

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) Define Project. What are the attributes of project?
- b) At which point in the SDLC, does the project management activity start? When do they end? List the important activities a software project manager performs during Project Management.
- c) Define a Task Set for Communication Activity in software development life cycle.
- d) Discuss, how expert judgments could be made use for the estimation of a software development effort.
- e) List the important items that a Software Project Management Plan (SPMP) document contains?
- f) Justify that 'Software Quality Assurance is an umbrella activity.'
- g) Describe the meaning of "Payback Analysis" in software project.

(7x4)

2.

- a) How do software process metrics differ from software project metrics? What are the goals for using object-oriented software metrics?
- b) How do we perform project tracking and monitoring?
- c) Consider a software project with 5 tasks T1-T5. Duration of the 5 tasks (in days) is 15, 10, 12, 25 and 10, respectively. T2 and T4 can start when T1 is complete. T3 can start when T2 is complete. T5 can start when both T3 and T4 are complete.
 - i) Draw the Gantt chart and PERT charts for the project.
 - ii) When is the latest start date of the task T3? What is the slack time of the task T4? What is the slack time of the task T2?

(7+5+6)

3.

- a) What is risk assessment and control? What procedure is usually followed?
- b) Explain the reasons behind the following assertion: "Adding more manpower to a late project makes it later".
- c) How can we estimate the cost of a software? Explain COCOMO model.

(6+4+8)

4.

- a) Discuss four most important metrics for an object oriented systems. Explain their importance.
- b) Describe Work Break Down Structure with the help of an example.
- c) As the manager of a software project to develop a product for business application, if you estimate the effort required for completion of the project to be 50 person-months, can you complete the project by employing 50 developers for a period of one month? Justify your answer.

(7+3+8)

5.

- a) What is the importance of Configuration Management? Describe Configuration identification, Configuration Control, Configuration Status Accounting and Configuration audits.
- b) Why is accurate estimation of the effort required for completing a project? Briefly explain the different effort estimation methods that are available. Which would be the most advisable to use and why?
- c) Explain Project Management for software development of web based project.

(7+7+4)

6.

- a) What is LOC? Explain disadvantage of this method as a measure of size of software. Compare Halstead's length and volume measures of size with LOC measure by giving suitable example.
- b) Why Pareto analysis is also called the 80-20 rule. Write steps to follow for performing Pareto Analysis.
- c) Describe the meaning of defect, defect density and defect root cause.

(7+7+4)

7.

- a) Describe the role of a function point analysis in project management. How can we calculate function point?
- b) How Object-oriented methodology is different from Procedural methodology of Software Project Development? Explain various issues of Project Management related to a project developed using Object-oriented methodology.
- c) Compare the waterfall model with an iterative model and bring out the relative advantages of the iterative model of software development.

(6+6+6)