

B.E. SIXTH SEMESTER UECU (G/NG) EXAMINATION JUNE, 2017

(Branch : Computer Science & Engineering)

CS 6005 SOFTWARE ENGINEERING

Time : Three Hours

Maximum Marks : 70 / 100

Min. Pass Marks : 22 / 35

Note : Attempt all questions. All questions carry equal marks.

- 1(a) What do you mean by functional and non functional requirement in the SDLC?
- (b) What is a waterfall model? Under what circumstances is it beneficial to construct a prototype model?

OR

- 2(a) What is RUP? Explain different phases of RUP
- (b) What are the key points which validate that the requirements which have been captured are feasible for the organization?

- 3(a) What is SRS explain the need of SRS and List the five desirable characteristics of good SRS document.
- (b) Differentiate the verification and validation process required for the software development.

OR

- 4(a) Compare the relative advantages of the object oriented and function oriented approaches to software design.
- (b) Explain the following (i) Traceability (ii) Components of Use case diagram

- 5(a) Suppose you are a member of software technical team and you are supposed to capture functional requirement of the ATM system to be developed how you will capture those requirement. Draw the diagram for it.
- (b) Write the steps for performing architectural analysis & design?

OR

- 6(a) What are the types of interface design? Brief the "golden rules" of user interface design.
- (b) Explain various types of cohesion and coupling in context of software design and what are various debugging approaches?

- 7(a) Distinguish between : (i) Alpha and beta testing (ii) White box and Black box testing.
- (b) Suppose our team want to test the product after the completion of testing of individual components, which type of testing needs to perform in order to get the testing result of overall product working.

OR

- 8(a) Define Software Reliability? Distinguish between verification and validation.
- (b) Which testing methodology should be adopted in order to check whether system is getting output on providing input or not?

- 9(a) What is Re-engineering? Explain the steps performed for Re-engineering.
- (b) If a client wants to request for making change regarding the technology what kind of risk organization has to face and how to manage those risk.

OR

- 10(a) What is the relationship between software configuration management and software maintenance and what are decomposition techniques for software project estimation?
- (b) How quality of software can be ensured. What are the Factors of Software Quality?

B.E. SIXTH SEMESTER UECU (G/NG) EXAMINATION JUNE, 2015

(Branch : Computer Science & Engineering)

CS-6005 SOFTWARE ENGINEERING

Time : Three Hours

Maximum Marks : 70 / 100

Min. Pass Marks : 22 / 35

Note : Attempt all questions. All questions carry equal marks.

- 1(a) What is software engineering paradigm? Compare the advantages and disadvantages of various software engineering paradigms.
(b) How does a spiral model represent a process suitable to represent a real time problem?

OR

- 2(a) What is the difference between process metrics and product metrics? Give four examples of each.
(b) What do you understand by the term phase containment of errors? Why is phase containment of errors important? How can phase containment of errors be achieved?
- 3(a) Explain the concept of functional modeling with an illustrative example.
(b) Compare the following : (i) Behavioral and functional mode
(ii) Data flow diagrams and state transition diagram

OR

- 4(a) Explain software requirement specification. What are the characteristics of good SRS? Why SRS is known as black box specification?
(b) Give an example of an inconsistent functional requirement. Explain why do you think that the requirement is inconsistent.

- 5(a) What do you understand by the term top down decomposition in the context of function-oriented design? Explain your answer with suitable example.
(b) What do you mean by cohesion and coupling in the context of software design? How are these concepts useful in arriving at a good design of a system?

OR

- 6(a) In modeling of systems using UML, how are the classification of user of a system into various types of actors and their representation in the use case diagram helpful in system development?
(b) Distinguish between : (i) Horizontal partitioning and vertical partitioning
(ii) Structured analysis and object oriented analysis

- 7(a) What is white box testing? What is the difficulty while exercising it?
(b) What is meant by code walkthrough? What are some of the important types of errors checked during code walkthrough?

OR

- 8 Calculate the cyclomatic complexity for the following program. Explain your approach.

```
Int temp
If (a > b) temp = a
Else temp = b
If (c > temp)
Temp = c
Return temp
```

- 9(a) What are the different types of maintenance test a software product might need? Why are these maintenance required?
(b) What do you mean by the term software reverse engineering? Why is it required? Explain different activities undertaken during reverse engineering.

OR

- 10 Write short notes on : (i) Cocomo model
(ii) Software Quality Assurance

Roll No. : 0701.....

B.E. SIXTH SEMESTER UECU (Gr/NGr) EXAMINATION JUNE'2014
(Branch : Computer Science & Engineering)
CS-6005 SOFTWARE ENGINEERING

Time : Three Hours

Note : Attempt all questions. All question carry equal marks.

Maximum Marks : 70/100
Min. Pass Marks : 22/35

- 1 Which of the software engineering paradigms do you think would be most effective ? Why ?

OR

- 2 As you move outward along the process flow path of the spiral model, what can you say about the software that is being developed or maintained ?

- 3 Software requirements analysis is the most communication-intensive step in the software process. Why does the communication path frequently break down ?

OR

- 4 Discuss your perceptions of the ideal training and back ground for a systems analysis.

- 5 Do you design software when you write a program ? What makes software design different from coding ?

OR

- 6 Discuss the relationship between the concept of information hiding as an attribute of effective modularity and the concept of module independence.

- 7 In your own words describe the difference between static and dynamic views of an OO (Object Oriented) system.

OR

- 8 Describe : (i) Test Metrics (ii) Testing Tools.

