SOFTWARE ENGINEERING

Time : 3 Hours *Maximum Marks : 90*

Note : i) Question no. 1 is compulsory.

ii) Attempt Four more questions from question number 2 to 9 selecting at least ONE question from each Unit.

1. a) State three advantages of spiral mode.
   b) State three objectives of SRS.
   c) State various levels of cohesion.
   d) What do you mean by E-R diagram?
   e) Distinguish between implementation and maintenance.
   f) State any three factors of quality assurance.

Unit-I

2. (a) What do you mean by software crises? What are causes of software crises?
   (b) What do you mean by waterfall model? How prototyping overcomes some disadvantages of waterfall model?
3. (a) What do you mean by sofware project planning? Why is it so important? State major issues of consideration in project planning.
   (b) What do you mean by cost estimation in project planning? What are uncertainties in cost estimation?

UNIT-II

4. (a) What do you mean by Software Requirement Specification (SRS)? Why SRS is needed?
   (b) What are central problems in producing SRS for a system. Discuss briefly.
5. (a) What do you mean by coupling? Briefly discuss various types of coupling.
   b) How coupling is related to cohesion? Discuss briefly.

Unit-III

6. a) What do you mean by software testing? What are its principles?

b) Why software testing is so expensive?

c) What are software testability characteristics that lead to testable software? Briefly disuss.

7. a) How functional testing is different from structure testing? Discuss friefly.

b) Write short notes on :

i) Data flow based testing

ii) Loop testing

iii) Control flow based testing.

Unit-IV

8. Distinguish between :

i) Alpha and Beta testing

ii) Unit and Integration testing

iii) Validation and Verification.

9. a) What do you mean by maintenance? Briefly discuss characteristics of maintenance.

b) Briefly discuss various types of maintenance.