

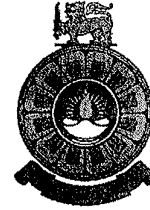
THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. Hons (IT) DEGREE PROGRAMME 2024/2025

ISU6305: IT Project Management

FINAL EXAMINATION

DURATION: TWO HOURS ONLY (2 HOUR)

Date: 08th November 2025



Time: 09.30am – 11.30am

General Instructions

1. Read all the instructions carefully before answering the questions.
2. This question paper consists of (06) questions in (04) pages.
3. **Answer any four (04) questions only.** All questions **carry equal marks.**
4. Answer for each question should commence from a new page.
5. Draw fully labelled diagrams where necessary.
6. Involvement in any activity that is considered as an exam offense will lead to punishment.
7. Use blue or black ink to answer the questions.
8. Clearly state your index number in your answer script.

Use below “strategic project” related details where applicable in each question:

Next Generation IT Solutions, a leading technology services provider, has initiated a strategic project to design and deploy an **Interactive Learning Management System (ILMS)** for a major educational institution.

The ILMS aims to digitize academic delivery, streamline student–teacher interactions, automate assessments, and enable real-time learning analytics. It includes modules such as **Course Management, Assessment and Grading, Analytics Dashboard, Student Portal, and Collaboration Tools.**

The project involves a multidisciplinary team comprising software developers, UX designers, QA engineers, system administrators, and academic representatives. The expected duration is **12 months**, with a **fixed budget of LKR 80 million**. The project manager is responsible for ensuring timely delivery, quality assurance, stakeholder engagement, and alignment with the client’s digital learning strategy.

Useful formulae: $SPI = EV / PV$, $CPI = EV / AC$

Q1).

- i. Explain the importance of **Net Present Value (NPV)** analysis in evaluating IT project investments. (5 marks)
- ii. Define the concept of **discount rate** and how it influences NPV outcomes. (5 marks)
- iii. The ILMS team proposes adding an **AI-based Learning Recommendation Module** with the following projected cash flows:

If the discount rate is **10%**, calculate the NPV, Payback and ROI of this investment. (10 marks)

Year	0	1	2	3	Cumulative Value
Cost	400,000.00	120,000.00	50,000.00	100,000.00	670,000.00
Discount factor (10% Discount rate)	1.000	0.909	0.826	0.751	
Discounted Cost	400,000.00	109,090.91	41,322.31	75,131.48	625,544.70
Benefits	-	270,000.00	250,000.00	350,000.00	870,000.00
Discount factor	1.000	0.909	0.826	0.751	
Discounted Benefit	-	245,454.55	206,611.57	262,960.18	715,026.30
Discounted Cash In-Flow (PV)					
Cumulative Discounted Cash In-Flow (PV)					

Hint: Fill the year-on-year Discounted Cash In-Flow (PV) and Cumulative Discounted Cash In-Flow (PV).

- iv. Based on your calculation, should Next Generation IT Solutions proceed with this investment? Justify your answer. (5 marks)

Q2).

- i. State the objective of quality management in ensuring the performance and reliability of the ILMS. (5 marks)
- ii. Describe two **quality assurance tools** that can be used to maintain consistent performance in the **Assessment and Grading** module. (5 marks)
- iii. The ILMS experienced slow response times when multiple users accessed assessments simultaneously. Which **quality principle** does this violate, and how could preventive actions have avoided it? (5 marks)
- iv. After go-live, 8% of student submissions were misclassified by the grading system.
 - a. Identify the type of **cost of quality** represented. (5 marks)
 - b. Suggest two measures to reduce such issues in future updates. (5 marks)

