10IS51

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)

* * * * *