CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech. Examination (IT/CE) May 2012

IT-307 Software Engineering (S.E.)

Maximum Marks: 70 Time: 01:30 p.m. To 04:30 p.m. Date: 10.05.2012, Thursday

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Insti	u_{i}	ctu	n	S:

- 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. Rough work is to be done in the last page of main supplementary, please don't write anything on the question paper.
- 5. Indicate clearly, the option(s) you attempt along with its respective question no.

6. Figures to the right indicate marks. SECTION-I 0 - 1Answer the following questions. Give reasons of why software engineering is different from and harder 3 to manage than other engineering discipline. 2. What is the difference between the system life cycle and a system 4 development methodology? What is the critical distinction between a milestones and deliverables? 3. Why SRS is document also known as black box specification of a 4 system? What are the contents of SRS? 0-2 What is preliminary investigation? Who does it? What is the purpose of 4 [A] preliminary investigation? In what situations you will use waterfall model? Justify your answer. Name 4 [B] the risk based software development process model? What are its advantages and disadvantages? OR What do we mean by software process model? Why we need it? 4 [B] Distinguish between software product and a software process. Name four process models that are used to develop large software systems. What are the major phases of the entire life of the software? Specify the 4 [C] percentage of efforts required on each phase. Which phase requires the maximum efforts? Which phase(s) is/are more creative?

- To judge the feasibility of a project, a proposal must pass all the feasibility 4 [C] tests otherwise it is not a feasible project. What are those tests? Explain each of them in brief.
- 0-3 What do you mean by software testing? What do you mean by debugging? [A] Enlist and explain the various testing and debugging techniques in brief.
 - How to transform analysis into the design? What do you mean good 4 [B] design? What are the contents of good design document?
 - Why is it important to develop cost and schedule estimates during planning 4 [B] before software requirement analysis or design conducted?
 - What is the difference between Audit and Formal Technical Review 4 [C] (FTR)? Can their function be folded in to the review? What are the prons and cons?

SECTION-II

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Q-4		
- Indi	1. Is it true that "High quality software process should lead to high quality software products"? Justify.	3
	Discuss how software quality can be achieved during software development.	4
	What are the software configuration management tasks? Define and discuss each of them.	4
Q-5		
[A]	Explain why program inspections are an effective technique for discovering errors in a program. What purpose do "walkthrough" serve? How do we accomplish this?	4
[B]	What are the attributes of a successful software project manager? Which are the primary functions, software managers perform?	4
[C]	What do you mean by Debugging? Explain various Debugging Techniques. Also explain Integration Testing in brief.	4
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Q-5	September 150 that expert her? September 150 to	
[A]	Differentiate between: White Box Testing Methodology and Black Box Testing Methodology.	4
[B]	An organization is assessed at Level 4 of SEI CMM, what can be inferred about the current quality practices at the organization? What does the organization has to do to reach SEI CMM Level 5?	4
[C]		4
Q-6		
[A]	What do you mean by LIP, CFG and McCabe's Cyclomatic Metric? How to find each one of them? How are they related? Explain by taking a suitable example.	4
[B]	Discuss merits and demerits of ISO 9001 and SEI CMM certification.	4
[B]	Define the term error, fault and failure and describe how they relate to each other.	4
[C]	What is the difference between a revision and a version? What do you mean by version control?	4
[C]	OR Heavy maintenance and quality of software are inversely proportional. Elaborate. Why software maintenance is much more complex than hardware maintenance?	4