagram for the warehouse software system. Make sure each class is labeled with any key attributes or operations. (8)

Or

- (b) What are the developmental methods that involve the building models to describe the system being investigated? What are the three kinds of model developed during object-oriented analysis and design? Explain. (16)