B. Tech. (Sem. IV) (Main / Back) Examination, June/July - 2013
Computer Science & Information Tech.
4CS5 Software Engineering

Time : 3 Hours]   [Total Marks : 80
     [Min. Passing Marks : 24

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Attempt any five questions. Selecting one question from each unit.
All questions carry equal marks. (Schematic diagrams must be
shown wherever necessary. Any data you feel missing suitably be
assumed and stated clearly.)
Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. _____ **NIL** _____   2. _____ **NIL** _____

UNIT - I

1 (a) **What are the steps of system development life cycle (SDLC) ?**
   Describe each step briefly.

                                                            2+6=8

   (b) Discuss the problems that occur while developing the system
   and suggest the possible solutions.

                                                            8

OR

1 (a) You have heard of people discussing system. What are the
   system and system analysis ? Explain both.

                                                            2+6=8

   (b) Write down the short notes on : System specification.

                                                            8

UNIT - II

2 (a) Compare waterfall model and spiral model for software
   development. Which one will you prefer and why ?

                                                            4+1+3=8

   (b) Explain the prototype model ? Under what circumstances is
   it beneficial to construct a prototype model ?

                                                            5+3=8

OR

2   (a)   Describe the software development life cycle (SWDLC). Also explain its different phases.

2+6=8

(b)   State advantages and disadvantages of evolutionary process model.

8

UNIT - III

3   (a)   Elaborate all requirement analysis principles.

4

(b)   What do you understand by data dictionary ? Where and how it is used ?

2+1+1=4

(c)   Describe characteristics of a SRS.

4

(d)   Describe facilitated application specification technique (FAST).

4

OR

3   (a)   Write short note on following : Finite State Machine (FSM).

8

(b)   Draw a DFD for a hotel management system. Explain each part briefly.

8

UNIT - IV

4   (a)   What is software design ? How will you translate the analysis model into Design model ? Also explain the design principles in brief.

1+4+3=8

(b)   (i)   Explain modularity in context of software design.

2

(ii)   What are the various module types ?

2

(iii)   Explain cohesion and coupling in modular design.

4

OR

4 (a) What is quantifying program quality ? With the help of your own Hypothetical example, explain a method of quantifying programming quality.

8

   (b) Explain any two architectural styles of software design in brief.

4

   (c) Explain procedural design in brief.

4

UNIT - V

5 (a) Explain Object Oriented (OO) concept with an example.

8

   (b) Describe the class - responsibility - collaborator (CRC).

8

OR

5 (a) Explain the differences between structural and OO analysis with the help of suitable example.

6

   (b) What is UML ? How it is useful in OO modeling ?

2+2=4

   (c) Describe the unified approach to OO design.

6