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10IS51

Fifth Semester B.E. Degree Examination, Aug./Sept.2020

Software Engineering

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. What is software engineering? What are the key challenges that a software engineering is facing? (05 Marks)
- b. With a block diagram, explain the different phases of systems engineering process. (10 Marks)
- c. Explain why legacy systems may be critical to the operation of a business. (05 Marks)
- 2 a. What are critical systems? List and explain different types of critical systems. (06 Marks)
- b. Explain Boehm's spiral model of the software process with a neat diagram. (08 Marks)
- c. Describe different phases in the Rational Unified Process. (06 Marks)
- 3 a. What are non-functional requirements? How are they different from functional requirements? Give examples. (06 Marks)
- b. Explain the structure of requirements document. (06 Marks)
- c. With a neat diagram, explain the requirement engineering process in detail. (08 Marks)
- 4 a. Define data-flow model. Give data flow diagram for an Insulin pump. (06 Marks)
- b. State and explain different management activities. (08 Marks)
- c. Explain risk management process with a neat diagram. (06 Marks)

PART – B

- 5 a. What are the advantages and disadvantages of object oriented design? (06 Marks)
- b. Explain client-server model with example. (08 Marks)
- c. Write a note on control styles. (06 Marks)
- 6 a. Give a brief description of principles of agile methods. (06 Marks)
- b. With a neat diagram, explain the system evolution process. (08 Marks)
- c. Explain the activities of re-engineering process. (06 Marks)
- 7 a. Explain the structures of a software test plan. (06 Marks)
- b. With a neat figure, explain the clean room software development process. (08 Marks)
- c. Explain the goals of software testing process. (06 Marks)
- 8 a. Briefly explain the factors that may influence the decision of selecting staff for the project team. (07 Marks)
- b. Explain the factors affecting software pricing. (07 Marks)
- c. Write a note on people capability maturity model (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.