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B.Tech. Degree VI Semester Regular/Supplementary Examination June 2023

CS 19-202-0607: SOFTWARE PROJECT MANAGEMENT (2019 Scheme)

Time: 3 Hours

Maximum Marks: 60

Course Outcomes

On successful completion of the course, the students will be able to:

- CO1: Gain knowledge on the issues and challenges to be faced while managing a software project.
 CO2: Familiarise with various project scheduling techniques, project control and monitoring.
 CO3: Identify factors that influence the performance of team members in a project environment.
 CO4: Explain the role of continuous training, improve team working and select appropriate leadership styles.
 Bloom's Taxonomy Levels (BL): L1 – Remember, L2 – Understand, L3 – Apply, L4 – Analyze, L5 – Evaluate, L6 – Create
 PO – Programme Outcome

PART A (Answer ALL questions)

	(8 × 3 = 24)	Marks	BL	CO	PO
I. (a) Explain the activities involved in software project management life cycle.	3	3	L1	1	1,2
(b) Explain four P's that make software project management more effective.	3	3	L1	1	1,2
(c) Design a work break down structure for a waste water treatment plant project.	3	3	L3	2	1,2, 3,12
(d) Explain how Gantt chart can be used for planning and controlling small projects.	3	3	L2	2	1,2
(e) Discuss the role of configuration librarian in a software project.	3	3	L1	3	1,2
(f) What are the different ways of classifying contracts by the way that the payment to supplier is calculated?	3	3	L2	3	1,2
(g) As a project manager, identify the characteristics you would look for in a software developer while trying to select personnel for your team.	3	3	L3	4	1,2, 3
(h) What role does leadership play in project management? Discuss different approaches to leadership.	3	3	L2	4	1,2, 3

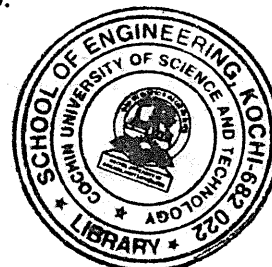
PART B

(4 × 12 = 48)

- II. Imagine you are an IT project manager. By considering important possible outcomes and consequences you need to decide whether to start a particular project or not.
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|--|---|----|---|-----------|
| (i) List important possible outcomes and consequences. | 6 | L4 | 1 | 1,2, 3,12 |
| (ii) Design a decision tree for the above scenario. | 6 | L4 | 1 | 1,2, 3,12 |

OR

(P.T.O.)



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Marks	BL	CO	PO
12	L4	1	1,2,3,12

- III. Assume that a project for office automation has to be designed and developed. From the requirements, it is clear that there will be four major modules in the system: Data entry, Data update, Query and Report generation. It is also clear from the requirements that this project will fall in the organic category.

The sizes for the different modules are estimated to be as follows:
Data entry: 0.8KLOC, Data update: 0.4KLOC, Query: 0.9 KLOC, Report: 1.2 KLOC

From the requirements, the rating of different cost driver attributes such as complexity, experience and reliability are considered to be High, Low, High (1.05, 1.15, 1.23)

The constant values a, b, c, and d for the different categories of the COCOMO Model system are given below:

Software Project	a	b	c	d
Organic	2.4	1.05	2.5	0.38
Semi- Detached	3.0	1.12	2.5	0.35
Embedded	3.6	1.20	2.5	0.32

Calculate the effort estimation for this project. Calculate the mean time development and the staff required for this project.

- IV. Suppose you are the project manager of a large software development project. List three common type of risk that your project might suffer. Point out the main steps that you would follow to effectively manage the risks in your project.

12	L3	2	1,2,3,12
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OR

- V. Following table shows information related to a project.

Activity	Immediate Predecessor	Estimated Duration (Days)
A	-	8
B	-	10
C	A	5
D	B	11
E	C,D	15
F	B	5
G	D,F	10
H	E	15
I	E,G	6
	F,I	9

- (i) Identify the critical activities in the project.
- (ii) What is the project completion duration?
- (iii) If there is an option to delay one activity without delaying the entire project, which activity would you delay and why?

4	L3	2	1,2,3,12
4	L3	2	1,2,3,12
4	L3	2	1,2,3,12

(Continued)

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		Marks	BL	CO	PO
VI.	(a) Explain the mechanisms used to bringing the project back to the target.	6	L3	3	1,2,3,12
	(b) Discuss the typical terms involved in a software contract.	6	L3	3	1,2,3,12
OR					
VII.	You are the project manager on a project that has ₹800,000 software development effort. There are two teams of programmers that will work for six month for a total of 10,000 hours. According to the project schedule your team should be done with 38% of the work. As of today, the project is 40% complete while 50% budget has been used.	12	L3	3	1,2,3,12
Calculate Scheduled Variance, Cost Variance, Cost Performance Index, Schedule Performance Index and share your conclusion.					
VIII.	(a) Explain the process of managing people in a software environment.	8	L2	4	1,2,3,12
	(b) Discuss the issues of group performance in a software project.	4	L2	4	1,2,3,12
OR					
IX.	(a) Discuss the steps carried out during change control procedure for operational systems.	6	L2	4	1,2,3,12
	(b) Outline the importance of organizational behaviour and discuss various organizational behaviour models in detail.	6	L2	4	1,2,3,12

Bloom's Taxonomy Levels
L1-8%, I2-27%, I3-45%, I4-20%.

