Code: CT41 **Subject: SOFTWARE ENGINEERING**

ALCCS - NEW SCHEME

Time: 3 Hours **AUGUST 2013** **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE:
- **Question 1 is compulsory and carries 28 marks. Answer any FOUR questions from the rest. Marks are indicated against each question.**
- **Parts of a question should be answered at the same place.**

Q.1 (7 × 4)

    a. Identify some commonly made errors while constructing of a DFD model.

    b. Without developing an SRS document an organization might face severe problems. Identify those problems.

    c. Is it possible to combine process model? If yes, then explain using suitable example.

    d. What is Code Inspection? List some of the programming errors that can be checked during code inspection.

    e. Distinguish between Mode-based interface and modeless interface.

    f. Identify the different types of failures of software products.

    g. Explain the Necessity of software maintenance.

Q.2 a. Discuss some of the problems that occur when requirement must be elicited from three or more customer. **(5)**

    b. How can software engineers identify stakeholders during inception? **(5)**

    c. Identify and explain three important parts of an SRS document. **(8)**

Q.3 a. What is software design? Give the diagram of translating analysis model into design model and explain it. **(9)**

    b. List and explain the various design principles that enables the software engineer to navigate the design process. **(9)**

Q.4 a. Explain the term Verification and Validation in respect of Software testing. **(7)**

    b. What is Loop Testing? Discuss the different class of loops. **(6)**

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   c. Difference between code review and code walkthroughs. **(5)**

Q.5 a. Discuss the following testing strategies:- **(4×3)**
      (i) Bottom-up integration testing
      (ii) Regression testing
      (iii) White-box testing

   b. Differentiate between static and dynamic models used to describe an object-oriented design. Briefly describe sequence models. **(6)**

Q.6 a. What is Software Configuration Management (SCM)? Explain the major tasks involved in SCM. **(8)**

   b. Explain the necessity of software maintenance. Identify the factors upon which software maintenance activities depends. How do we estimate the approximate maintenance cost of a software product? **(3+4+3)**

Q.7 a. What do you mean by Software Reliability? Identify the reliability metrics which can be used to quantify the reliability of software products. **(9)**

   b. What is a function point metric? How it is used to assess the size and cost of a software project? **(9)**