

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) Who are the stakeholders of a software project? Name them.
- b) What do you mean by scope creep? Why is it important to plan a software project well in order to avoid scope creep?
- c) Is it possible to reduce the duration of a software project by 40% assuming all resources for the project are available?
- d) Is it always true that non-critical project activities have time slacks in them? Explain your answer with an example.
- e) What do you mean by time-cost trade-off? What is the importance of project resources in carrying out time-cost trade-off?
- f) What are Cost Reimbursable Contracts between buyers and sellers?
- g) Discuss the importance of version control as a software configuration management activity.

(7x4)

2.

- a) Why is it important to evaluate a project before it is taken up? What are some project evaluation techniques?
- b) What do you mean by cash flow forecasting for a project? What could be some important cash flows important in the context of a software project?
- c) How do you carry out break-even analysis for obtaining financial viability of a project? What is a break-event point? What is its significance?

(6+6+6)

3.

- a) What are the problems of a classical waterfall model of software development? Discuss why the waterfall model of software development is also called the "Fail-Late" Lifecycle.
- b) What is a V Process Model of software development? Discuss its characteristics, strengths and weaknesses.

(9+9)

4.

- a) What is the importance of the Function Point model of software sizing? What are its important elements, multipliers and complexity adjustment values?
- b) Compute the Function Point value for a software project with the following details:

| | | | |
|---------------|----|----------------------|----|
| User Inputs: | 16 | Number of Files: | 14 |
| User Outputs: | 24 | External Interfaces: | 3 |
| Inquiries: | 18 | | |

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

- c) Discuss, how expert judgements could be made use for the estimation of software efforts.

(6+8+4)

- 5.**
- a) What are the different types of risks in software projects? Discuss the following important risk assessment activities
 - * risk identification
 - * risk analysis
 - * risk prioritisation.
 - b) How does the management of a software project deal with the risk of unrealistic schedules and budgets?
 - c) Software project managers often complain that they find it extremely difficult to measure project performance. Discuss the usefulness of the Earned Value Analysis in this regard.
- (8+4+6)**

- 6.**
- a) Bring out the difference in approach between the product quality management and the process quality management. Which one is preferred and why?
 - b) What do you mean by Statistical Process Control (SPC)? How important is SPC in the context of software?
 - c) Are the ISO 9000 standards applicable for software quality management and assurance? Discuss.
- (6+6+6)**

- 7.** Write Short notes on:
- a) Outsourcing of the products and services in the context of software
 - b) Cocomo Model
 - c) Project team organizations
- (6+6+6)**