2015

M.Sc.

2nd Semester Examination

SOFTWARE ENGINEERING

PAPER—COS-204

Full Marks : 40

Time : 2 Hours

The questions are of equal value.

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer any *four* questions.

1. (a) When does the project planning activity start and end in a software life cycle ? List the important activities software project managers perform during project planning.   2+3

   (b) Compare the different life cycle model on the basis of their way of developing the software.   5

2. (a) In Intermediate COCOMO, software development effort was compute as function of program size and set of "Cost Drivers". Mention the different "Cost Drivers" along with their attributes that are used to compute effort. 5

(b) "Risk Management" is one of the essential part of Software project Management. What is Risk? How Risk can be managed if it occurs during the development of software. 2+3

3. (a) What do you mean by DFD? Briefly describe its different components?

(b) What do you mean by levelling of DFD's? What are the highest and lowest levels of a DFD?

$$(1+5)+1+(1\tfrac{1}{2}+1\tfrac{1}{2})$$

4. (a) What is cyclomatic complexity? Is it reasonable to define 'thresholds' for software modules? If $V(G) \leq 10$, what will happen to the module?

(b) What is Function Point Metrics? Compute the function points for the following data set :

Inputs = 8, Outputs = 12, inquiries = 4, logical files = 41, interface = 1, ΣF_i = 41 (influence factor sum).

$$2+2+2+(1+3)$$

5. (a) As an analyst, what are the aspects of the software products you would include in the SRS document? Why is SRS document also known as the Black box specification of a system.   3+2

(b) What do you mean by the terms Cohesion and Coupling in context of Software design? How are these concepts useful in arriving at a good design of a system.   2+3

6. (a) What is Testing? What do you mean by the terms 'Test case' and 'Test Suite'? How Black box testing differs from White box testing?   (1+1+1)+3
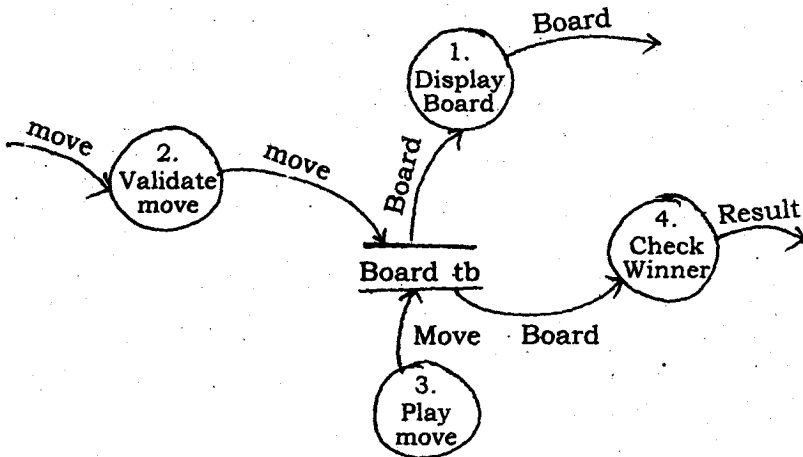
(b)

Fig. : DFD of Tic-Tac-Toe game

Draw the structure chart of the above DFD.   6

7. Write short notes on *any two* of the following :   5×2

  (i) Information flow metric.

 (ii) System testing.

(iii) Requirements Engineering Activities.

(iv) Delphi method.

 (v) Adaptive maintenance.