53 (IT 605) SWEN

2015

SOFTWARE ENGINEERING

Paper : IT 605

Full Marks : 100

Time : Three hours

**The figures in the margin indicate
full marks for the questions.**

*Answer **any five** questions out of **eight**.*

1. *(a)* What do you mean by software life-cycle model ? Explain prototyping model in detail. 2+7=9

   (b) Explain the organization of Software Requirement Specification (SRS) document. List various characteristics of a good SRS and bad SRS document. 3+4+4=11

2. *(a)* Describe various characteristics of a good software design. 5

Contd.

(b) How modularity and layering of modules help in good designing of a software ? 5

(c) Briefly explain cohesion and coupling with suitable example and diagram.
5+5=10

3. *(a)* What is Dataflow Diagram (DFD) ? Describe different primitive symbols used for constructing DFD. 2+4=6

(b) Draw a DFD and structure chart for super market prize scheme. 6+6=12

(c) Distinguish between a flowchart and structure chart. 2

4. *(a)* What are different system-views that can be modelled using UML ? What are different UML diagrams which can be used to capture each of the view ?
3+5=8

(b) What are the different constituents present in a class diagram ? Explain with suitable example. 2+6=8

(c) Write a comparison between association, aggregation and composition. 4

5. (a) Discuss various desirable characteristics that a good user interface should possess. 8

   (b) What do you mean by Software Quality ? What is ISO-9001 Certification ? 2+5=7

   (c) Distinguish between Graphical User Interface (G.U.I) Vs. Text-based user Interface. 5

6. (a) Briefly explain different metrices to measure software reliability. 8

   (b) What are the main advantages of using CASE tool ? 8

   (c) What do you mean by Software reuse ? 4

7. (a) What is risk and risk management ? Explain different activities associated with risk management. 2+2+8=12

   (b) Discuss different shortcoming of LOC for use as a software size metric.

   4

(c) Suppose you are developing a Software product in organic mode. You have estimated the size of the product to be about 100000 lines of code. Compute the nominal effort and development time using COCOMO estimation. 4

8. (a) Write short notes on : 5×3=15
   (i) White-box testing
   (ii) Sequence diagram
   (iii) Code Review.

   (b) Explain software reverse Engineering. 5