Department of
Computer Science & Engineering
University of Liberal Arts Bangladesh

Open-ended experiment

Course Title: Algorithm Lab	**Section: 5**
Course Code: CSE 2202	**Semester: Spring 2024**
Total Marks: 36	**Submission Deadline: (until next class)**

General Instructions:

- This is an open-ended experiment. Students are expected to develop their own experiment;
- Show each step of your experimental procedure, data, and calculations;
- Discuss your results with relevant theories;
- Originality of the work is a must;
- Please refer to the assessment rubrics while preparing the report;
- Symbols, notations and abbreviations carry their usual meanings.

Problem:

Suppose, you've been hired by a Project Management Consultancy firm that handles multiple projects simultaneously. Each project requires various resources such as manpower, equipment, and funds. The challenge is to allocate resources optimally across different projects to maximize overall profitability while meeting project deadlines and resource constraints.

Your task is to develop a resource allocation system to address the firm's challenges. The system should consider various factors such as project profitability, resource requirements, project timelines, and available resources to recommend the best combination of projects to undertake within the firm's capacity.

Open-ended features:

- Use any programming language.
- Use any technique to solve the above problem.
- The output can be console-based or file-based.

Task No.	Corresponding COs	Marks
1. Define the problem clearly by identifying all the requirements.	1	9
2. Determine all of the approaches that can be utilized to solve this problem. Compare the techniques using simulations.	2	9
3. Develop the complete code using the most appropriate technique.	3	9
4. Compile a well-documented report on the stated problem, including the justifications, codes, simulations, and inputs/outputs.		9