

B5.1-R4: SOFTWARE PROJECT MANAGEMENT

NOTE:

1. Answer question 1 and any FOUR from questions 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) What is Quality in terms of software? List important attributes of Quality, which all software products should have. Explain each of them.
 - b) Explain why it is necessary for a project manager to decompose the tasks of a project using Work Breakdown Structure (WBS)? To what granularity level are the tasks decomposed.
 - c) List common types of Risk that typical Software project might suffer from. Briefly explain the Risk of schedule slippage for a medium size project.
 - d) Explain the kind of team structure for small, medium and large software Projects.
 - e) What is the difference between Version and Revision?
 - f) What is Pareto analysis? When it is useful?
 - g) What is the objective of the Project Planning Process? List various activities a software project manager performs in planning.

(7x4)

2.
 - a) Explain the special features of web-based software projects and embedded system projects. What are the quality issues which should be addressed in each case?
 - b) Explain phases of Project Management Life cycle. How it is different from Software Development Life Cycle?
 - c) What is the use of the following tools in Software Project Scheduling? Also, mention its significance:
 - i) WBS
 - ii) CPM
 - iii) PERT charts

(7+5+6)

3.
 - a) Describe the role of project management plan.
 - b) Compare ISO 9000 certification and SEI CMM. Is it possible for an organization to achieve a higher level of CMM without achieving a lower one?
 - c) How can we estimate the cost of software? Explain COCOMO model.

(6+4+8)

4.
 - a) Describe the attributes of an Object Oriented software development Process. Can the Size estimation method described be of use for such systems?
 - b) What are the types of risks that a project might suffer from? How would you identify the risks that a project is susceptible to during project planning stage?
 - c) Project reviews and audits are important in project management. Discuss about their contribution in the success of the project? How do they contribute to the quality of a project?

(7+3+8)

5.

- a) List and explain various phases of System Development Life Cycle.
- b) What do you understand by Project Closure? How is Project Closure Analysis carried out? Discuss a strategy to automate such a process.
- c) What is Software Reliability? How it is different from Hardware Reliability?

(7+7+4)

6.

- a) Explain embedded system with its advantages.
- b) Discuss the role of metrics in the success of software project. How quality can be ensured using metrics?
- c) Describe the role of function point analysis in project management. How can we calculate function points?

(7+7+4)

7.

- a) Suppose you are developing a software product in the organic mode. You have estimated the size of the product to be about 1, 00, 000 lines of code. Compute the nominal effort and development time.
- b) Why is it important to track the progress of a project? Explain various monitoring and controlling techniques to track the project progress.
- c) Define resource in Project Management. What types of resources are required to develop a software project? Explain the significance of resource allocation phase.

(6+6+6)