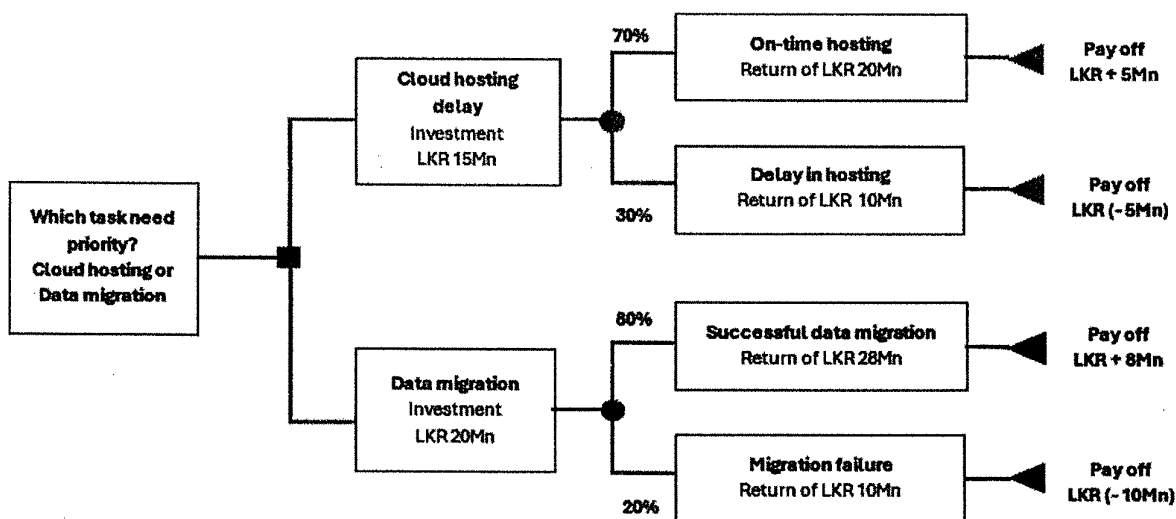
Q3).

- i. Explain how effective HR and communication management contribute to collaboration among the ILMS project team. (5 marks)
- ii. List **three (3)** key components that should be included in a **Resource Management Plan**. (5 marks)
- iii. During the ILMS development, miscommunication occurred between UX designers and backend developers, causing mismatched interfaces. Identify two likely causes and propose solutions. (5 marks)
- iv. The project manager implements a **RACI matrix** to improve accountability.
 - a. Explain the purpose of a RACI matrix. (5 marks)
 - b. Provide an example of how it could be applied to coordinate between the QA team and developers. (5 marks)

Q4).

- i. Explain why continuous risk monitoring is critical during the post-deployment phase of the ILMS. (5 marks)
- ii. Describe how a **risk breakdown structure (RBS)** supports structured risk identification. (5 marks)
- iii. Provide one example each of a **positive** and **negative** risk in the ILMS project. (5 marks)
- iv. The following risks were identified in the module enhancement phase:

Risk 1: Cloud hosting delay – probability 30% & Risk 2: Data migration failure – probability 20%



- a. Calculate the **Expected Monetary Value (EMV)** for each activity. (5 marks)
- b. Suggest two risk response strategies for mitigating the higher-priority risk. (5 marks)

Q5

- i. Define the purpose of procurement management in IT projects such as the ILMS. (5 marks)
- ii. Explain the difference between **Request for Information (RFI)**, **Request for Quotation (RFQ)**, and **Request for Proposal (RFP)**. (5 marks)
- iii. The project team plans to outsource a **Video Streaming Component**. Discuss how **performance-based contracts** can enhance vendor accountability and delivery quality. (5 marks)
- iv. The following cost data is available for the outsourced integration module:
PV = 2,500,000; EV = 2,200,000; AC = 2,000,000.
 - a. Calculate **SPI** and **CPI**. (5 marks)
 - b. Interpret whether the vendor's performance is efficient in terms of cost and schedule. (5 marks)

Q6

- i. Explain the purpose of stakeholder management in ensuring ILMS adoption and sustainability. (5 marks)
- ii. Describe how a **stakeholder engagement assessment** can be used to evaluate stakeholder attitudes and involvement. (5 marks)
- iii. Identify two key internal and two external stakeholders for the ILMS project, stating their likely interests. (5 marks)
- iv. Following rollout, lecturers show reluctance to adopt the system's **digital grading tool**.
 - a. Identify two possible reasons for this resistance. (5 marks)
 - b. Recommend strategies the project manager can apply to improve stakeholder buy-in and adoption. (5 marks)

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