



V Semester B.C.A. Degree Examination, October/November 2011  
(Y2K8 Scheme)

COMPUTER SCIENCE  
BCA 501 : Software Engineering

Time : 3 Hours

Max. Marks : 90

SECTION - A

I. Answer **any ten** questions. **Each** question carries **two** marks. (10×2=20)

- 1) Define software engineering.
- 2) Define system and subsystem.
- 3) Define requirement specification and software specification.
- 4) What are the various activities of the requirements analysis process ?
- 5) What are the objectives of using software prototyping ?
- 6) What are the three main types of notations used in design document ?
- 7) Define coupling.
- 8) What are the advantages of Graphical user Interface ?
- 9) Define fault avoidance, fault tolerance and fault detection.
- 10) Define error, fault and failure.
- 11) Define validation and verification.
- 12) Define quality assurance.



## SECTION - B

II. Answer **any five** questions. **Each** carries **five** marks. (5×5=25)

- 13) What is a software process ? What are the activities involved in software process ?
- 14) What are functional and non-functional requirement ? Explain the types of non-functional requirements.
- 15) What is the need for validating the requirements ? Explain any requirement validation techniques.
- 16) Explain the basic design principles of problem partitioning and abstraction.
- 17) What are the characteristics of object oriented design ?
- 18) Give short notes on reliability metrics.
- 19) Briefly explain the different levels of testing.
- 20) Define Maintenance and explain the types of maintenance.

## SECTION - C

III. Answer **any three** questions. **Each** question carries **fifteen** marks. (3×15=45)

- 21) a) Compare and contrast the three models namely waterfall, spiral and iterative enhancement models. (8+7)  
b) Give a short notes on the system procurement process.
- 22) a) Explain in detail the requirements engineering process diagrammatically. (8+7)  
b) Briefly explain the prototyping process comparing the two types of prototyping.
- 23) a) Give a detailed note of the design process. (8+7)  
b) Discuss the object oriented design process in brief.
- 24) a) Give a short notes on user interface design. (4+7+4)  
b) What is software reuse ? What are the different aspects of software reuse ?  
c) Give a short notes on exception handling.
- 25) a) What is a test plan and explain the contents of test plan ? (7+8)  
b) Discuss the cocomo model in detail.