C

Reg. No. :

Question Paper Code: 54205

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Computer Science and Engineering

15UCS405- SOFTWARE ENGINEERING

(Regulation 2015)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Which of the following models requires the maximum involvement of   CO1- R
    users?

    (a) V Model   (b) Spiral Model   (c) Prototyping Model   (d) Formal model

2. Which of the following is not a step in the requirements engineering   CO2 R
    process?

    (a)Requirements Specification   (b) Requirements Analysis

    (c)Feasibility Study   (d) Requirements Prioritization

3. The importance of software design can be summarized in a single word   CO3- R

    (a) accuracy   (b)complexity   (c) efficiency   (d) quality

4. What is normal order of activities in which traditional software testing is organized   CO4- R

   a)Integration testing b) System testing c)Unit testing d)Validation Testing

   (a) a,d,c,b   (b) c,a,d,b   (c) b,d,a,c   (d) d,b,c,a

5. Which of the following are advantages of using lines of code (LOC) as a size-oriented metric?   CO5 R

   (a) LOC is a language independent measure

   (b) LOC is a language dependent measure

   (c) LOC is easily computed

   (d) LOC can be computed before a design is completed

   ## PART – B (5 x 3= 15Marks)

6. What are the problems expected, if software engineering approach is not followed in the software development?   CO1- R

7. List the functional and non-functional requirements for a Library Management System   CO2- R

8. What factors have to be taken into account in the design of a menu-based interface for "walk-up" systems such as bank ATMs?   CO3- R

9. Differentiate between boundary value analysis and equivalence class partitioning.   CO4- R

10. How does Function Point (FP) overcome LOC problems?   CO5- R

   ## PART – C (5 x 16= 80Marks)

11. (a) A university intends to develop an integrated student management system holding all details of registered students including personal information, courses taken, examination marks achieved and student graduation record. Develop the suitable software process model and justify for choosing that model.   CO1- App   (16)

   Or

   (b) Explain CMMI model framework in detail.   CO1- U   (16)

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12. (a) Google is looking to develop a new preparatory Mobile Messenger application that can compete amongst existing Messenger applications in market. As a System Analyst, give an outline of different stages of requirement engineering, for this new mobile messenger. CO2- App (16)

Or

(b) Describe the characteristics of software requirement specifications (SRS). Prepare the SRS document for the student admission and examination system that it includes all issues. CO2- App (16)

13. (a) Describe the design elements, design principles and process in detail. CO3- U (16)

Or

(b) Develop DFD(s) to define "Automatic train ticket vending machine" system. CO3- App (16)

14. (a) Discuss the different types of software testing in detail. CO4 U (16)

Or

(b) "An operating system is evolving in versions and each version introduces new features which are stable and do not affect the existing features". Which type of integration is best suited for testing the above system and why? CO4- Ana (16)

15. (a) Apply COCOMO II method to compute all the estimates required for an embedded project of size 38,900 LOC. Use the following cost drivers: High use of software tools, very good programmer and low complexity. CO5- App (16)

Or

(b) Estimate the effort required to develop software for task manager (web application) development. The application provides facilitation to a supervisor to track the progress of job tasks assigned to his/her team. Team inserts the completed tasks associated with time spent for each task. The supervisor will check these tasks and give some notes on these tasks. This project has three actors: administrator, supervisor and team members. Each actor has his/her own perspective. More than one programming Languages can be used. For the above project compute the Function Point and LOC. CO5-App (16)

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