Fifth Semester B.E. Degree Examination, June/July 2017

Software Engineering

Time: 3 hrs.   Max. Marks:100

**Note: *Answer FIVE full questions, selecting
at least TWO questions from each part.***

PART – A

1   a.   List and explain all FAQ's about software engineering.   (08 Marks)
    b.   Explain four professional and ethical responsibilities of a software engineer.   (04 Marks)
    c.   Explain:
         i)   Socio-technical systems
         ii) People and computer systems
         iii) Legacy systems   (08 Marks)

2   a.   With neat diagram explain insulin pump structure and dimensions of dependability.
                                                                                  (06 Marks)
    b.   What are software process models? Explain with neat diagram the water fall model.
                                                                                  (07 Marks)
    c.   What is process iteration? Explain Boehm's spiral model of the software process.   (07 Marks)

3   a.   Differentiate functional and non-functional requirements. And with neat diagram, explain
         types of non-functional requirements.   (08 Marks)
    b.   Tabulate the structure of requirements document.   (04 Marks)
    c.   Explain four steps in spiral modal of requirements elicitation and analysis process. And brief
         requirements validation and management.   (08 Marks)

4   a.   Enumerate the concepts of behavioural modeling, data modeling and object modeling.
                                                                                  (08 Marks)
    b.   Explain six project management activities.   (04 Marks)
    c.   Draw the activity network and activity bar chart for the following task durations and
         dependencies.   (08 Marks)

Rask	Duration (days)	Dependencies
T_1	8	
T_2	15	
T_3	15	T_1 (M_1)
T_4	10	
T_5	10	T_2, T_4 (M_2)
T_6	05	T_1, T_2 (M_3)
T_7	20	T_1 (M_1)
T_8	25	T_4 (M_5)
T_9	15	T_3, T_6 (M_4)
T_{10}	15	T_5, T_7 (M_7)
T_{11}	07	T_9 (M_6)
T_{12}	10	T_{11} (M_8)

PART – B

5 a. What are the 3 complementary architectural styles covering the overall system organization?
                                                                                          (10 Marks)
   b. Explain five different stages in an object oriented design process.   (10 Marks)

6 a. Describe the principles of agile methods.   (05 Marks)
   b. Summarize the practices involved in the extreme programming.   (07 Marks)
   c. Describe Lehman's laws and legacy system evolution.   (08 Marks)

7 a. Explain V-model for test plans as a link between development and testing.   (08 Marks)
   b. What are the two phases of testing process? Explain system testing and component testing.
                                                                                          (12 Marks)

8 a. What is the role of organization in selecting staff and motivating people?   (06 Marks)
   b. With neat diagram, explain the P-CMM and cost estimation techniques.   (14 Marks)

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