CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech. Examination (IT/CE)
December 2013
IT307 Software Engineering (S.E.)

Date: 06.12.2013, Friday **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. 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

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

1. Write a short note on "**Software Characteristics**". 4
2. Give reasons of why **Software Engineering** is different from and harder to manage than **other Engineering Disciplines.** 3
3. To judge the **feasibility** of a project, a proposal must pass all the feasibility tests otherwise it is not a feasible project. What are those tests? Explain each of them in brief. 4

Q-2

[A] What do we mean by **software process model**? Why we need it? Name *four* **process models** that are used to develop large software systems. Explain each of them in brief. 6

OR

[A] Define "**Requirements Engineering**". How does the domain knowledge help in **Requirements Analysis**? What are the underlying principles that guide **analysis** work? Why is it difficult to gain a clear understanding of what the **customer** wants? 6

[B] Explain how project manager would carry out the **Risk Analysis**? What would be the outcome of the **Risk Analysis**? How would the outcome of your analysis be used to manage the risk? 6

OR

[B] What is system **Reliability**? Discuss the approaches to system reliability pointing out advantages and disadvantages of each. 6

Q-3

[A] What is **SRS**? Define the characteristics of good SRS. 4

[B] Effective **Software Project Management** focuses on four spectrums. Enlist them in order and explain them. What are the characteristics of an effective project manager? 4

OR

[B] Why the '**Design**' does assume importance as a initial phase in technical aspect of software engineering? 4

[C] Discuss the roles of **software process** and **software products** in context of Software Engineering. 4

SECTION-II

Q-4

1. Explain why high quality **software process** should lead to high quality **software products**. 4
2. Explain why **program inspections** are an effective technique for discovering errors in a program. 4
3. Discuss merits and demerits of **ISO 9001** and **SEI CMM** certification. 3

Q-5

[A] Explain the need for **software measures**. What are the advantages and disadvantages of **LOC** metrics? 4

[B] What is a **Function Point (FP)**? How the software size for the application can be estimated in **Function Points**? Also using **FP** count, how the efforts can be estimated provided various productivity means are given. 4

[C] Briefly highlight the difference between **"code walk-through"** and **"code inspection"**. Compare the relative merits and demerits of the same. 4

OR

Q-5

[A] Why it is advantageous, to detect errors during **code** and **design reviews** rather than leaving them to detect at the time of **testing**? 4

[B] What do you mean by **software testing**? What do you mean by **debugging**? 4

[C] Differentiate between **Black-box** and **White-box** testing methodologies. 4

Q-6

[A] Write Note on: **Alpha Testing**, **Beta Testing** and **Acceptance Testing**. 4

[B] Is it **ethical** for a software engineer to agree to deliver a software system with **known faults** to a customer? Does it make any difference if the customer is told of the **existence** of these **faults** in advance? 4

OR

[B] Is it true that a software product can always be developed faster by having a larger development team of competent software engineers? Justify your answer. 4

[C] What is **software configuration**? Why does one have to manage it? 4

OR

[C] What is **software maintenance**? What are the three types of software modifications that are encountered? 4