



Department of Computer Science and Engineering
National Institute of Technology Rourkela
Mid-Semester Examination (Spring Semester) - 2020
B. Tech. VIth Semester
Sub: Software Engineering (CS3004)

Time – 2 Hours

Full Marks – 30

Note: Answer all five questions. All parts of a question must be answered at one place.

1. [4+2=6]
 - (a) What are the important characteristics of a good Software Requirement Specification (SRS) document? Briefly explain them?
 - (b) Discuss any two important shortcomings of the LOC metric used for project size estimation.

2. [3+3=6]
 - (a) What are the objectives of the feasibility study phase of software development? Explain the important activities that are carried out during the feasibility study phase of a software development project.
 - (b) Briefly explain the incremental model?

3. [3+3=6]
 - (a) What are three basic roles that the team members assume in the Scrum model? Briefly explain the responsibilities associated with those roles.
 - (b) In the context of Scrum model, explain the following terms: Product backlog, Sprint backlog, Sprint burn-down chart.

4. [3+2+1=6]
 - (a) How we can plan testing during the analysis phase? Explain the benefits?
 - (b) For physical objects, maintenance is required to repair the effects of wear and tear. For non-buggy software, what is the most frequent cause that requires *maintenance*?
 - (c) How can you fix-up various procedures/operations from the specification?

5. [2+4=6]
 - (a) Compare the relative advantages of property-oriented specification method over model-oriented specification method?
 - (b) Assume that a library system is to be developed. The library has two sets of requirements that the library system is going to use. In first requirement, the book can either be in the shelf, or it can be on reserve, or it can be loaned out. If it is on reserve then it is still in the library but somebody has asked for it. In second requirement, the book is in the shelf or on reserve, then it can be requested by a user to be checked out. Using formal method of specification, formalize the concepts as well as requirement statements, and validate that the following specification is correct: A book on loan cannot be requested.