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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)

Task	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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