

Patuakhali Science and Technology University

B. Sc. Engg. (CSE) Level-2, Semester-I Final Examination-2013 (January-June), Session -2011-2012

Course Code: CIT 213, Course Title: Software engineering

Credit Hour: 03

Full Marks 70

Duration: 3 Hours

[Figure in the right margin indicates full marks. Split answering of any questions is not recommended.]

Answer any 5 of the following questions.

1. a) Define Software Engineering. Distinguish between Computer Science and System Engineering. 6
2. b) In the 21st century, which kind of key challenges are facing in the Software Engineering field? 3
3. c) What are the five generic process framework activities? 5
4. a) What is software process model? 3
5. b) Explain how both the waterfall model of the software process and the prototyping model can be accommodated in the spiral process model. 6
6. c) What does a system engineering model accomplish? 5
7. a) Briefly describe requirement of engineering process that is accomplished through the execution of six distinct functions. 12
8. b) Write short note on object aggregation of software engineering. 2
9. a) Illustrate on Quality Function Development (QFD). 3
10. b) What are the difference between generic software product development and customer software development? 3
11. c) Draw a sequence diagram (partial) for safe home security function and illustrate it. 8
12. a) What do you mean by design classes? 3
13. b) Briefly write down a "well formed" design class. 8
14. c) Describe the difference between verification and validation in respect of Software Engineering. 3
15. a) What is the overall strategy for software testing? 3
16. b) Draw a figure of testing strategy. 2
17. c) What are the step for top-down integration, bottom-up integration and regression testing? 6
18. d) How do you complete the black-box and white-box testing? 3

Patuakhali Science and Technology University

B. Sc. Engg. (CSE) Level-2, Semester-I Final Examination-2014 (January-June), Session 2012-2013

Course Code: CIT 213, Course Title: Software Engineering

Credit Hour: 03

Full Marks: 70

Duration: 3 Hours

[Figure in the right margin indicates full marks. Split answering of any questions is not recommended.]

Answer any 5 of the following questions.

1. a) Define software Engineering. Distinguish between Computer Science and System Engineering. 6
b) Which kind of key challenges are being faced in the software Engineering field presently? 3
c) Explain why system testing costs are particularly high for generic software products which are sold to a very wide market. 5
2. a) What are the differences between a software process model and a software process? 4
b) Explain how both the waterfall model of the software process and the prototyping model can be accommodated in the spiral process model. 6
c) Design a process model for running system tests and recording their results. 4
3. a) What do you mean by design Classes? 3
b) Briefly write down a "well formed" design class. 8
c) Describe the difference between verification and validation in respect of software Engineering. 3
4. a) What is the overall strategy for software testing? 2
b) Draw a figure of testing strategy. 2
c) What are the steps for top-down integration, bottom-up integration and regression testing? 6
d) Explain why it may be necessary to design the system architecture before the specifications are written. 4
5. a) Briefly describe requirement of engineering process that is accomplished through the execution of six distinct functions. 12
b) Write short note on object aggregation of software engineering. 2
6. a) Illustrate on Quality Function Development (QFD). 3
b) Briefly explain generic software product development and customer software development. 4
c) Draw a sequence diagram (partial) for safe home security function and illustrate it. 7

Patuakhali Science and Technology University
B.Sc. Engg. (CSE) 3rd Semester (L-2, S- I) Final Examination
January-June- 2015, Session-2013-2014
Course Code: CIT 213 Course Title: Software Engineering
Credit Hour: 03 Full Marks: 70 Duration: 03 Hours

[Figures in the right margin indicate full marks. Split answering of any question is not recommended. Write the full question number e.g. 1(A) before the answer paragraph]

Answer any 5 of the following questions:

- 1 (A) Write short note on software engineering, computer science and system engineering. side 7 ①
- 1 (B) What are the attributes of good software? Write down the key challenges facing by software engineering in 21 century? side 8 ①
- 2 (A) Describe five generic process framework activities. 5
- 2 (B) Explain with figure the mentioned process model Incremental Model, RAD Model, Spiral Model. side 11 ② 9
- 3 (A) What does a system engineering model accomplish? 6
- 3 (B) Briefly describe the function of Business Process Engineering (BPE) and Product Engineering. 8
- 4 (A) What is the overall strategy for software testing? Draw a figure of testing strategy. 4
- 4 (B) Explain why it may be necessary to design the system architecture before the specifications are written. 4
- 4 (C) What are the steps for top-down integration, bottom-up integration and regression testing? 6
- 5 (A) What do you mean by design classes? 3
- 5 (B) Briefly write down a "well formed" design class 8
- 5 (C) Describe the difference between verification and validation in respect of software engineering. 3
- 6 (A) What are the seven distinct functions for requirement engineering process in software engineering? Explain briefly. 14

1. a) What is software re-engineering? Find out the reasons for the Failure of Water Fall Model. 3
b) Define Software Evolution Laws. *slide 2 - (3)* 2
c) Explain the different phases involved in waterfall life cycle. *slide 9 - (2)* 3
d) What is feasibility study? Show the contents we should contain in the feasibility report. 2
2. a) What are the various steps under risk analysis? *171* 3
b) Explain the common risk tools and techniques. *P-130* 3
c) Compare basic objects and aggregate objects used software configuration. 2
d) Draw a diagram for pure waterfall life cycle. *slide - (2) (8)* 2
3. a) Briefly describe the characteristics of good software. *slide 11 (1)* 2
b) Write the distinction between SCM and Software Support. 2
c) What are the purposes of Data Flow diagrams and Entity-Relationship diagrams? Give an example of each. 3
d) How do we define Software Quality? Define Software Reliability. 3
4. a) How do we compute the "Expected Value" for Software Size? 2
b) What is software reuse? Explain various aspects of software reuse. *slide 2* 3
c) Define the terms: i. Agility ii. Agile Team 2
d) What are the challenges in software? Write about software change strategies. 3
5. a) Discuss the different types of CASE tools available in Software Engineering. *slide - 36* 3
b) Explain all the phases involved in the implementation phase. 3
c) Compare between the "Known Risks" and "Predictable Risks"? 2
d) How many types of software maintenance? Why is it necessary? 2
6. a) List the process activities of software configuration management. 3
b) What is user acceptance testing? Explain different testing's in user acceptance testing. Why is it necessary? 3
c) How to compute the cyclomatic complexity? What are the common approaches in debugging? 2
d) Define White Box Testing. Explain in detail about Black box testing. Or. 2
A project PP has 100 nos. Regression test cases, 80 nos. test cases executed during regression testing. Find the percentage of test cases executed.
7. a) Write down the importance of CRC-Modeling. 2
b) List and explain different types of testing done during the testing phase Unit. 3
c) Show the steps involved in the prototyping. 3
d) For a certain project ABC, total defects attributed to all phases are 55 and total size of the project is 180FP. Find the defect injection rate? 2
8. a) Define steps in Behavioral Modeling. *slide 19* 2
b) What are the basic design principles of Class-Based Components? 3
c) Discuss about class and object. Draw the diagrams and representation of class and object. 3
d) What is generalization? Give an example of generalization. Or. 2
Define the task regions in the Spiral model.