SN – 399

V Semester B.C.A. Degree Examination, Nov./Dec. 2010
(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) What is software engineering ? Mention the properties of software.
2) List the role of metrics.
3) Write any four different aspects that should be specified in an SRS.
4) Define DFD.
5) Define coupling and cohesion.
6) What is user interface prototyping ?
7) What is requirements specification ? Give an example.
8) Write the importance of project staffing.
9) List the various levels of testing.
10) What is modular design of a system ?
11) Write any two differences between functional abstraction and data abstraction.
12) Define verification and validation.

SECTION – B

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

13) Discuss object oriented approach to software design.
14) Describe the basic design principles of problem partitioning and abstraction.
15) Define and explain the measure effective modularity of software systems.

16) What are the key challenges facing Software Engineering ?

17) What is the need for validating the requirements ? Explain any requirement validation techniques.

18) Explain in detail the various management activities.

19) What is a test plan and what does a typical test plan contains ?

20) Write short notes on :
   a) CASE tools
   b) Software quality assurance.

SECTION – C

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

21) a) Write a SRS for the following : **(8+7)**
   i) Student registration system
   ii) Library system.

   b) Describe the structure of SRS and discuss the technologies for verifying the requirements.

22. a) Discuss object oriented approach to Software Design. **(8+7)**

   b) Describe user interface design principles.

23. a) Explain briefly the various software reliability metrics. **(7+8)**

   b) Explain iterative enhancement model.

24. a) Explain the complete testing process with the help of suitable diagrams. **(8+7)**

   b) Define error, fault and failure; bring out the difference between each with a suitable example.

25. a) What is COCOMO model ? Describe its approach to estimate person months. **(7+8)**

   b) Write a short notes on :
   i) Quality metrics
   ii) Various management activities
   iii) Process analysis and measurement.