**Tutorial 8**

1. A company needs to develop a strategy for software product development for which it has a choice of two programming languages L1 and L2. The number of lines of code (LOC) developed using L2 is estimated to be twice the LOC developed with Ll. The product will have to be maintained for five years. Various parameters for the company are given in the table below. [CO5]

**Parameter Language L1 Language L2**

Man years needed for development LOC/10000 LOC/10000

Development cost per man year Rs. 10,00,000 Rs. 7,50,000

Maintenance time 5 years 5 years

Cost of maintenance per year Rs. 1,00,000 Rs. 50,000

Total cost of the project includes cost of development and maintenance. What is the LOC for L1 for which the cost of the project using L1 is equal to the cost of the project using L2?

2. A company needs to develop digital signal processing software for one of its newest inventions. The software is expected to have 40000 lines of code. The company needs to determine the effort in person-months needed to develop this software using the basic COCOMO model. The multiplicative factor for this model is given as 2.8 for the software development on embedded systems, while the exponentiation factor is given as 1.20. What is the estimated effort in person-months? [CO5]

3. Consider a software project with the following information domain characteristic for calculation of function point metric. [CO5]

Number of external inputs (I) = 30

Number of external output (O) = 60

Number of external inquiries (E) = 23

Number of files (F) = 08

Number of external interfaces (N) = 02

It is given that the complexity weighting factors for I, O, E, F and N are 4, 5, 4, 10 and 7, respectively. It is also given that, out of fourteen value adjustment factors that influence the development effort, four factors are not applicable, each of the other four factors has value 3, and each of the remaining factors has value 4. Compute the value of function point.