Daffodil International University
Faculty of Business & Entrepreneurship
Department of Business Administration
Program: BBA, Semester: Spring-2026
Final Examination
Course Code: 0411-412 , Course Title: Spreadsheet Analysis and Modeling
Course Teacher: MI, Section: 64-A

Time: 2 Hours **Marks: 40**

Instructions:

1. Answer all the questions.

2. Any kind of unfair means is strictly prohibited.

Question No. 1: [CLO 1, Level 2] **[Marks: 1+5+4]**

In today's data-driven world, organizations rely heavily on analytics to make informed decisions, improve efficiency, and gain competitive advantage. From business operations to healthcare and education, analytics transforms raw data into meaningful insights. Understanding different types of analytics helps decision-makers not only interpret past performance but also predict future outcomes and recommend optimal actions. **Explain** the concept of Analytics**. Illustrate** the types of Analytics. **Compare** and **contrast** Prescriptive and Predictive Analytics.

Question No. 2: [CLO 2, Level 3] **[Marks: 10]**

AeroVista Airlines operates a flight from Toronto to Los Angeles with a seating capacity of 220 passengers. The airline sells 260 tickets for the flight at a price of $380 per ticket. All tickets are non-refundable. The variable cost per passenger (including meals and fuel) is $55 per passenger.If more than 220 passengers show up, the flight becomes overbooked, and the airline must pay $600 compensation per passenger who cannot be accommodated.

Develop a worksheet model that calculates AeroVista Airlines' profit based on the number of passengers who show up for the flight..

Question No. 3: [CLO 3, Level 5] **[Marks: 10]**

A premium smartphone brand is trying to determine the ideal number of units to manufacture and sell to achieve its target profit. Each phone currently sells for $1,510.06**,** and the market demand is 9,047 units. The production cost per phone is $349.45**,** and the company incurs a fixed manufacturing cost of $5,000,000. However, certain constraints exist: the factory can produce a maximum of 10,000 units, the selling price cannot exceed $1,600, and the minimum variable cost per unit is $359**.**

Based on these constraints and values**, determine** the optimal production quantity, number of units to be sold, and selling price required to achieve the company's target profit of $6,000,000.

Question No. 4: [CLO 3, Level 5] **[Marks: 5+5]**

Suppose, you've been assigned to evaluate the profitability of a newly released streaming movie on a digital platform. The following assumptions have been made:

- The actors are receiving a one-time payment of **$8 million**.
- The fixed cost of producing the premium (HD) version of the movie is **$2 million**.
- The variable cost per HD stream is **$2.50**.
- The platform's net revenue per HD stream is **$12**.
- The platform expects **800,000 HD streams**.
- The fixed cost of producing the standard (SD) version is **$200,000**.
- The variable cost per SD stream is **$0.80**.
- The platform's net revenue per SD stream is **$3.50**.
- SD streams are expected to be **2.5 times the HD streams**.

Use this information to answer the following questions:

a. **Measure** how the platform's before-tax profit will vary as HD streams vary from **150,000 through 1.5 million streams**.

b. **Measure** how the platform's before-tax profit varies as HD streams vary from **150,000 through 1.5 million streams** and the ratio of SD to HD streams varies from **1.5 through 3**.