CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech. Examination (IT/CE)
Nov-2015
IT307/IT307.01 Software Engineering (S.E.)

Date: 30.11.2015, Monday **Time: 01:30 p.m. To 04:30 p.m.** **Maximum Marks: 70**

Instructions:
1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Indicate clearly, the option(s) you attempt along with its respective question no.
5. Figures to the right indicate marks.

SECTION-I

Q-1 **Answer the following questions.**

1. Compare the waterfall model with an iterative model and bring out the relative advantages of the iterative model of software development. **4**
2. Explain the reasons behind the following assertion "Adding more manpower to a late project makes it later". **3**
3. What is risk assessment and control? What procedure is usually followed? **4**

Q-2

[A] What are the major goals of SQA? List the SQA tasks that need to be performed by SQA group. What are the effective methods to ensure the success of SQA? **4**

[B] Can one begin to design without analysis? Explain. What are functional and non functional requirements for software? Who will specify these requirements? **4**

OR

[B] Which characteristics are used by Project Manager for doing resource allocation, monitoring and controlling the progress of the system? **4**

[C] Why is it difficult to gain a clear understanding of what the customer wants? Explain different steps of requirement engineering process. Describe any two requirement elicitation techniques. What can be done, if the requirements are changing continuously? **4**

OR

[C] Compare and contrast between COCOMO and function point model of software sizing. **4**

Q-3

[A] What is Software Requirement Specification (SRS)? Why is it so important? Mention the qualities which are required for ideal SRS. **4**

[B] What is analysis about? What is design about? How to transform analysis into design? What are the principles of analysis and design? **4**

OR

[B] When are verification and validation performed during the software life cycle? What do you mean by TQM and explain any four key elements of TQM. **4**

[C] What is the role UML in framing architecture of the software? Briefly explain the general activities in performing Object Oriented Analysis (OOA) in UML. What are the 3 additional design and implantation models offered by UML? Define each of them. **4**

SECTION-II

Q-4

1. How is software scope defined? Explain in brief. 4
2. State the essential features of ISO 9000 certification. Write down the merits and demerits of ISO 9001:2000 certification. 4
3. Explain WBS (Work Break-down Structure) with an example. 3

Q-5

[A] How does a software project manager deals with the risk of unrealistic schedules and budgets? 4

[B] What do you mean by data modeling? What are the different implementation approaches in data modeling? What is an E-R Diagram? 4

[C] What is FTR? List out the objectives of it? Describe design walk through and critical design review. 4

OR

Q-5

[A] Justify that "Software Quality Assurance is an umbrella activity". 4

[B] What practices should software engineers follow to enhance the quality of software produced by their team? 4

[C] What is Data Dictionary? Explain each component of it? What are the points that should be considered while constructing Data Dictionary? Write the Data Dictionary entry for student course registration form. 4

Q-6

[A] Explain the concept of component based Software Engineering (CBSE). What are its essentials? What are its design principles? 2

[B] What is the significance and importance of CMM certification for any software organization? Is it possible for an organization to achieve a higher level of CMM without achieving a lower one? Justify. 4

OR

[B] Define Reverse Engineering and Re-Engineering. Differentiate between Reverse Engineering and Re-Engineering. 4

[C] What do you mean by Software Configuration Management (SCM)? Discuss the concept of version control as a software configuration management activity. 6

OR

[C] What is software testing and why is it required? Explain the general guidelines for performing a software testing? Differentiate between BLACK BOX testing and Structural (WHITE BOX) Testing. What are the types of WHITE BOX Testing? Explain the step by step procedure to calculate the cyclomatic complexity. 6