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# Daffodil International University

## Faculty of Science & Information Technology

## Department of Software Engineering

### Final Examination, Summer-2026

**Course Code: SE 411; Course Title: Software Project Management & Documentation**

**Batch 44 (A, B, C, D, E, F, G, H, I) Teachers: MKS, HM, FF & KNA**

**Time: 2:00 Hrs** **Marks: 40**

**Answer ALL Questions**

***[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]***

Read the case carefully. You may invent and incorporate additional information wherever necessary.

**Case study:** You have been appointed as the **Project Manager** of a software company that has won a government-funded project to develop a **Smart Agriculture Management System** for farmers across Bangladesh. The objective is to improve agricultural productivity by integrating IoT sensors, weather forecasting and crop disease detection using AI, fertilizer recommendations, online market access and financial support services.

The project duration is 5 months, with a fixed budget and strict delivery deadline because the system must be operational before the next planting season. Any delay may significantly affect thousands of farmers.

Your project team consists of 10 software developers, 2 AI engineers, 2 IoT engineers, 2 QA engineers, 1 database administrator and 4 support staff. Although the technical team has good programming skills, they have little experience working with IoT devices deployed in rural areas.

The client includes the Ministry of Agriculture, while other stakeholders include local farmers, agricultural officers, mobile network operators, banks providing loans, IT product suppliers, and local government authorities.

| | | | |
|---|---|---|---|
| **1.** | a. **Defend** your reasons following a SWOT analysis whether the project in Case Study should be taken or not as potential for development.<br>b. To make the given (case study) project successful, **prescribe** potential stakeholders' management strategies according to their power and interest. | **[Marks-6]**<br>**[Marks-4]** | **CLO-4** ***Level-5*** |
| **2.** | a. **Explain** a brief **plan** for motivating your team so that your project become successful?<br>b. **Outline** a communication management plan taking all information given in the case study.<br>c. The project requires cloud infrastructure for data storage and AI processing. Three procurement options are available as follows: prescribe the best option.<br>d. i. **Specify** 5 negative and 1 positive risks which are associated to this given project. Risks must be specified with relevant reasons.<br>ii. **Prescribe** responses for all risks with realistic facts as you are the project manager. | **[Marks-6]**<br>**[Marks-7]**<br>**[Marks-5]**<br>**[Marks-6]**<br>**[Marks-6]** | **CLO-3** ***Level-6*** |

| Option | Initial Cost | Monthly Cost | Maintenance | Salvage Value |
|---|---|---|---|---|
| Buy Dedicated Servers | $110,000 | $3,000 | Included | $45,000 |
| Lease Cloud Platform | $0 | $16,000 | Included | None |
| Hybrid Solution | $50,000 | $10,000 | $1,000/month | $15,000 |

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