COMILLA UNIVERSITY

Dept. of Computer Science & Engineering

3rd Year 2nd Semester B.Sc(Engg.)Final Examination 2014

Course Title: Software Engineering

Course Code: CSE-323 **Session: 2011-2012**

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 is the difference between software engineering and system 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 *CASE*? 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. A process model delivers a series of releases that provide progressively more functionality for the customer. In which process model this strategy is followed. Why? Explain. 5

3) a. What are non-functional requirements? Write about different types of non-functional requirements. 4

b. Describe the metrics for specifying non functional requirements. 3

c. Define user requirements and system requirements. Name some of the alternatives of natural language. 3

d. What is Software Requirements Specification (SRS)? 2

4) a. You have been given the responsibility to elicit requirements from a customer who tells you he is too busy to meet with you. What should you do? 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. "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. 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.	"Module should be tightly cohesive and loosely coupled"----- Justify the statement.	2
6)	**a.**	Define validation and verification. Write down two techniques for validation and verification.	3
	b.	What is integration testing? Describe the approaches to integration testing.	3
	c.	Distinguish between software inspection and software testing.	3
	d.	What is software maintenance? Describe different types of software maintenance?	3
7)	**a.**	What is software re-engineering? Write the importance benefits from reengineering rather than replacement.	4
	b.	What is data re-engineering? Write down the approaches to data re-engineering.	3
	c.	Describe software product metrics.	2
	d.	Describe two types of standards that may be established as part of the quality assurance process.	4
8)	**a.**	What is estimation for software projects? Describe the COCOMO II model for software project estimation.	3
	b.	Define metrics, measures and indicators.	2
	c.	What are the characteristics of a good design?	4
	d.	What is Forward Engineering? Describe the activities of Forward Engineering for Client-Server Architecture.	3