

C9-R3: ADVANCED SOFTWARE PROJECT MANAGEMENT

NOTE:

1. Answer question 1 and any FOUR questions from 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Time: 3 Hours

Total Marks: 100

1.
 - a) Name some situations for which the pure waterfall model of software development is more suitable than other development models.
 - b) What do mean by non-functional requirements of software? Name some of them.
 - c) Is it possible to reduce the duration of project by 50% even if the customer agree to pay for the increased costs?
 - d) What is Work Breakdown Structure? What is its use?
 - e) Bring out the demerits of Lines of Code as software metric.
 - f) Why are baselines defined in software project? How do they help in software quality assurance?
 - g) What are the four critical dimensions of a software project? Briefly discuss the importance of the "people" dimension.

(7x4)

2.
 - a) Why is it necessary to plan a software project before it is taken up? Differentiate among planning, estimating and scheduling.
 - b) What are the important activities that software project managers perform during project planning? Discuss.
 - c) What is sliding window planning? Why is it necessary? What kinds of projects are suitable for sliding window planning?

(8+4+6)

3.
 - a) Differentiate between Project and Matrix organizational structures for software projects. Give description, organizational structure diagram, advantages and disadvantages for each.
 - b) Compare the waterfall model with an iterative model and bring out the relative advantages of the iterative model of software development.

(9+9)

4.
 - a) What do you mean by Software Configuration Management (SCM)? Why is it necessary? What are the five essential functions of SCM?
 - b) What type of software development model will you use, for which technology innovation is an essential prerequisite for its execution? Justify.
 - c) Differentiate between version control and change control in the context of software configuration management.

(9+4+5)

5.
 - a) What are the different types of contracts that can be negotiated between buyers and sellers? Discuss in detail the Cost Reimbursable Contracts.
 - b) What is a V Process Model of software development? Discuss its characteristics, strengths and weaknesses.

(9+9)

6.

- a) Briefly discuss the Function Point model for software sizing highlighting the important element, the multipliers and the complexity adjustment values.
- b) Compute the Function Point value for a software project with the following details:

User Input:	15	Number of Files:	8
User Outputs:	25	External Interfaces:	3
Inquiries:	12		

Assume the multipliers at their average values and all the complexity adjustment factors at their moderate to average values.

(9+9)

7.

- a) What do you mean by COCOMO? Discuss its usefulness.
- b) Two software managers separately estimated a given project to be of 15,000 and 20,000 lines of codes respectively. Bring out the Effort and Schedule time implications of their estimation using COCOMO. For the Effort estimation, use coefficient values of 3.2 and 1.05. For the schedule time estimation, use 2.5 and 0.38 respectively. Assume all adjustment multipliers to be equal to unity.

(9+9)