

**THE KAVERY ENGINEERING COLLEGE***(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026****Second Semester****Master of Computer Application****PMCE2401 - SOFTWARE PROJECT MANAGEMENT****Regulations - 2024****Duration : 3 Hrs****Maximum : 100 Marks****PART – A(ANSWER ALL QUESTIONS) (Marks 10\*2=20)**

| <b>Q.No</b> | <b>Questions</b>                                                                            | <b>BLT</b> | <b>CO</b> | <b>Marks</b> |
|-------------|---------------------------------------------------------------------------------------------|------------|-----------|--------------|
| 1.          | Mention the characteristics of software projects.                                           | L1         | 1         | 2            |
| 2.          | Differentiate objectives and products.                                                      | L2         | 1         | 2            |
| 3.          | What is the significance of project risk matrix?                                            | L2         | 2         | 2            |
| 4.          | Write the three basic types of Cost estimates in project cost management.                   | L1         | 2         | 2            |
| 5.          | Why is under-estimation of effort considered a risk in software development projects?       | L2         | 3         | 2            |
| 6.          | What is the difference between 'activity' and 'project' in the context of project planning? | L2         | 3         | 2            |
| 7.          | Differentiate between 'known risks' and 'unknown risks.'                                    | L2         | 4         | 2            |
| 8.          | Mention the common methods for assigning earned value in software projects.                 | L1         | 4         | 2            |
| 9.          | What factors have contributed to the evolution of globalization in project management?      | L1         | 5         | 2            |
| 10.         | How does Launchpad cater to the needs of managing open-source projects?                     | L2         | 5         | 2            |

**PART – B (ANSWER ALL QUESTIONS) (Marks 5\*16 = 80)**

| <b>Q.No</b> | <b>Questions</b>                                                                                                       | <b>BLT</b> | <b>CO</b> | <b>Marks</b> |
|-------------|------------------------------------------------------------------------------------------------------------------------|------------|-----------|--------------|
| 11. a       | i Give an outline of stepwise planning activities for a project with a suitable                                        | L1         | 1         | 8            |
|             | ii What do you understand about software project estimation?                                                           | L2         | 1         | 8            |
|             | Or                                                                                                                     |            |           |              |
| b           | i Express the major response strategies for positive and negative risks.                                               | L2         | 1         | 8            |
|             | ii Describe the key quality attributes defined in ISO 9126.                                                            | L1         | 1         | 8            |
| 12. a       | i How do you calculate the Net Present Value (NPV) and Internal Rate of Return (IRR) in a cost-benefit analysis?       | L2         | 2         | 8            |
|             | ii A project requires an initial investment of \$225,000 and is expected to generate the following net cash inflows: . | L3         | 2         | 8            |
|             | Year 1; \$95,000                                                                                                       |            |           |              |
|             | Year 2; \$80,000                                                                                                       |            |           |              |
|             | Year 3; \$60,000                                                                                                       |            |           |              |
|             | Year 4; \$55,000                                                                                                       |            |           |              |
|             | Compute net present value of the project if the minimum desired rate of return is 12%.                                 |            |           |              |

Or

- b i Consider you are the project manager for a software development company tasked with building a new enterprise resource planning (ERP) system for a client. The project has been approved, but before proceeding, the company requires a thorough evaluation of the project from both a strategic and technical standpoint. Additionally, there is a need to determine the most suitable project management approach and technology stack for the project. L5 2 16

Identify potential risks related to the ERP system project (e.g., integration with existing systems, user adoption, etc.) and evaluate their potential impact. How would you prioritize these risks?

13. a i Explain how the complexity and size of a project influence its effort estimation. L3 3 8  
 ii What are the advantages and disadvantages of relying on expert judgment alone? L2 3 8

Or

- b i A project is composed of seven activities, whose time estimates are listed in the table as follows: L3 3 16

| Activity | Estimated duration (Weeks) |                 |                 |
|----------|----------------------------|-----------------|-----------------|
|          | Optimistic (a)             | Most Likely (m) | Pessimistic (b) |
| 1-2      | 1                          | 1               | 7               |
| 1-3      | 1                          | 4               | 7               |
| 2-4      | 2                          | 2               | 8               |
| 2-5      | 1                          | 1               | 1               |
| 3-5      | 2                          | 5               | 14              |
| 4-6      | 2                          | 5               | 8               |
| 5-6      | 3                          | 6               | 15              |

1. Draw the project network.
2. Find the expected duration and variance of each activity.
3. Calculate the earliest and latest occurrence for each event and the expected project length.
4. Calculate the variance and standard deviations of project length.
5. What is the probability that the project will be completed 4 weeks earlier than expected?

14. a i Compare and contrast between qualitative and quantitative risk analysis. L2 4 8  
 ii How would you involve stakeholders in managing risks in a software development project? L3 4 8

Or

- b i What is the significance of a Critical Path Method? L2 4 8  
 ii A small maintenance project consists of the following jobs, whose precedence relationships are given below: L3 4 8

| Job             | 1-2 | 1-3 | 2-3 | 2-5 | 3-4 | 3-6 | 4-5 | 4-6 | 5-6 | 6-7 |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Duration (days) | 15  | 15  | 3   | 5   | 8   | 12  | 1   | 14  | 3   | 14  |

1. Draw an arrow diagram representing the project.
2. Find the total float for each activity.
3. Find the critical path and the total project duration.

15. a i List the factors that are involved in forming a team with its characteristics. L2 5 8
- ii Describe about the creation of the human resource plan, project organizational chart responsibility assignment matrix for a large IT project  
Or
- b i What are the challenges of managing projects remotely using internet-based tools, especially in terms of team coordination and performance monitoring? L4 5 8
- ii How does PRINCE2 address risk management throughout the project lifecycle? L4 5 8

\*\*\*\*\*