	Utech
Name :	
Roll No.:	To the same of the
Invigilator's Signature :	

CS/B.TECH (IT)/SEM-6/IT-601/2012

2012

SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

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 :

 $10 \times 1 = 10$

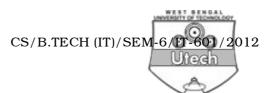
- (i) Which type of abstraction is used in software design?
 - a) Control
- b) Data
- c) Procedural
- d) All of these.
- (ii) To achieve good design, modules should have
 - a) Weak cohesion and low coupling
 - b) Weak cohesion and high coupling
 - c) Strong cohesion and low coupling
 - d) None of these.
- (iii) If the project size is same, then development time is maximum in case of
 - a) Embedded
 - b) Semi-dethatched
 - c) Organic
 - d) Impossible to determine.

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- (iv) In Integration testing approach, where all modules making up a system are integrated in a single step is known as
 - a) Top-down integration testing
 - b) Bottom-up integration testing
 - c) Big-band integration testing
 - d) Mixed integration testing.
- (v) Which of the following life cycle model deals with risk associated with software products?
 - a) Prototype model
 - b) Spiral model
 - c) Incremental model
 - d) Waterfall model.
- (vi) Tracking the correspondence between design component and SRS is called
 - a) Availability
- b) Maintainability
- c) Reliability
- d) Traceability.
- (vii) System testing performed by a set of friendly customers is called
 - a) Alpha testing
 - b) Beta testing
 - c) Performance testing
 - d) Usability testing.
- (viii) MTTF is a measure of
 - a) Reliability
 - b) Maintainability
 - c) Cost of effort
 - d) Testability.

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- (ix) If data from one module is used to direct the order of execution in another, then the coupling is known as
 - a) Stamp Coupling
 - b) Data Coupling
 - c) Control Coupling
 - d) Content Coupling.
- (x) Data processing programs are considered as
 - a) Utility Programs
- b) System Programs
- c) Application Programs d) None of these.

GROUP - B

(Short Answer Type Questions)

Answer any three of the following.

 $3 \times 5 = 15$

2. What is Coupling? What are the factors affecting coupling? What is the relationship between coupling and cohesion?

1 + 2 + 2

- 3. What are the different types of Testing? How to design a Test Case? 2 + 3
- 4. What is requirement tracing? What is backward tracing vs. forward tracing? 2+3
- 5. What is Stress Testing? Why is Stress Testing applicable to only certain types of systems? 2+3
- 6. What do you mean by balancing of DFD ? Explain with a suitable example. 2 + 3

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

- 7. a) What are the differences between black box testing and white box testing?
 - b) Discuss the roles of stubs and divers in integration testing.
 - c) Define quality assurance and quality control. 5 + 5 + 5

- 8. a) What is COCOMO model? What are different categories of software development projects according to COCOMO estimation model?
 - b) What is function prototyping? Is the spiral model of software development a risk management model? Discuss in brief.
 - c) Why do we need to estimate software cost? What are the methods of estimation? (2 + 3) + (2 + 4) + 4
- 9. a) What is software project management?
 - b) What are the principles of project scheduling?
 - c) Explain WBS, Gantt chart and PERT chart.
 - d) Briefly explain Organization and Team Structures.

2 + 4 + 6 + 3

10. a) Design 'White Box' test suite for the following :

- b) What is Function Point (FP) in project size estimation?
- c) What is s/w reliability? What is residual error? How you estimate the residual error in a project? 4 + 5 + 6
- 11. Write short notes on any three of the following:
 - a) Verification and Validation
 - b) RAD model
 - c) Feasibility analysis
 - d) MaCall's quality triangle
 - e) User Interface design.

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