



# United International University (UIU)

## Dept. of Computer Science & Engineering (CSE)

Exam Name: Mid Term Exam Trimester: Spring 2024

Course Code: PMG 4101, Course Title: Project Management

Total Marks: 30

Duration: 1 hour 30 mins

*Any examinee found adopting unfair means will be expelled from the trimester / program as per UIU disciplinary rules.*

**Answer all the questions.**

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*Consider the following Scenario:*

Your team is going to develop an exam evaluation software which is designed to revolutionize education at university level. This state-of-the-art software blends the strengths of artificial intelligence with human expertise to deliver a smooth, efficient, and comprehensive evaluation experience for both learners and educators. With clear requirements and deliverables, this software addresses the diverse needs of users by offering features like automated and manual evaluation, automatic grading, plagiarism detection, examination rules violation detection, performance benchmarking, question-bank management and real-time exam monitoring. Having a planned schedule, the software can be translated into 3 languages initially: English, Bangla and French and generates comprehensive automated reports to provide detailed feedback on student's performance. Integrating artificial intelligence with movement detection for Real-time exam monitoring: where any suspicious movement can be tracked during exam time and send the necessary alert to invigilator could be a potential challenge. To integrate the AI, as a project manager you have to recruit AI engineer and ML specialist who will support your trainee intern developers. Your main software testing team is divided into 2 sub teams: automated testing team and manual testing who are ready to test the product, find bugs and assure the quality after completing the construction of the software product. Driven by a commitment to fostering excellence in education, the evaluation software has been significantly improved, leading to an amazing user experience for all stakeholders. According to this scenario, answer the following questions.

1. Choose a software engineering methodology for developing the above-mention project and mention the advantages for choosing the methodology. Define the concept of *Product Backlog*, *Scrum of Scrums* according to SCRUM methodology [CO1] 5
2. Discuss 'Project Plan' in software project planning and state it's elements. Write down the Vision and Scope Document for the project described above following proper outline. [CO2] 5
3. As a project manager if you want to generate a proper Work Breakdown Structure (WBS), state the tips that you would suggest to your team. Develop the WBS for the scenario described above and estimate (unit of day) for major **two** WBS pieces/components for the above scenario following the principles and rules. [CO3] 5

4. Write down the ‘basic course of events’ for Delphi Wideband Estimation technique with the alternative paths. Suppose you want to form an estimation team consists of three (3) members. Show the two steps of estimation: estimation session (with individual form shows iterations) and assemble task for the above-described project, according to Delphi Wideband estimation method.  
[CO3] 5
5. Now as a project manager you are preparing for risk mitigation. Now briefly discuss the actions to mitigate risks. Develop a Risk Plan sheet showing at least two major risks for the above scenario.  
[CO2] 5
6. Progress report submission and presentation on Vision and Scope Document including project planning, documentation, estimation, and risk management planning for a group project has been evaluated earlier (**Do not answer this question, already completed in classroom**).  
[CO2] 5