Total No. of Questions : 8] [Total No. of Printed Pages : 2

Roll No. .....

CS/IT–602(O)

B. E. (Sixth Semester) EXAMINATION, June, 2010

(Old Scheme)

(Common for CS & IT Engg.)

SOFTWARE ENGINEERING – I

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) What is software crisis ? What are the main reasons of software crisis ? What are the main reasons of higher software maintenance costs ? 10

   (b) Discuss the essence of software life cycle model. Describe various phases in software development life cycle model. 10

2. (a) What is Prototyping ? Explain. What are the advantages of first developing the prototype of a system ? 10

   (b) Why is it important to adhere to a life cycle model while developing a large software product ? 10

3. (a) Explain the following approaches of requirement analysis : 10

   (i) Unstructure

P. T. O.

(ii) Modeling

(iii) Prototyping

(b) Explain data flow and E-R diagrams. What are the linkages between data flow and E-R diagram ? 10

4. (a) What are modular systems ? Explain different types of model cohesion and coupling. 10

(b) Write a note of user interface design. 10

5. (a) Explain various techniques that can be used to select test cases for black-box testing. Also compare them. 10

(b) Differentiate between the following : 5 each

(i) Verification and validation

(ii) Unit testing and system testing.

6. (a) Discuss product metrics and their classification. 10

(b) Explain portability and robustness of software. 10

7. (a) Explain what is project planning. Why is it important ? 10

(b) What are the different categories of software according to COCOMO estimation model ? Give examples of software products belonging to each of these categories. 10

8. Write short notes on any *three* of the following : 20

(a) System engineering hierarchy

(b) Architectural design

(c) Design principles

(d) Component assembly model