CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Fourth Semester of B. Tech (CE) Examination

December 2015

CE220 Software Engineering

Date: 07/12/2015 **Time: 01.30 p.m. To 04.30 p.m.** **Maximum Marks: 70**

Instructions:

1. The question paper comprises 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. Use of scientific calculator is allowed.

SECTION – I

Q - 1 **Answer the questions below.** **[07]**

(a) Who is called as the Stakeholder?

(b) What are the various categories of software?

(c) QFD stands for
- i) quality function design
- ii) quality function development
- iii) quality function deployment
- iv) none of the mentioned

(d) The _____ of a software system is a measure of how well users think it provides the services that they require.

(e) Which of the following risk is the failure of a purchased component to perform as expected?
- i) Product risk
- ii) Project risk
- iii) Business risk
- iv) Programming risk

(f) What are Software Metrics?

(g) Which is not size metric?
- i) LOC
- ii) Function Point
- iii) Program length
- iv) Cyclomatic Complexity

Q – 2 (a) What are the various Software Metrics? For a Given Case calculate total count and function point by using Function Point Analysis Method **[05]**

The Requirement Specification for the Order Entry Module is Given as Follows:

- i) NO of inputs: 10
- ii) NO of outputs 12
- iii) NO of inquiries 07
- iv) No of files 05
- v) No of Interfaces 03

The UPF/CAF is given to be : 5 and the Project Category: Average

Q – 2 (b) Answer the questions below (Any Three) **[09]**

i) Define Software. What are the various characteristics of software? Why software does not wear out? **[03]**

ii) Define Software Engineering. What are the various software myths associated with it? **[03]**

iii) Why is SRS also Known as the black box specification of system? **[03]**

iv) Define term Cohesion and Coupling? What are the problem arise if two modules have high coupling. **[03]**

Q - 3 Answer the questions below. **[14]**

(a) What are the factors of Software Quality? **[04]**

(b) What are the various types of Requirements? Briefly Explain the various Tasks of the Requirement Engineering approach. **[05]**

(c) List out the Types of Software Risks? What are Risk Identification and Risk Avoidance? **[05]**

OR

Q - 3 Answer the questions below. **[14]**

(a) Explain in brief various elements of Software Project Management and Planning document. Explain various roles of Software Project Manager. **[04]**

(b) What is COCOMO Model? What are the various categories of projects handled by it? **[05]**
Assume that the size of an Embedded type software product has been estimated to 50,000 lines of code. Determine the following:
i) Estimated Effort
ii)Development Time
iii)Number of Persons Employed Per Month

(c) Write out the reasons for the Failure of Water Fall Model? What are the Drawbacks Of RAD Model? What do you mean by task set in spiral Model? **[05]**

SECTION – II

Q - 4 Answer the questions below. **[07]**

(a) What is Regression Testing?

(b) The process of changing a system after it has been delivered and is in use is called _____

(c) A set of inputs, execution preconditions and expected outcomes is known as a _____

(d) What do you understand by V&V in software testing?

(e) Cohesion is a qualitative indication of the degree to which a module:
i) can be written more compactly.
ii) Focuses on just one thing.
iii) Is able to complete its function in a timely manner.
iv) Is connected to other modules and the outside world.

(f) Coupling is a qualitative indication of the degree to which a module:
i) Can be written more compactly.
ii) Focuses on just one thing.
iii) Is able to complete its function in a timely manner.
iv) Is connected to other modules and the outside world

(g) Which is not size metric?
i) LOC
ii) Function Point
iii) Program length
iv) Cyclomatic Complexity

Q – 5 (a) What is the use of CMM? Explain the Capability Maturity Model.. **[05]**

Q – 5 (b) What are the various objectives of analysis modeling? Explain the USE case model for a Food Ordering System with proper conventions? **[05]**

Q – 5 (c) What is DFD? Draw DFD up to level 2 for **"Student Management System"**. **[04]**

OR

Q – 5 (a) What are the Basic Principles of Software Testing? Explain the types of System Testing **[05]**

Q – 5 (b) Which are various Umbrella Activities of SQA? Explain Merits and Demerits of ISO 9001 **[05]**

Q – 5 (c) Define maintenance? What are the types of software maintenance? **[04]**

Q – 6 (a) What are the Various Guidelines of Formal Technical Review (FTR)? **[05]**

Q – 6 (b) Why is it necessary to go for integration Testing? Explain the Various Approaches of integration Testing **[05]**

Q – 6 (c) Name Two Software Quality Models? Explain the SEI Capability Maturity Model? **[04]**

OR

Q – 6 (a) Define Quality Assurance. What are the five major areas of SQA? **[05]**

Q – 6 (b) What are the Difference Between Black-Box and White Box Testing? Briefly Explain any one method. **[04]**

Q – 6 (c) Write short note on any one. **[05]**
i) Component based software engineering.
ii) Web Engineering.
iii) Reengineering.
iv) Reverse Engineering.
v) CASE.

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