MCA/D-15
SOFTWARE ENGINEERING
PAPER-MCA-14-13

Time Allowed: 3 Hours   Maximum Marks: 80

Note: Attempt Five questions in all, selecting at least one question from each Unit.
Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. (a) What is the difference between Hardware and Software reliability?
   (b) Differentiate between Alpha testing and Beta testing.
   (c) What is the use of Cyclomatic complexity in Software testing?
   (d) What is Functional cohesion?
   (e)   What are the limitations of LOC metric?

UNIT-I

2. Write detailed notes on the following:

 (a) Halstead Complexity Measure.
 (b) Six Sigma Model.

3. (a) What is Water fall model of Software development? What are its limitations?
            Discuss.

 (b) What do you understand by function point? How is it computed? What is the use of
this metric? Discuss.

UNIT-II

4. (a) What is SRS? What are its different components? Discuss.

 (b)   Define Risk. What are the common risks in Software development? Write a brief
note on Risk management.

5. (a) What is Data dictionary? What is the use of it? Discuss.

 (b) Write a note on Putnam resource allocation model.

UNIT-III

6. (a) Discuss the following reliability metrics :

   (i) MTTF
   (ii) ROCOF
   (iii) POFOD.

   b) Differentiate between Data coupling and control coupling using suitable examples.

7. (a) What do you understand by Fault avoidance? How is it achieved? Discuss.

 (b) Discuss the recovery block technique for Fault tolerance.

UNIT-IV

8. (a) What is Mutation testing? What is the objective of it? How is it carried out? Discuss.

 (b) Difference between Load and Stress testing.

9. (a) What is the difference between Black box and White box testing? Explain the equivalence class partitioning using suitable examples.

 (b) Write a detailed note on Formal Technical Review.