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| **Trim: Nov 2024 - Mar 2025**  **Maximum Marks: 50 Examination: ETE Exam Date: 08/04/2025 Duration: 2 Hrs.** | | |
| **Programme code: 01**  **Programme: MBA** | **Class:** FY | **Semester: 2** |
| **College:**  **K. J. Somaiya Institute of Management** | **Name of the department/Section/Center:**  Operations | |
| **Course Code: 317P01C208** | **Name of the Course: Project Management** | |
| **Instructions:**   1. Attempt any 5 questions. 2. Make suitable assumptions wherever applicable. | | |

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| **Question**  **No.** |  | **Max**  **Marks** |
| **Q1.** | XYZ Tech, a mid-sized software development company, secured a contract to develop a customized project management tool for a client. The project had an initial timeline of six months, a budget of INR 500,000, and a defined scope, including essential features like task tracking, collaboration tools, and analytics.  Three months into the project, the client requested additional features, such as AI-driven project recommendations and enhanced security layers. The project team was faced with a dilemma: accommodating the new scope without exceeding the budget or delaying the deadline.  The team considered extending the project timeline by three months to integrate the new features without increasing costs. However, the client needed the tool on schedule. Hiring additional developers would allow the team to meet the deadline while incorporating the new features, but this would push the budget beyond INR 650,000, which the client was reluctant to approve. To stay within budget and on time, the team could reduce testing and quality assurance efforts, but this risked delivering a product with potential defects.  After discussions, XYZ Tech and the client agreed to a phased rollout approach. The team would deliver the core product on time and within budget while developing the advanced features in a second phase, funded separately.   1. If you were the project manager, how would you prioritize cost, time, and scope in this scenario? 2. What strategies can organizations use to manage scope creep effectively in project management? | **10** |
| Q2. | Based on the information, answer the following questions:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Activity | Predecessor | Normal Time (Days) | Crash Time (Days) | Normal Cost | Crash Cost | | A | - | 7 | 6 | 7,000 | 8,000 | | B | A | 2 | 1 | 5,000 | 7,000 | | C | A | 4 | 3 | 9,000 | 10,200 | | D | B, C | 5 | 4 | 3,000 | 4,500 | | E | D | 2 | 1 | 2,000 | 3,000 | | F | D | 4 | 2 | 4,000 | 7,000 | | G | E, F | 5 | 4 | 5,000 | 8,000 |  1. Identify the critical path. 2. What is the length of time to complete the project? 3. Which activities have slack, and how much? 4. Which activities would you shorten to cut two days from the schedule in a rational fashion? What would be the incremental cost? Is the critical path changed? | **10** |
| Q3. | Based on the information below, answer the following questions:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Activity | a | m | b | Immediate Predecessor(s) | | A | 3 | 6 | 8 | — | | B | 2 | 4 | 4 | — | | C | 1 | 2 | 3 | — | | D | 6 | 7 | 8 | C | | E | 2 | 4 | 6 | B, D | | F | 6 | 10 | 14 | A, E | | G | 1 | 2 | 4 | A, E | | H | 3 | 6 | 9 | F | | I | 10 | 11 | 12 | G | | J | 14 | 16 | 20 | C | | K | 2 | 8 | 10 | H, I |  1. Determine the expected completion time and variance for each activity, and the critical path for the project. 2. What is the probability that Kelle Carpet and Trim will finish the project in 40 days or less? | **10** |
| Q4 | 1. Critically highlight the difference between PERT and CPM. 2. What is project management? What are the routine activities? Suggest two examples of projects. | **10** |
| Q5. | A construction company has undertaken a small infrastructure project that involves multiple tasks (A to G). The company has a limited labor workforce and can allocate a maximum of nine laborers per day due to budget constraints and workforce availability. However, if the current project schedule is followed, there are certain days when labor demand exceeds the available workforce. The project manager must reschedule activities strategically to ensure that no more than nine laborers are working on any given day while keeping the project on track. Allocate the required resources, then level them so that the subcontractor does not use more than nine laborers at any time.   |  |  |  |  | | --- | --- | --- | --- | | **Activity** | **Duration (Days)** | **Immediate Predecessor(s) (IPA)** | **Labor Requirement** | | A | 3 | - | 4 | | B | 5 | A | 3 | | C | 4 | A | 5 | | D | 8 | A | 2 | | E | 6 | B | 4 | | F | 5 | B, C | 3 | | G | 4 | D, E, F | 5 | | **10** |
| Q6. | The following data have been collected for a British health care IT project for two-week reporting periods 2 through 12. Compute the SV, CV, SPI, and CPI for 10th period.  A screenshot of a computer  AI-generated content may be incorrect.  Status Report: Ending period 10   |  |  |  | | --- | --- | --- | | Task | % Complete | Actual Cost | | 1 | 100% | 10 | | 2 | 60% | 30 | | 3 | 100% | 40 | | 4 | 50% | 20 | | 5 | 0% | 0 | | 6 | 30% | 24 | | **10** |
| Q7. | Write a short note on ANY TWO:   1. Work breakdown structure 2. Gantt Chart 3. Matrix form of organization | **10** |