

Paper Code: ECS-602

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**B.Tech.**  
**(SEM VI) Back Paper EXAMINATION 2015-16**  
**SOFTWARE ENGINEERING**

[Time: 3 hrs.]

[Max. Marks: 100]

**Note-** Attempt All Questions. All Questions carry equal marks.

1. Attempt any two of the following: [10x2=20]
  - (a) Define software engineering. Explain the major differences between software engineering and other traditional engineering disciplines.
  - (b) Write the advantages of using the waterfall model and the spiral model of the software development.
  - (c) What is prototype model? Under what circumstances it is beneficial to construct a prototype model? Discuss.
  
2. Attempt any two of the following: [10x2=20]
  - (a) What do you understand by term requirements elicitation? Discuss various elicitation techniques.
  - (b) Write a note on software quality assurance (SQA) activities.
  - (c) Discuss the following with suitable examples:
    - (i) E-R Diagram
    - (ii) Data Flow Diagram
  
3. Attempt any two of the following: [10x2=20]
  - (a) How are the concepts of cohesion and coupling useful in arriving at good software designs? Discuss.
  - (b) Write the advantages of function point metric over LOC metric.
  - (c) Discuss the various characteristics of object oriented design with suitable examples.
  
4. Attempt any two of the following: [10x2=20]
  - (a) Why are three different levels of testing – unit testing, integration testing and system testing necessary? Discuss.
  - (b) What is cyclomatic complexity? Explain with the help of example.
  - (c) Explain the following:
    - (i) Alpha testing and beta testing
    - (ii) Code Inspection
  
5. Attempt any two of the following: [10x2=20]
  - (a) What are the different categories of software according to the COCOMO estimation model? Discuss each of these categories with example.
  - (b) What are different types of maintenance that a software product might need? Discuss. Also write relationship between software configuration management and software maintenance.
  - (c) Why risk management is recognized as important area in software industry? Discuss different risk management activities.