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**Fifth Semester B.E. Degree Examination, Dec.2016/Jan.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. Explain the term software engineering and system engineering; mention the important attributes of good software products. (06 Marks)
- b. What is a software process model? Explain the types of software process models. (06 Marks)
- c. What are legacy systems? Explain the components of legacy system with neat diagram. (08 Marks)
- 2 a. What are critical systems? Explain the different types of critical systems. (06 Marks)
- b. With block diagram, explain water fall process model. Mention the advantages and disadvantages of waterfall model. (08 Marks)
- c. Explain the requirement engineering process with diagram. (06 Marks)
- 3 a. Mention the differences between functional and non-functional requirements. Give example for each. (06 Marks)
- b. Explain the structure of the requirements documents. (08 Marks)
- c. Explain the following: i) Ethnography ii) Scenarios. (06 Marks)
- 4 a. Explain different types of system models. (06 Marks)
- b. Differentiate between milestones and deliverables. (02 Marks)
- c. List the activities of risk management with diagram. (04 Marks)
- d. What are project management activities? Explain. (08 Marks)

**PART – B**

- 5 a. With an example describe the repository model and give its advantages and disadvantages. (08 Marks)
- b. Draw and explain state diagram for a typical weather station. (08 Marks)
- c. Define control styles. (04 Marks)
- 6 a. Explain the principle of agile methods. (06 Marks)
- b. What is prototype? Explain the process prototype development with diagram. Mention the advantages of using prototype. (08 Marks)
- c. With a neat diagram describe the system evolution process. (06 Marks)
- 7 a. Explain the following : i) Unit testing ii) Integration testing (06 Marks)
- b. Explain clean Room software development. (08 Marks)
- c. List classes of interface errors. (06 Marks)
- 8 Write short notes on the following :
  - a. IEEE/ACM code of Ethics
  - b. The client server model
  - c. Lehman's laws
  - d. Software cost estimation techniques. (20 Marks)