U.S.N

P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester, B.E. - Computer Science and Engineering

Semester End Examination; June - 2017

Software Engineering

Time: 3 hrs *Max. Marks: 100*

Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.

UNIT - I

1. a. Distinguish between program and software. Identify the important attributes of good software. 8

   b. List and explain different types of applications with an example for each. 12

2. a. Explain the nature of work culture to be followed to behave in an ethical and morally responsible way as professional engineers. 8

   b. Distinguish between waterfall model and reuse oriented software engineering model by identifying major features. 6

   c. Justify with an example, why change is inevitable in software system. 6

UNIT - II

3. a. Explain the practices of extreme programming which reflect the principles of agile methods. 8

   b. With an example, illustrate the advantages of pair programming. 8

   c. What do you mean by ethnography? 4

4. a. Identify the reasons that lead to difficulty in introducing agile methods in large companies. 10

   b. Write a set of functional and non-functional requirements for developing ticket-reservation system, setting out its expected reliability and response time. 10

UNIT - III

5. a. Based on your experience with a bank ATM draw on activity diagram and sequence diagram that models the data processing involved when a customer with draws cash from the machine. 8

   b. With the knowledge of airline reservation system identify and draw the suitable UML diagram that represents the functionality of the model. 8

   c. List three main reasons for applying data flow diagram for a given system. 4

6. a. With an example, explain client-server architecture. 8

   b. What do you mean by application architecture? 4

   c. Explain the software architecture of an ATM system. 8

UNIT - IV

7 a. Develop the design of the weather station to show the interaction between the data collection subsystem and the instruments that collect weather data. Use sequence diagrams to this interaction. 10

b. With examples, explain why configuration management is important when a team of people are developing a software product? 7

c. Highlight the importance of open source licensing. 3

8 a. Illustrate the importance of unit testing and component testing with an example. 10

b. Explain the different stages of acceptance testing process. 10

UNIT - V

9 a. Explain different types of risks and possible risks. 8

b. What are the factors that influence people management? 6

c. Identify the generic factors that affect team work. 6

10a. Explain the activities involved in configuration management of a software system. 10

b. Explain the factors that influence system release planning. 10

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