

Daffodil International University

BBA Program Mid-Term Examination

Semester: Fall 2025

Course Title: Production and Operations Management

Course Code: 0413-313

Time: 90 minutes

Full marks: 25

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 accordingly.]

1. Demonstrate briefly the "implementation of Strategy" for a new firm or idea with example.	5	CO-1 Level-2																								
2. Explain the concept Strategic Positioning and the factors with an example that helped a company to position itself to the market place Or Outline how "Break-Even point theory helps in decision making?	5	CO-1, Level-2																								
3. An ice-cream retailer buys ice-cream at a cost of Tk. 5 per cup and sells it for Tk. 8 per cup; any remaining unsold at the end of the day can be disposed of at a return price of Tk. 1 per cup. Past sales have ranged between 15 and 20 cups per day; there is no reason to believe that sales volume will take on any other magnitude in future. <table style="margin-left: auto; margin-right: auto; border: none;"> <tr> <td style="padding: 0 10px;">Market size:</td> <td style="padding: 0 10px;">15</td> <td style="padding: 0 10px;">16</td> <td style="padding: 0 10px;">17</td> <td style="padding: 0 10px;">18</td> <td style="padding: 0 10px;">19</td> <td style="padding: 0 10px;">20</td> </tr> <tr> <td style="padding: 0 10px;">Probability:</td> <td style="padding: 0 10px;">0.10</td> <td style="padding: 0 10px;">0.20</td> <td style="padding: 0 10px;">0.30</td> <td style="padding: 0 10px;">0.25</td> <td style="padding: 0 10px;">0.1</td> <td style="padding: 0 10px;">0.05</td> </tr> </table> Examine the expected value of perfect information.	Market size:	15	16	17	18	19	20	Probability:	0.10	0.20	0.30	0.25	0.1	0.05	5	CO-2 Level-4										
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4. The Weight Club considering the service facility, the success of which depends on their demand (i.e new members who would join because of the new facility), which is uncertain. The following table summarizes the return for each alternative services <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th style="border-bottom: 1px solid black; padding: 5px;">Service Facility</th> <th style="border-bottom: 1px solid black; padding: 5px;">Poor</th> <th style="border-bottom: 1px solid black; padding: 5px;">Moderate</th> <th style="border-bottom: 1px solid black; padding: 5px;">High</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Child Care Centre</td> <td style="padding: 5px;">\$17,000</td> <td style="padding: 5px;">\$27,000</td> <td style="padding: 5px;">\$41,000</td> </tr> <tr> <td style="padding: 5px;">Swimming pool</td> <td style="padding: 5px;">- 75,000</td> <td style="padding: 5px;">26,000</td> <td style="padding: 5px;">71,000</td> </tr> <tr> <td style="padding: 5px;">New Lockers & Showers</td> <td style="padding: 5px;">12,000</td> <td style="padding: 5px;">37,000</td> <td style="padding: 5px;">57,000</td> </tr> <tr> <td style="padding: 5px;">Food Court</td> <td style="padding: 5px;">- 31,000</td> <td style="padding: 5px;">19,000</td> <td style="padding: 5px;">87,000</td> </tr> <tr> <td style="padding: 5px;">Spa</td> <td style="padding: 5px;">6,000</td> <td style="padding: 5px;">25,000</td> <td style="padding: 5px;">32,000</td> </tr> </tbody> </table> Determine the best investments under the environment of uncertainty by mentioning all criteria. (Degree of Realism, $\alpha = 0.8$)	Service Facility	Poor	Moderate	High	Child Care Centre	\$17,000	\$27,000	\$41,000	Swimming pool	- 75,000	26,000	71,000	New Lockers & Showers	12,000	37,000	57,000	Food Court	- 31,000	19,000	87,000	Spa	6,000	25,000	32,000	5	CO-2 Level-4
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5. A company expects fixed cost of \$22,800. Margin is to be 55 percent of retail. Variable cost is addition to costs of goods is estimated at \$0.17 per dollar of sales. Evaluate revenue, cost and profit functions using s for sales volume. Draw break-even chart also Evaluate profit before taxes be on sales of \$ 15000.	5	CO-3 Level-5																								

max + (1 - α) min

32

