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**B.Tech. VIEP - COMPUTER SCIENCE &  
ENGINEERING**

**Term-End Examination**

**December, 2010**

**BICS-005 : SOFTWARE ENGINEERING**

*Time : 3 hours*

*Maximum Marks : 70*

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

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1. (a) What is evolutionary software development ? What are its key advantages ? 5
- (b) Define software crises. What are possible solutions to the present software crises ? 5
  
2. Explain in detail the following software process models with a neat diagram.
  - (a) Incremental process model. 5
  - (b) Evolutionary process model. 5
  
3. (a) What are the common standard metrics for the size of software ? 4
- (b) Using a schematic diagram explain the following with example, estimated in the COCOMO estimation technique : cost, effort, duration, size. 6

4. (a) What are the elements of requirement analysis model ? Explain. 4
- (b) Explain the terms functional Modeling and Information flow. List the functional requirements of Traffic Management System. 6
5. (a) What is prototyping ? How is it useful for the development of requirement specification ? 6
- (b) Draw the complete DFD at least up to 2 - levels for hospital management system. 4
6. (a) Define Software Architecture. Explain why it may be necessary to design system architecture before the specification written. 5
- (b) How is project planning allied with project quality ? How can the quality of product be improved with better planning ? 5
7. (a) What are the attributes of quality ? How do we assess design quality ? 5
- (b) Illustrate and explain the importance of modularity based on observation of human problem solving. 5

8. (a) Explain the software testing process and different steps involved in it? When should testing start in software development life cycle? 5
- (b) Explain the various type of system testing methods. 5
9. (a) What is the difference between functional and structural testing? Explain any two functional testing techniques. 5
- (b) Distinguish between error, fault and failure. Which is the stronger structural testing technique. Justify your answer with the help of example. 5
10. Write short note on *any two* :-
- (a) Project scheduling. 5
- (b) Alpha and Beta testing. 5
- (c) Validation and Verification. 5
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