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 project management? What are the activities of software project management?

b) What is work breakdown structure (WBS)? Mention five levels of WBS

c) Explain 'throwaway' prototype and 'evolutionary' prototype models. Compare advantages and disadvantages of each.

d) Define development costs? What are the steps in cost-benefit analysis?

e) Define risk analysis and risk monitoring? What things are to be considered in risk management?

f) What is function point? Mention its importance. Write any three advantages of function point analysis.

g) What are the issues that get addressed during project closure?

(7x4)

2.

a) Net Present Value measures the total value of an investment over its lifetime. Why is it useful to know the Net Present Value of a proposed software project? How would you calculate the Net Present Value of a proposed project?

b) What do you understand by Software development life cycle? Draw a diagram and explain briefly major activities or phases in it.

(9+9)

3.

a) What do you understand by software project planning? List the problems faced by software project manager in developing a high quality software project.

b) List at least six reasons for software project delays? How unrealistic deadlines are handled?

c) List four reasons why it is difficult to improve software process.

(6+6+6)

4.

a) Compare the basic COCOMO model with intermediate and detailed COCOMO model.

b) Explain what is meant by stakeholder management and describe how the project manager ensures stakeholder co-operation.

c) Explain span and average span size for a program.

(6+8+4)

5. Describe the following concepts with the help of relevant examples:

i) Aids for Risk Identification

ii) Risk Components and drivers

iii) Risk Prioritization

(6+6+6)

6.

a) Determine i) network diagram; ii) critical path; iii) ES, EF, LS and LF; iv) free slack for each activity for the project parameters given below.

Task Number	Description	Duration (days)	Dependent on Tasks
T1	Specification	15	--
T2	Design Database	45	T1
T3	Design GUI	30	T1
T4	Code database	105	T2
T5	Code GUI part	45	T3
T6	Integrate and Test	120	T4 and T5
T7	Write user manual	60	T1

b) How does the risk factor affect the spiral model of software development?

(12+6)

7.

a) What are the challenges in developing web based projects. Is there any disadvantage of such projects? If yes, explain briefly.

b) Write the difference between program managers and project managers.

(11+7)