Roll No. …… Total Pages: **10419**

MCA/D-12
SOFTWARE ENGINEERING
Paper-MCA-104

Time allowed: 3 hours Maximum marks: 80

Note: Attempt five questions in all. Question no. 1 is compulsory. select one question from each unit.

Compulsory Question

1. Write short notes on the following:
(a) SEI-CMM Quality standard.
(b) Cyclomatic complexity.
(c) Ripple effect.
(d) Deduction approach for debugging.
(e) Behavioral and Non-Behavioral requirements.
(f) Structured design.
(g) JM model for software reliability.
(h) Defensive programming. 8x3=24

Unit-I

2. (a) How software crisis happen? What are various approaches to reduce software crisis? 10
(b) Discuss Halstead Theory for driving Cyclomatic complexity. 4

3. Discuss the following:
(a) Six sigma model.
(b) Function count.
(c) Information flow and design metrics. 14

Unit-II

4. Discuss Cost estimation model for software with numerical example and Putnam model for Resource allocation. 14

5. Discuss the following:
(a) Behavioral and Non-Behavioral requirement.
(b) Relevance of ER and Data-Flow diagrams in software Engg.
(c) Software risks. 14

Unit-III

6. What do you mean by problem portioning and abstraction? Discuss its advantages to all phases Of software development. 14

7. (a) Which activity is most time and cost consuming between design and coding? Discuss Various programming style for coding phase. 10
(b) How Fault can be avoided and tolerated during coding? 4

Unit-IV

8. Discuss different levels of testing and type of testing. Is there any testing technique that Guarantees the 100% accuracy of system? Justify your answer. 14

9. Discuss the following:
(a) Formal technical review.
(b) Software Re-Engineering.
(c) Reverse Engineering.
(d) Alpha and Beta testing. 14