

MCTA - 204**M.E./M.Tech. II Semester**

Examination, June 2013

Software Engineering And Project Management*Time : Three Hours*

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*Maximum Marks : 70***Note :** 1. Attempt any five questions.

1. a) What is a prototype? Under what circumstances is it beneficial to construct a prototype? Does the construction of a prototype always increase the overall cost of software development?
b) What is requirement validation? Describe various methods of requirement validation.
2. a) What software problems the software industries are facing now a days? What are the software engineering challenges to solve the software problems?
b) What is requirement engineering? Describe various components of requirement engineering.
3. a) What is coupling? Describe various types of coupling with suitable examples.
b) What are the different system views that can be modelled using UML? What are the different UML diagrams which can be used to capture each of the views?
4. a) Perform structured design methodology to produce a design for a system to do student registration in the manner it is done at your college.
b) What are the different levels of testing and the goals of the different levels? For each level, specify which of the testing approaches is most suitable?
5. a) Differentiate code inspection and code walk-through? Compare the relative merits of code inspection and code walk-through.
b) Draw a control flow graph, determine the cyclomatic complexity and identify independent paths for the following source code:

```

int find - maximum (int i, int j, int k)
{
    int max;
    if (i > j) then max = i;
    else max = k
    else if (j > k) max = j
        else max = k;
    return (max);
}

```
6. a) What is software reliability? Explain software reliability and availability metrics.
b) State COCOMO model. Suppose you are developing a software product in the organic mode, you are estimated the size of the product to be about 100,000 line of code? Compute the nominal development time and development effort.
7. a) What are various quality assurance activities? Describe in detail.
b) What is software configuration management? Describe SCM process and its components.
8. a) Write a short note on client-server software development. What are its applications?
b) Define software reuse. Discuss various software reuse approaches.

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