

**ALCCS - NEW SCHEME**

Code: CT41  
Time: 3 Hours

Subject: SOFTWARE ENGINEERING  
Max. Marks: 100

**AUGUST 2011****NOTE:**

- Please write your Roll No. at the space provided on each page immediately after receiving the Question Paper.
- 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.

**Q.1** **(7 × 4)**

- Explain why, for large systems development it is recommended to have throw away prototype?
- What is the purpose of domain Analysis?
- Why is quality so important in software design?
- What is transform mapping? Explain the various steps in transform mapping in brief.
- Differentiate between stress testing and recovery testing.
- Explain Reliability and Availability.
- Define Measure, Matric and Indicator.

**Q.2** a. What myths about software development process are often believed by software practitioners? **(6)**

b. Compare the waterfall model and the spiral model of the software development. In what type of applications waterfall model and spiral model are most suited. **(9)**

c. How is a Gant Chart used for scheduling and monitoring? **(3)**

**Q.3** a. What is COCOMO-II model? Where is it used? Explain the model along with its computational details. **(9)**

b. Why do we compute function points and 3D-feature points? What is the difference between the two? Explain the method of computing 3D feature points. **(9)**

**Q.4** a. Write short notes on:  
(i) Alpha and beta testing.  
(ii) Regression testing and smoke testing. **(9)**

- b. Draw flow graph for the given problem whose program is shown below. Find its cyclomatic complexity and identify all the independent paths which exists in the program given below:

```

void Binary (boolean found)
    { int top, bott, mid, x;
      int A[20];
      boolean found = false;
      bott = 0;
      top = size-1;
      mid = (top+bott)/2;
      if (A[mid] == x)
          found = true;
      else
          found = false;
      while (bott <= top ++! found)
          { mid = (top+bott)/2;
            if (A[mid] = x)
                found = true;
            else if (A[mid] < x)
                bott = mid+1;
            else
                top = mid-1;
          }
      return found;
    }

```

(9)

- Q.5** a. Why high Cohesion and low coupling is required for object oriented programming concept? (3)
- b. Discuss the impact of software reuse on productivity, quality and cost of the project. (6)
- c. Describe corrective, adaptive, perfective and preventive maintenance. (6)
- d. Define Integrity. How to measure integrity? (3)
- Q.6** You have been asked to build a web based library management system for an organization:
- (i) Develop an entity relationship diagram that describes data objects, relationships, and attributes. (6)
  - (ii) Develop a context-level model for the system. (3)
  - (iii) Develop a level-1 DFD for the system. (6)
  - (iv) Develop a data dictionary for the system. (3)
- Q.7** Write short notes on any **THREE** of the following:-
- (i) CASE Tools
  - (ii) Halstead analysis
  - (iii) Incremental model
  - (iv) Software Requirement Specification (6×3)