(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 1070   Roll No. | | | | | | | | | | |

B. Tech.

(SEM. IV) THEORY EXAMINATION 2010-11

SOFTWARE ENGINEERING

Time : 3 Hours   *Total Marks : 100*

Note :   (i)   Attempt all the questions.

      (ii)   All questions carry equal marks.

1.   Attempt any **two** parts of the following :   **(2×10=20)**

    (a)   (i)   What is Software Engineering ? Is it an art or a science ? Discuss.

        (ii)   Compare the characteristics of software with characteristics of hardware with suitable explanation.

    (b)   Describe the role of management in software development with the help of examples.

    (c)   Explain the spiral model of software development. What are the limitations of such a model ?

2.   Attempt any **two** parts of the following :   **(2×10=20)**

    (a)   (i)   Discuss the importance of software requirement specification.

        (ii)   Explain entity/ relationship diagrams with examples.

    (b)   (i)   Distinguish between software verification and software validation.

(ii) Discuss the main requirements of ISO-9000 and compare it with SEI-capability maturity model.

(c) Write short notes on :

(i) Software quality attributes

(ii) Software Review.

3. Attempt any **two** parts of the following : **(2×10=20)**

(a) What is object oriented design ? Explain in detail with an example.

(b) Define Data Dictionary. How is the data dictionary useful in different phases of the life cycle of a software product ?

(c) Discribe the following in brief :

(i) Coupling

(ii) Cohesion.

4. Attempt any **two** parts of the following : **(2×10=20)**

(a) Define software testing. What is the purpose of integration testing ? How is it done ?

(b) Discuss the difference between black-box testing and white box testing ?

(c) Discuss the following :

(i) Formal Technical Reviews.

(ii) System Testing.

5. Attempt any **two** parts of the following :   **(2×10=20)**

(a) What is software maintenance ? Discuss the different types of software maintenance.

(b) (i) What is software re-engineering ? Discuss.

     (ii) What are configuration management activities ? Discuss in brief.

(c) What are the different categories of software according to the COCOMO estimation model. Discuss each with examples.