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The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Electrical and Computer Engineering

Study Programme	: Bachelor of Software Engineering Honours Degree
Level	: 6
Name of the Examination	: Final Examination
Course Title and - Code	**: EEI6360 - Software Project Management**
Academic Year	: 2023/24
Date	: 10/02/2025
Time	: 0930 – 1230 hrs.
Duration	**: 3 hours**

General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **four (4) questions** in **three (3)** pages.
3. Answer all questions.
4. Answer for each question should commence from a new page.
5. Draw fully labelled diagrams where necessary.
6. Write answers in clear and concise format appropriately in points/bullet form.
7. Involvement in any activity that is considered as an exam offense will lead to punishment.
8. Use blue or black ink pen to answer the questions.
9. Clearly state your index number on your answer script in every page.

QUESTION 1

You are managing a large software development project for a client with strict deadlines and a fixed budget. During the project planning phase, your team identifies the following risks:

- Lack of clarity in client requirements.
- Key team member turnover.
- Integration challenges with the client's legacy systems.
- Budget overruns due to underestimation of effort.

a) For each of the risks listed above, identify a potential impact on the project and propose one specific mitigation strategy.

(8 Marks)

b) Discuss how you would monitor and assess the likelihood and impact of these risks during the execution phase of the project. Provide examples of tools or techniques that can be used.

(8 Marks)

c) Explain the importance of a risk management plan in ensuring the success of a software project and describe the role of stakeholders in this process.

(9 Marks)

QUESTION 2

You are part of a growing organization transitioning from ad-hoc project management practices to a more structured approach involving a Program, Portfolio, and Project Management Office (PMO). Answer the following:

a) Define and differentiate between a project, a program, and a portfolio in the context of software management. Provide an example for each.

(6 Marks)

b) Explain the role of a Project Management Office (PMO) in supporting the effective execution of software projects. Discuss three key functions of a PMO and how they contribute to project success.

(6 Marks)

c) Your organization is running multiple related software development projects under a single program. One project is consistently behind schedule and over budget.
- Identify the possible reasons for these issues from both the project and program perspectives.
- Suggest a corrective action plan that includes the roles of the PMO, program manager, and project manager.

(7 Marks)

d) Discuss how portfolio management supports strategic alignment within an organization. Highlight two benefits and one challenge of implementing portfolio management for software projects.

(6 Marks)

QUESTION 3

Effective management of requirements and product backlogs is critical for the success of software projects. Answer the following:

a) Define software requirements management and explain its importance in the software development lifecycle. Provide two key challenges in managing requirements and suggest strategies to address them.

(6 Marks)

b) Compare and contrast the roles of a product backlog in Agile methodologies and a software requirements specification (SRS) in traditional software development approaches. Highlight their similarities and differences in terms of purpose, structure, and flexibility.

(6 Marks)

c) Your team is developing an e-commerce platform using Scrum. The product backlog currently contains over 200 items, but stakeholders are struggling to prioritize them effectively.

- Propose a systematic approach for backlog refinement and prioritization.
- Suggest at least two techniques that can be used to determine backlog item priority.

(6 Marks)

d) Discuss how poor backlog management can impact on a software project. Provide an example of a potential issue and its consequences and explain how proactive backlog management can mitigate such risks.

(7 Marks)

QUESTION 4

Change is an inevitable part of project management.

a) Discuss the key challenges that project teams face when managing change within a project. Provide examples to support your answer.

(8 Marks)

b). Compare and contrast below change management models that project teams can follow

- Kotter's 8-Step Change Model
- Lewin's Change Management Model

(9 Marks)

c) Define adaptability and resiliency in the context of project management. Explain their importance in ensuring project success.

(8 Marks)