

Reg. No. :

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**Question Paper Code : 83102**

M.E. DEGREE EXAMINATION, JANUARY 2014.

*Elective*

Computer Science and Engineering

CP 7007 — SOFTWARE REQUIREMENTS ENGINEERING

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Support with an example the need for domain knowledge in the process of reengineering.
2. Why are fishbone diagrams termed as causal diagrams?
3. Identify possible stakeholders in the following system :

A train protection system which will automatically bring the train to a halt if it exceeds the speed limit for a track segment or if it goes through a red signal.

4. Mention some flaws that might be in questionnaires.
5. What are the levels of detail to consider while writing functional requirements?
6. What are the advantages of documenting use cases?
7. What are the ways to specify UI design?
8. Mention the important quality attributes for a medical imaging system.
9. List some factors due to which requirements change.
10. What are the advantages of defining the scope of the project?

PART B — (5 × 16 = 80 marks)

11. (a) A product is to be installed to control elevators in a building with 'm' floors. The problem concerns the logic required to move elevators between floors according to the following constraints : Each elevator has a set of 'm' buttons, one for each floor. These illuminate when pressed and cause the elevator to visit the corresponding floor. The illumination is canceled when the elevator visits the corresponding floor. Each floor, except the first floor and top floor has two buttons, one to request an up-elevator and one to request a down-elevator. These buttons illuminate when pressed. The illumination is canceled when an elevator visits the floor and then moves in the desired direction. When all elevator has no requests, it remains at its current floor with its doors closed.

Draw an activity model of the process.

Or

- (b) With suitable examples, write short notes on :
- (i) Business process modelling
  - (ii) Business modelling notations.
12. (a) With hospital management as a case study, explain the interview, prototyping and group session stake-holder driven elicitation techniques.

Or

- (b) With library management system as a case study, explain how the needs of stakeholders can be understood and documented.
13. (a) Write use case scenarios for the following activities :
- (i) Registering for a university or college course
  - (ii) Processing an application for a loan or a credit card
  - (iii) Transferring funds from one account to another using an ATM
  - (iv) Searching library catalogue for books on a topic.

Or

- (b) With order processing system as a case study, elaborate on how use cases can be documented.
14. (a) (i) With mobile device as a case study, model the user experience.  
(ii) Write short notes on usability requirements.

Or

- (b) Describe the motivation for holding QAWs, the QAW method and its benefits.

15. (a) Elaborate on the requirements management tools.

Or

(b) (i) With suitable examples, explain the metrics in requirement engineering.

(ii) Draw a context diagram for payroll processing.

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