END TERM EXAMINATION

FOURTH SEMESTER [BCA], MAY – 2011

Paper Code : BCA - 204	**Subject :- Software Engineering**
Paper ID : 20204	

Time : 3 Hours   **Maximum Marks : 75**

Note : Question 1 is compulsory. Attempt remaining questions as per choices given.

Q. 1. Attempt **all** questions :   **(5×5=25)**

(a)   What is modularity? List the important properties of a modular system.

(b)   What are curcial process steps of requirement engineering? Discuss with the help of a diagram.

(c)   What is risk exposure? What techniques can be used to control each risk?

(d)   What is software testing? Discuss the role of software testing during software life cycle and why is it so difficult?

(e)   Define software metrics. Why do we really need metrics in software?

Q. 2. Attempt any **One** of the following :

(a)   What is the aim of software engineering? What does the discipline of software engineering discuss?   **(6)**

(b)   Describe spiral model in detail. What are the limitations of such a model?   **(6.5)**

OR

(a)   Compare iterative enhancement model and evolutionary process model.   **(6)**

(b)   What do you understand with the term "requirements elicitation"? Discuss any TWO techniques in detail.   **(6.5)**

Q. 3. Attempt any **One** of the following :

(a)   Describe any two software size estimation techniques.   **(6)**

(b)   Discuss various types of COCOMO mode. Explain the phasewise distribution of effort.   **(6.5)**

OR

(a) Explain briefly Putnam Model. Describe the trade-off between time versus cost in Putnam resource allocation model. **(4.5)**

(b) What is risk? Is it economical to do risk management? **(3)**

(c) Compute the function point value for a project with the following information domain characteristics :

Number of user inputs = 24
Number of user outputs = 65
Number of user enquiries = 12
Number of files = 12
Number of external interfaces = 4

Assume that all weighting and complexity adjustment values are moderate. **(5)**

Q. 4. Attempt any **One** of the following :

(a) Describe the various strategies of design. Which design strategy is most popular and practical? **(6)**

(b) What are the various categories of software metrics? Discuss with the help of suitable example. **(6.5)**

OR

(a) What are software metrics? Describe data structure metrics. **(6)**

(b) Define module coupling and explain different types of coupling. **(6.5)**

Q. 5. Attempt any **One** of the following :

(a) What are the various kinds of functional testing? Describe any One in detail. **(6)**

(b) Describe various maitenance cost estimation models. **(6.5)**

OR

(a) What is software maintenance? Describe various categories of maintenance. Which category consumes maximum effort and why? **(5)**

(b) Consider the program to find the median of three numbers. Its input is a triple of positive integers (say x, y and z) and values are from interval [100, 500]. Generate boundary and robust test cases. **(5)**

(c) What is the purpose of integration testing? How is it done? **(2.5)**

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