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Question Paper Code : 13265

M.E. DEGREE EXAMINATION, JANUARY 2015.

Elective

Computer Science and Engineering

CP 7007 — SOFTWARE REQUIREMENTS ENGINEERING

(Common to M.E. Computer Science and Engineering (with specialization in Networks))

(Regulation 2013)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   Distinguish between verification and validation.

2.   What is a fish bone diagram? What is it used for?

3.   Who is a stakeholder? Mention the types of stakeholders

4.   Mention the two kinds of software prototypes and cite the circumstances in which they are used appropriately.

5.   Write any two realistic functional and non-functional requirements for cash-dispensing function in an ATM.

6.   Define data granularity with an example.

7.   Precisely define any two quality attributes, with apt examples for each.

8.   List the common categories of user types.

9.   Sketch a context diagram for a railway reservation system.

10. How are traceability tables useful? Show an example.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Give a brief note on the various types of requirements (8)

   (ii) Enumerate the fundamental design concepts and explain the same. (8)

Or

   (b) Describe in detail the business use case modeling considering the example of a medical clinic.

12. (a) (i) Specify the benefits of stakeholder analysis and discuss the methods used for the same. (8)

   (ii) When are requirements elicitation workshops ideal? Describe the set of project requirements that are discussed in such workshops. (8)

Or

   (b) Brief out the interviewing and brainstorming methods of requirements elicitation.

13. (a) Scenarios are used as part of system development process. Elaborate on the various types of scenario as listed by Alexander and Maiden. Also list the roles of scenarios in system development life cycle.

Or

   (b) (i) Sketch a use case diagram for the following scenario: (8)

   A student wants to enroll in a seminar so, he submits his name and student number to the registrar therefore, he may be validated to become an eligible student at the university. Once the registrar verifies him, the student indicates the seminar he wants to enroll in from the list of those available. The registrar validates if the student is eligible to enroll in the seminar and that the seminar fits into the student's existing schedule. The registrar calculates the fees for the seminar based on the fee published in the course catalog, applicable student fees and applicable taxes and informs the student. The registrar verifies with the student that he still wants to enroll in the seminar. The registrar adds the appropriate fees to the student's bill and provides the student with a confirmation that he is enrolled

   (ii) Provide the template of a Software Requirements specification and explain the same. (8)

14. (a) (i) Give the functionality of QAW method and provide the complete description of the steps involved in it. (8)

(ii) Sketch the six parts of a quality attribute scenario, Describe the general scenario generation for availability and testability attributes. (8)

Or

(b) (i) How are usability requirements constructed? Prepare a list of usability requirements for an online shopping system. (8)

(ii) Provide a user model and a user interface design for the Book Return' scenario of a Library Management System. (8)

15. (a) (i) Scope of a project can be defined using different perspectives With appropriate examples, discuss any two ways of defining a project's scope. (8)

(ii) Explain the flow of change management process. (8)

Or

(b) (i) Explain the factors which influence changes in requirements. (8)

(ii) Write a note on requirements completion and volatility metrics. (8)

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