COMILLA UNIVERSITY

Dept. of Computer Science & Engineering

3rd Year 2nd Semester B.Sc(Engg.)Final Examination 2013

Course Title: Software Engineering

Course Code: CSE-323 **Session: 2010-2011**

Total Marks: 60 **Time: 3 hours**

There are **8(Eight)** questions. Answer any **5(Five)**. Figures in the right margin indicate marks. Writing anything on the question paper is strictly prohibited.

1) **a.** What is Software Engineering? What are the differences between Computer Science and Software Engineering? 3

b. Describe the five generic process framework activities. 5

c. "Prototyping can be problematic for some reasons"-What are the reasons? 2

d. What is *Elicitation* in Requirement Engineering? 2

2) **a.** Suppose you are facing a viva board for the position of Software Engineer.After viva they said " you have enough technical qualifications for this position but you have to follow some other non-tecnical respossibilties"-Describe these non-technical responsibilities. 5

b. Why is waterfall model so called? Show it with appropriate diagram. 2

c. "If you subdivide software indefinitely the effort required to develop it will become negligibly small! Unfortunately, other forces come into play, causing this conclusion to be invalid."---Justify the statement with proper diagram. 5

3) **a.** What is an *Agile* process? Describe *Agility* (for software projects) in your own words. 3

b. What is MVC? Describe its Architecture with proper diagram. 4

c. What is Extreme programming (XP)? Describe the XP concepts of refactoring and pair programming in your own words. 5

4) **a.** You are ordered to justify a software project whether it is good or not? How can you take decision? 3

b. What are the key challenges facing for Software Engineering? 3

c. Which software process model is best appropriate for modern web development projects? Justify your own opinions? 4

d. What is UML? List out some diagrams of UML that are used for software design activities. 2

5) **a.** What is CMMI? Describe the levels of CMMI with appropriate figure. 6

b. You have been asked to build Network-based course registration system for your university. Develop a complete set of CRC model index cards on the system. 4

c. What are the core steps of the Six Sigma methodology?

6) **a.** What are the advantages of DFD over other diagram? Draw a level 1 DFD for a Safe-Home software project.

b.	Define software testing. What are the differences between verification and validation?	**3**
c.	What is "GOOD" test? Define unit test.	**2**
d.	Define *Black-Box* testing and *White-Box* testing? Describe any of them.	**3**
a.	What is SQA? Discuss the SQA activities.	**4**
b.	Explain "defect amplification model" with appropriate example.	**5**
c.	Write the step of statistical quality assurance.	**3**
a.	What is software Re-engineering? Describe the software Re-engineering process model with proper diagram.	**3**
b.	Define metrics, measures and indicators?	**2**
c.	What is Reverse Engineering? Show the reverse Engineering process with appropriate diagram.	**4**
d.	What is Forward Engineering? Describe the activities of Forward Engineering for Client-Server Architecture.	**3**