

MCA (Revised)
Term-End Examination
June, 2011

MCS-034 : SOFTWARE ENGINEERING

Time : 3 hours

Maximum Marks : 100
(Weightage 75%)

Note : Question No. 1 is Compulsory. Attempt any three questions from the rest.

1. (a) In the Capability Maturity Model, 10
significant emphasis is given to the
techniques to improve the "s/w quality"
and "process maturity". Describe and justify
the statement in comparison with various
s/w development models. Also, briefly
define the five maturity levels.
- (b) Describe the need for Project Metrics. Also, 10
explain, with the help of appropriate
examples, the two categories of Project
Metrics.

- (c) Differentiate between Auditing and Formal Technical Review. Mention a check list for s/w configuration Audit. Also, describe status reporting and its contents. 10
- (d) How are JZME applications tested ? What are the essential features of the suite ? How many different types of tests can be conducted using the respective suite ? Explain. 10
2. (a) Construct level - 0, level - 1 and level - 2 data flow diagrams (DFDs) for a Study Centre Management System make necessary assumptions and list them. 10
- (b) Consider a simple program to classify a triangle. Its input consists of 3 positive integers (say x, y and z) and the data types for input parameters ensures that these will be integers greater than zero and less than or equal to 100. The three values are interpreted as representing the lengths of the sides of a triangle. The program then prints a message to the standard output that states whether the triangle is a scalene, isosceles, equilateral or right - angled. 10
- For the above problem, derive the basic possible boundary conditions and some test cases respectively.

3. (a) Define version - control. With the help of an evolutionary graph for a different version of an item, explain the Concept. Also, mention any two Commercial tools available which perform version control. **10**
- (b) Mention the major concerns of the formal methods and explain them briefly. **10**
4. (a) Explain the roles and responsibilities of the following w.r.t web - applications : **10**
- (i) Web Master
 - (ii) Application support team
 - (iii) Content Development team
 - (iv) Web Publisher
- (b) Describe the Component Qualification, Adaptation and Composition of Component Based Development Process. **10**
5. Write short notes on *any 4* of the following : **4x5=20**
- (a) CASE Repository
 - (b) Change Control
 - (c) Software Reliability
 - (d) Risk Control
 - (e) Spiral Model
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