(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 110602 Roll No. | | | | | | | | | | |

B.Tech.

(SEM. VI) THEORY EXAMINATION 2013-14

SOFTWARE ENGINEERING

Time : 3 Hours *Total Marks : 100*

Note : (i) Answer all questions.
(ii) All questions carry equal marks.

1. Attempt any **two** parts of the following **(2×10=20)**

(a) Draw neat sketch of Spiral Model and explain its different activities. What do the different cycles indicate in this model ? What are its advantages over traditional iterative process models ? Why is it not suitable for small projects ?

(b) What do you understand by coupling and cohesion ? What roles they play in software design ? Describe the properties of best coupling and cohesion giving examples of each.

(c) What do you understand by token count ? Consider a program having :

(i) Number of distinct operator: 12

(ii) Number of operands: 5

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(iii) Total number of operator occurrences: 20

(iv) Total number of operand occurrences: 15

Calculate the different Halstead software metrics for above programs.

2. Attempt any **two** parts of the following **(10×2=20)**

(a) Consider a program that input two integers having values in range (10, 250) and classifies them as even or odd. For this program generate:

(i) Test cases using boundary values analysis

(ii) Equivalence class testing

(b) Why Requirements are hard to elicit ? Explain Requirements elicitation technique; use Case Diagram using example of Banking system.

(c) What is a data flow diagram ? Explain rules for drawing good data flow diagrams with the help of a suitable example.

3. Write short notes on any **four** of the following: **(5×4=20)**

(a) Software testing

(b) Software quality assurance

(c) Cyclomatic complexity measures

(d) IEEE standards for SRS

(e) SRS document

(f) CASE Tools

4. Attempt any **four** parts of the following **(5×4=20)**

(a) What is software quality ? What are three dimensions of software quality ? Explain briefly.

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(b) Describe the differences between the software engineering terms coupling and cohesion.

(c) Why are evolutionary models considered by many to be the best approach to software development in a modern context ?

(d) What is a formal technical review and why is one conducted ? Outline the steps required to conduct a successful FTR.

(e) What are software process models ? Distinguish Iterative Enhancement model and Spiral model.

(f) What is Risk management ? How are project risks different from technical risks ?

5. Attempt any **four** parts of the following: **(5×4=20)**

(a) What is software maintenance ? Explain any two models of software maintenance.

(b) What are different techniques to estimate size of the program ? Which technique is better and why ?

(c) What are different CMM levels ? What does CMM level specify ? Explain briefly.

(d) Does fault necessarily lead to failures ? Justify your answer with an example.

(e) What is difference between reengineering and reverse engineering ? Explain different steps of reengineering.

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(f) What are the attributes of a good software test ? Why is regression testing an important part of any integration testing procedure?

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