ALCCS – OLD SCHEME

Time: 3 Hours

Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE:
• Question 1 is compulsory and carries 28 marks. Answer any FOUR questions from the rest. Marks are indicated against each question.
• Parts of a question should be answered at the same place.
• All calculations should be up to three places of decimals.

Q.1  
(a) What is software engineering? Specify the attributes of good software.

(b) List the fundamental activities, which are common to all software process.

(c) What do you mean by separation of concepts in software designing?

(d) Distinguish between functional and non-functional requirements with examples.

(e) Differentiate between Software Correctness, Software Robustness and Software Reliability.

(f) Write short notes on stress testing.

(g) What are the user interface design principles? What are the components of GUI? (7 x 4)

Q.2  
(a) Explain with a neat diagram, the Boehm spiral model of software development process. What are the merits of spiral model? (10)

(b) With a neat diagram explain RAD techniques. (8)

Q.3  
(a) Differentiate debugging from testing. Describe following three debugging techniques – Brute force, back tracking and cause elimination. (9)

(b) Differentiate between any TWO:-
   (i) Top-down integration and bottom-up integration testing.
   (ii) White box and black box testing.
   (iii) Equivalence partitioning and boundary value analysis. (9)

Q.4  
(a) What do you mean by requirement elicitation and analysis? What are the problems associated with that? Explain. (10)

(b) Explain reverse engineering process. What do you mean by abstraction level and completeness of a reverse engineering process? (8)
Q.5  
   a. What is Architectural design? Explain the repository model and client – server model, with an example for each.  
      (10)  
   b. Describe DFD as structured analysis and UML as object oriented analysis tool giving suitable examples.  
      (8)  

Q.6  
   a. Explain object – oriented design process in detail. Also show the process flow for this design.  
      (10)  
   b. Define verification and validation. Explain two techniques of system checking and analysis.  
      (8)  

Q.7  
   a. Explain in detail COCOMO model used for software cost estimation.  
      (10)  
   b. What are CASE tools? Classify CASE tools based on the function.  
      (8)