

APJ Abdul Kalam Technological University
Ernakulam II Cluster

First Semester M.Tech Degree Examination December 2017

05CS 6007-OBJECT ORIENTED SOFTWARE ENGINEERING

Time: 3 hrs.

Max. Marks: 60

I.

a) Agility emphasizes rapid delivery of operational software. Explain how this is achieved.

[6 marks]

b) A software system needs to be developed for embedding on fully automatic washing machines. It is expected to have 600 KLoC. Assume that it has an effort multiplier value of 1.35. Calculate the time and people required for developing the software.

[6 marks]

II. Consider the process of passing a graduate course as a set of concurrent activities. The process is as follows: To pass, a student has to attend all but two lectures, present a paper to the class, and complete a course project, due on the last day of the term. To give her presentation, the student is given a date by the instructor, prepares her presentation, and gives it on the assigned day. At any time, the student can drop the course.

Draw the activity diagram and state chart diagram.

[12 marks]

III.

a) What are design patterns? Draw and explain UML class diagram to realize abstract factory for design patterns.

[12 marks]

b) Coherence and coupling are two factors that affect a good system design. Explain.

[6 marks]

OR

IV. What is Interface specification? Explain how constraints can be expressed in OCL taking class Library as an example. Assume that it has an attribute: TotalBooks and methods: AddBook, DeleteBook.

[18 marks]

V.

- a) What is refactoring? When to refactor? Explain how it is performed? [10 marks]
- b) Explain the concepts in Configuration Management. [8 marks]

OR

VI.

- a) Explain the different types of testing. Develop a set of test cases for testing the routine that reads in three integer values representing the three sides of a triangle and calculate the area. [10 marks]
- b) Discuss the process and techniques in software maintenance. [8 marks]