Course: Software Project Management

Week 16: Final Exam – Answer Keys

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Answer Keys

Part I: Multiple Choice ➔ 60%

Part II: Short Answer ➔ 15%

Part III: Case Analysis ➔ 25%

Total ➔ 100%

Answer Keys

Part I: MCQs

1.	D	11.	A	21.	B
2.	B	12.	B	22.	C
3.	B	13.	D	23.	B
4.	C	14.	A	24.	B
5.	D	15.	C	25.	C
6.	C	16.	C	26.	A
7.	C	17.	B	27.	C
8.	B	18.	C	28.	D
9.	B	19.	D	29.	C
10.	B	20.	C	30.	B

Answer Keys

Part II:

1. Project is temporary, while operation is permanent and ongoing
2. Work package.
3. Software project planning is the process of defining the scope, objectives, tasks, schedule, resources, and budget required to complete a software project.
4. Project closure ensures success by confirming deliverables are completed, evaluating project performance, releasing resources, documenting lessons learned, and ensuring stakeholder satisfaction.
5. Quality assurance preventative, while quality control detective and corrective

Answer Keys

Part III:

1. The tradeoffs are
    - for additional features → time & budget (Scope Vs time & budget)
    - for delay → Quality (Time Vs Quality)
    - for quality → time (Quality Vs Time)
    - The project manager can negotiate with stakeholders to defer the real-time chat feature to a future phase or remove a less critical feature to balance scope.
    - The team can adopt parallel development for pending tasks, use overtime (if budget allows), or prioritize critical features to meet the deadline.
    - Optimize video compression techniques, use a better CDN, and conduct thorough performance testing to enhance video streaming.

Answer Keys

Part III:

2. Given

Effort (Person-Months) = 3.0 × (KLOC)^1.12 ➔40KLOC

Duration (Months) = 2.5 × (Effort)^0.35

A. Using the formula:

Effort = 3.0 × (40)^1.12

Effort ≈ 3.0 × 76.4 ≈ **229.2 person-months**

B. Duration

Duration = 2.5 × (229.2)^0.35

Duration ≈ 2.5 × 6.98 ≈ **17.45 months**

Answer Keys

C. Team Size

Team Size = Effort / Duration = 229.2 / 17.45 ≈ **13.13** ≈ **13 people**

D. Two Strategies

- **Increase team size**: More developers can help complete tasks faster, however with coordination overhead.
- **Scope reduction**: Prioritize and develop only essential features in Phase 1, deferring others to later releases.

Answer Keys

Part III:

3.

A. **Mitigation**: The team can reduce the risk by providing training, hiring experts, or doing a prototype to gain experience with the new technology.

B. **Transference**: The risk can be transferred by purchasing a service contract or insurance that covers hardware upgrades or outsourcing parts of the hardware provisioning.

C. **Avoidance**: To avoid the risk, the project can hire additional backup staff, document critical knowledge thoroughly, or implement incentives to retain key personnel.

D. **Acceptance**: The impact of this risk is low and manageable. The cost or effort to eliminate this risk is likely higher than the benefit. The project can proceed while monitoring this risk, without additional mitigation efforts.

The End!