

## CE1.4-R4: 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 the term Software Project Management. How development and management of software projects is different from other type of development projects?
  - b) List and explain three feasibility tests in brief.
  - c) What is cash flow forecasting? When is it done and why is it needed?
  - d) What is PERT? For what purpose is it used? Explain in brief.
  - e) Define acceptance testing and explain it in brief.
  - f) Describe structured and unstructured decision making in brief.
  - g) Explain different types of contracts in brief.

**(7x4)**
  
2.
  - a) What are the problems with software projects? Explain any three problems with brief description of each.
  - b) Provide an outline of step wise project planning activities.

**(9+9)**
  
3.
  - a) Describe outline of COCOMO model. Consider a system for online auctions for various products. It is decided that the system will comprise some modules. The modules and their expected sizes are as follows.

Login module	→	200 LOC
Payment module	→	200 LOC
Administrator interface module	→	600 LOC
Seller functions module	→	200 LOC
Buyer functions module	→	500 LOC
View and bookkeeping module	→	300 LOC
TOTAL	→	2000 LOC

The total size of this software is estimated to be 2K LOC as shown above. Consider all other factors have a nominal rating. Also consider standard values of constants a (3.9) and b (0.91). Find out effort based on these information.
  - b) Explain how algorithm cost model can be used for estimating software cost?
  - c) How to perform variation and risk analysis for a software project?

**(8+6+4)**
  
4.
  - a) Explain notion of activity network by giving suitable example.
  - b) What is earned value analysis? Explain in detail.
  - c) What is the relationship between software configuration management and software maintenance?

**(6+6+6)**
  
5.
  - a) What is return on investment? Define outline of return of investment? Calculate the return on investment (ROI) if average annual profit is Rs.10,000/- against the total investment of Rs. 1,00,000/-.
  - b) What is a role of a Software Project Manager? Explain the role of various charts used for software project management?

**(9+9)**

**6.**

- a) Explain risk mitigation, monitoring and management of risks while developing software.
- b) What are different types of resources required for a project? Give the resource requirements project cycle and explain in brief.
- c) Discuss in brief about software quality attributes/parameters.

**(8+5+5)**

**7.**

- a) What is meaning of Total Quality Management? What are advantages of TQM? Does ISO 9001 is aimed for TQM?
- b) Describe the meaning of Software Configuration Management (SCM). Write the benefits and various functions of SCM.
- c) Discuss agility and agile process.

**(6+6+6)**