B.Tech. (CSE)

Software Engineering – BTCS 603

Time: 3 Hours **M. Marks: 60**

NOTE: Section A is compulsory. Attempt any four questions from Section B. Attempt any two questions from Section C.

Section A

1. Answer the following in brief: 2 × 10 = 20
   a) Throw-away Prototyping
   b) Evolution of software engineering
   c) Modularity
   d) Code Review
   e) Verification and Validation
   f) Static and Dynamic Analysis
   g) GANTT Charts
   h) Cost-time Relations
   i) Non-functional Requirements
   j) Issues in Software Design

Section B

2. Why do we need to carry out feasibility study for any project? What type(s) of feasibility is more important? (05)
3. Why do requirements gathering difficult? What types of tools are available for requirements gathering? (05)
4. What features must be considered in designing user interface? Why is it so important? (05)
5. How will you define design for testability? How good design helps in software testing? (05)
6. What is cost estimation in software? What types of cost estimation model are available in software engineering? (05)

Section C

7. Consider the following narrative description; draw the Data Flow Diagrams for this description starting from zero level. If missing, consider suitable data to complete the description.

   The purpose of the TEXTBOOK INVENTORY SYSTEM at a campus bookstore is to supply textbooks to students for classes at a local university. The university's academic departments submit initial data about courses, instructors, textbooks and projected enrollments to the bookstore on a TEXTBOOK MASTER LIST. The bookstore generates a FORM 17; PURCHASE ORDER, which is sent to publishing companies supplying textbooks. Book orders arrive at the bookstore accompanied by a PACKING SLIP, which is checked and verified by the receiving department. Students fill out a BOOK REQUEST FORM that includes course information. When they pay for their books the students are given a paper tape CASE REGISTER SALES RECEIPT. (10)

8. What is black-box testing? Explain various techniques used in black-box testing with the help of suitable example. (10)

9. Explain the difference between Six Sigma, ISO and SEI-CMMI approach for software quality. (10)

End