MCA/D-18

SOFTWARE ENGINEERING

MCA-14-13

1. Answer the following questions in brief :
   (a) Give the characteristics features of prototype model.
   (b) List the objective and the important concepts behind Six Sigma.
   (c) What is the requirement of data dictionary? What are its contents?
   (d) What is the purpose of entity-relationship diagrams?
   (e) What are the advantages of function-oriented approaches to software design?
   (f) List the categories under which user interfaces can be classified.
   (g) What are the advantages of data flow bases testing?
   (h) What are the main types of static testing techniques?

2. (a) Is the waterfall model of the software process an accurate reflection of software development activities? What are the advantages of waterfall model? How is the spiral model different from it?

   (b) List the factors that determine software quality and compare ISO 9000 series and SEI CMM model for setting up a quality system for software development organizations.

3. (a) What are the shortcomings of LOC metric? How does function point metric overcomes many of the shortcomings of the LOC metric?

   (b) What does the term complexity stand for in the context of software? Describe the Halstead complexity measure and Cyclomatic complexity.

Unit II

4. What are the major planning activities for a software development project? Which one of the these affect the quality of the product and the productivity of the project the most?

5. What are the main activities carried out during requirement analysis and specification phase? What is the final outcome of the requirement analysis and specification phase? What is the final outcome of the requirement analysis and specification phase? What is the final outcome of the requirement analysis and specification phase?

6. (a) Enumerate the different types of coupling that might exist between two module with example.

   (b) What are the general rules applicable to good programming style?

7. (a) What are the describe properties for a software system design? Discuss the design principles that form the basis of most of the design methodologies,

   (b) Define the terms reliability, fault avoidance and fault tolerance in the context of software. Describe the metrics that correlate with reliability.

Unit IV

8. Describe and distinguish between :

   (a) Functional and S structural Testing

   (b) Alpha testing and Beta testing.

9. What are the reasons and characteristics of software maintenance ? Describe the types of maintenance performed on softwares.