- 9 Write short notes on any two of the following :-

- (i) Need and types of maintenance.
- (ii) Re-engineering and reverse engineering
- (iii) Cost estimations
- (iv) Project scheduling and tracking.

of Question : 10

Roll No. : 0701.....

B.E. SIXTH SEMESTER UECU (G/NG) / RGPV (N/O) EXAMINATION JUNE, 2013

(Branch : Computer Science & Engineering)

CS-6005 SOFTWARE ENGINEERING

CS-603(N/O) SOFTWARE ENGINEERING & PROJECT MANAGEMENT

Time : Three Hours

Maximum Marks : 70 / 100

Min. Pass Marks : 22 / 35

Note : Attempt all questions. All questions carry equal marks.

- 1(a) What is Linear Sequential Model for Software Development? How does it work? Give limitations and advantages of this model.
(b) What are differences between RAD model and Component Assembly Model? Describe each one briefly.

OR

- 2(a) Explain with suitable illustration about SPIRAL Model.
(b) Why software myth becomes constraints to software process? What are goals of Software Engineering?

- 3(a) What is Use Case? Discuss about the importance of Use Cases in software Engineering.
(b) What are differences between Functional and Non Functional Requirement of Software Development Process? Explain each one briefly.

OR

- 4(a) What is Requirement Specification? Why is it required? Discuss briefly.
(b) Why Software Requirement Validation necessary? Explain how it is used.

- 5(a) Explain what does UML mean? What are different types of views capture by UML diagrams?
(b) How Coupling and Cohesion Modularization criteria are used? Describe briefly.

OR

- 6(a) What is Data Flow Diagram (DFD)? Explain and design DFD for any problem.
(b) Draw and explain sequence diagram for the Restaurant.

- 7(a) What is a Test Case Design? Write Test Case for any software development problem.
(b) What are different Testing Tools used for testing software?

OR

- 8(a) What are the differences between White Box Testing and Black Box Testing? Explain briefly about each of them.
(b) How Object Oriented Analysis and Design used in software engineering? Write its comparisons with Structure Software Engineering.

- 9(a) Explain necessity of software Maintenance. How will you estimate the approximate maintenance cost of software product?
(b) What are the factors upon which Software Maintenance activities depend?

OR

- 10(a) Describe briefly each activity of Software Project Planning.
(b) Write short notes on:

- (i) Project Scheduling and Tracking
(ii) Software Quality Assurance

Note : Attempt one question from each unit. All question carry equal marks.

UNIT-I

- 1(a) Distinguish between software product and a software process. What is software engineering process? 10
- (b) Explain how both waterfall model and the prototyping model can be accommodated in the spiral process model. 10

OR

- 2(a) What are the objectives of software engineering? Describe any three software product attributes and any three software process attributes. 10
- (b) Explain different process models along with their relative merits and demerits. 10

UNIT-II

- 3(a) What are the difference between requirements definition and required specification? 10
- (b) What is use case model explain with example? What do you mean by CMM? 10

OR

- 4(a) Explain the functional and non-functional requirement in detail with example. 10
- (b) Discuss in detail the various steps of requirements engineering. 10

UNIT-III

- 5(a) How are the disciplines of classical architecture and software architecture similar? How do they differ? 10
- (b) What are the principles to be followed while designing user interface? 10

OR

- 6(a) Discuss software reliability metrics and discuss their applications. 10
- (b) Describe the characteristics of an object oriented design, its advantages and explain the typical activities performed during the object oriented design process. 10

UNIT-IV

- 7(a) Define testing and explain the stages of testing process. Discuss between alpha and beta testing. 10
- (b) What are the different types of interface errors that can occur and what are the general guidelines for interface testing? 10

OR

- 8(a) Discuss the difference between black-box testing and structural testing and suggest how they can be used together in the defect testing process. 10
- (b) Explain why interface testing is necessary given that individual units have been extensively validated through unit testing and program inspections. 10

UNIT-V

- 9(a) Explain the COCOMO for software cost estimation. 10
- (b) What do you mean by re-engineering and software configuration management? 10

OR

- 10(a) What is software quality assurance and reverse engineering? 10
- (b) Discuss the techniques for estimating project duration and determining the staffing pattern. 10

Total No. of Question : 05

Roll No

B.E. Sixth SEMESTER UECU EXAMINATION J'

(Branch : Computer Science and Engineer

CS-6005 , Software Engine

Time : Three Hours

Note : Attempt all questions. Attempt any two parts from the question. All ques.

- 1(a) Describe the spiral model of software development. 10
(b) What are the five levels of maturity of CMM? Explain briefly 10
(c) (i) State the advantage and disadvantages of the evolutionary model of software development. 10
(ii) What is the main criterion for deciding whether or not to use the waterfall model in software development project? 10
- 2(a) Develop a SRS document as per [IEEE-Std 830] for Shopping Mall.. 10
(b) What are the three stages of requirements engineering process? Explain briefly. 10
(c) Write a note on class diagram. For a library system draw a class diagram. 10
- 3(a) What is the difference between coupling and cohesion? Explain in detail different types of coupling and cohesion. 10
(b) Briefly describe the architectural design process. 10
(c) Explain the COCOMO2 costing model. 10
- 4(a) Explain Black Box testing. What are the various methods of Black Box testing? 10
(b) What is integration testing? Compare top down and bottom up testing. 10
(c) What do you mean by testing tool? Explain different types of testing tools. Also give list of commercial testing tools. 10
- 5(a) Define the following terms:
i) Reuse ii) Reverse Engineering iii) Software restructuring iv) Forward Engineering v) Reengineering 10
(b) Explain the Taute's Maintenance Model. 10
(c) Explain change management? Give flow chart of it. 10