	Utech
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Invigilator's Signature :	

CS/B.Tech (ECE-N)/SUPPLE/SEM-8/EC-803A/2010 2010

SOFTWARE ENGINEERING

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

(Multiple Choice Type Questions)

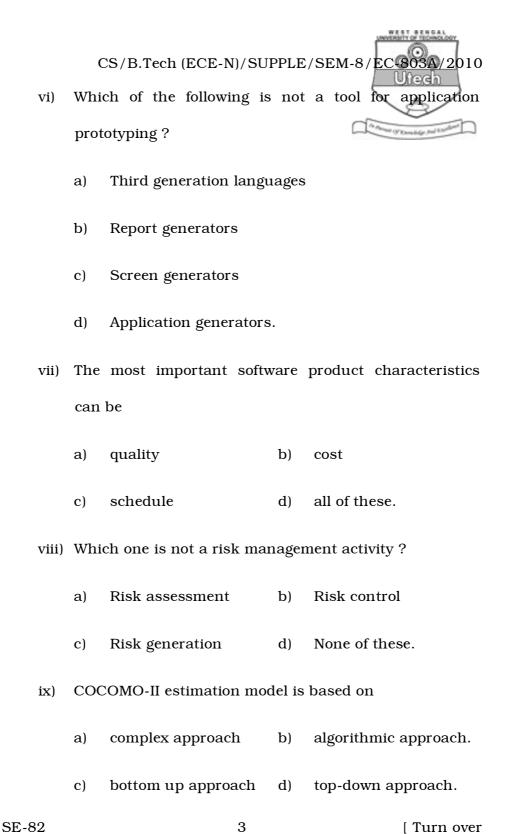
- 1. Choose the correct alternatives for the following: $10 \times 1 = 10$
 - i) Structured system development cycle approach includes which of the following characteristics?
 - a) Top-Down
- b) Data Flow
- c) Data Structure
- d) None of these.
- ii) Testing the software is basically
 - a) verification
 - b) validation
 - c) verification & validation
 - d) none of these.

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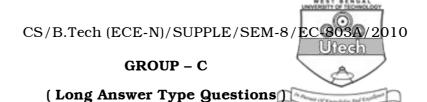
iii) Mistakes, made in the requirements determinations stage shown up in

- a) system design
- b) implementation
- c) system development & testing
- d) none of these.
- iv) A prototype refers to
 - a) a working model of a proposed system
 - b) the set of activities in a system
 - c) the typical activities in a system
 - d) all of these.
- v) Waterfall model is not suitable for
 - a) small projects
 - b) complex project
 - c) accommodating change
 - d) none of these.



Product quality is defined as X) Delivering a product with correct requirements a) Delivering a product using correct development b) procedure Delivering a product which is developed iteratively c) Delivering a product using high quality procedures. d) **GROUP - B** (Short Answer Type Questions) Answer any three of the following. $3 \times 5 = 15$ 2. What do you mean by economic and technical feasibility of a software project? 5 3. a) What are the main drawbacks of Prototype Model? Discuss Risk Analysis with respect to Spiral Model. 2 + 3 b) 4. a) Compare Validation and Verification. What do you mean by the quality of Software. 3 + 2b) 5. What are the different cost driver parameters associated with Intermediate COCOMO Model? 5 6. Discuss briefly McCabe's Cyclomatic Complexity Matric. 5 SE-82 4

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Answer any three of the following questions.

 $3 \times 15 = 45$

- 7. a) Discuss classical waterfall model with proper diagram.

 What are the main disadvantages of this model?
 - b) How the disadvantages of waterfall model be recovered by spiral model? Discuss briefly different phases of spiral model.
 - c) What are cohesion and coupling? Explain. 6 + 6 + 3
- 8. a) Define risk and risk management. Briefly explain.
 - b) Why is Software Testing necessary?
 - c) Compare and contrast white box and black box testing.

5 + 5 + 5

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- 9. a) Consider a project to develop a full screen editor. The major components identified are
 - i) Screen edit
 - ii) Command Language Interpreter
 - iii) File input and output
 - iv) Cursor Movement
 - v) Screen Movement.

The size is for these are estimated to be 4K, 2K, 1K, 2K and 3K delivered source code lines. The following are the different significant cost driver values:

- i) Requirement Software Reliability = 1.15
- ii) Product Complexity = 1.15
- iii) Analyst Capability = 0.86
- iv) Programming Language Experience = 1.07Use COCOMO Model to determine overall cost and Schedule Estimates.
- b) Discuss different types of software associated with COCOMO model. 10 + 5

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- 10. a) What is DFD ? Compare and contrast logical and physical design.
 - b) Describe different types of maintenance.
 - c) What do you mean by alpha-testing, beta-testing and acceptance testing?
 - d) Explain the concept of COCOMO Model.

5 + 3 + 4 + 3

- 11. Write short notes on any *three* of the following: 3×5
 - a) Spiral model
 - b) Decision table
 - c) Black Box Testing
 - d) SRS.