Nirma University

Institute of Diploma Studies

Supplementary Examination, January-2011

Diploma in Computer Engineering, Semester-V

1ITA10 Software Engineering

Roll/Exam No.		Supervisor's initial with date	

Time: 3 Hours Max. Marks: 100

Instructions:
1. Attempt all questions.
2. Figures to right indicate full marks.
3. Use Section wise separate answer book.
4. Draw neat sketches wherever necessary.

SECTION – I

Q-1

A. Define the following terms. 10
i. Bespoke Products
ii. Intellectual Property rights
iii. Emergent properties
iv. Stakeholder
v. Risk management

B. Answer the Following. 12
i. Explain the activities involved in requirement analysis process.
ii. What is system procurement? What are the main reasons of this process?
iii. Which three reliability components influence the overall reliability of a system?
iv. Does the risk monitoring reduce the probability of identified risks? Justify.

Q-2

A. Answer the Following. (Any Two) 08
i. Explain the water fall model. Discuss the difficulties associated with this model.
ii. Differentiate the requirement validation and verification process.
iii. Describe the functional and non-functional requirements of railway reservation system.

B. Answer the Following. (Any Two) 06
i. Differentiate milestones and deliverables by taking an example.
ii. Differentiate Product and process. Which is more important and why?
iii. Explain the various types of risks associated with a project.

Q-3

A. Answer the Following. 08
i. What is application domain? Why is it important to understand it before any project development?
ii. Explain bar-charts and activity networks.

B. Answer the Following. (Any Two) 06
i. Why good project management is essential for project success?

ii. Write the drawbacks of regular document production in an organization.
iii. What strategies do the managers develop to manage risks?
iv. How the Boehm's spiral model is different from waterfall model?

SECTION – II

Q. 4

A. State whether the following statements are true or false and justify your answer. 05

i. All shared data is held in a central database that can be accessed by all sub systems.
ii. Each identified sub system is decomposed in to modules.
iii. Smalltalk which is object oriented language used for interactive systems is executable specification languages.
iv. An architectural block diagram presents the detailed implementation of the system.
v. The objective of evolutionary prototyping is to deliver a working system to end-users.

B. Fill in the blanks. 05

i. A shared database in a system model is sometimes called _____ model.
a) repository model b) Abstract model c) data model
ii. In _____ design Services are allocated to different components and the interfaces of these components are designed.
a) component b) data structure c)algorithm
iii. A _____ is a system component that provides one or more services to other module.
a) system b) module c) sub system
iv. Formal system specification is complementary to _____ specification technique.
a) informal b) partial c) complete
v. A _____ is an entity which has a private state.
a) attribute b) object c) function

C. Distinguish the following

i. Object-oriented strategy and function-oriented design strategy 03
ii. Centralized control and Event-based control 03
iii. Top-down testing and bottom-up testing 02

Q-5. Answer the following. (Any Four) 20

i. What is data dictionary? List out the advantages of data dictionary.
ii. Explain, why, for large systems development, it is recommended that prototypes should be 'throw-away' prototypes?
iii. What do you understand by the terms cohesion and coupling? Explain.
iv. Suggest why data flow diagrams are intuitive and easy-to-understand by non-technical staff.
v. Explain the abstract machine model in detail.

Q-6. Answer the following.(Any Three) 12

i. Which are the principles for designing any project?
ii. List out all prototyping techniques and explain any one in detail.
iii. Explain an incremental development process in detail.
iv. List out all test plan contents and explain each contents in brief.
v. In which condition back to back testing is applied on a system? How?