Daffodil International University

Faculty of Business & Entrepreneurship
Department of Business Administration
Program: BBA

Semester: Fall, 2025
Time: 2 hours
Course Code: *0413-313*
Section: All

Examination: Final
Full marks: 40
Course Title: Production and Operations Management
Teacher's Name: MP, DSA, SAS

Answer All questions: (Marks and compliance of all questions are right margin aligned)

1. **Explain** the steps of Project Life Cycle and the monitoring system. Or **Summarize** properly with example and in point manner the effect of Production and Operations Management course to increase productivity for the business and for your self.	**8**	**CO-1** ***Level-2***
2. **a. List** your underlying assumptions about Break-Even Analysis	**4**	**CO- 2** ***Level-4***
b. OM explorer owner of Williams products estimates the variable costs of each unit produced and sold at \$6 and the fixed costs per year at \$ 60,000. If the selling price is set at \$ 18 each, how many units must be produced and sold for Williams to break even? Draw the chart also. Analyze profit contribution if selling price is \$14 for forecasting sales of 12000 units and 15000 units.	**4**	**CO-2** ***Level-4***
3. a. Examine the cost of quality for a specific product with example.	**4**	**CO- 2** ***Level-4***
b. The total processing cost for producing local T-Shirt is \$21. The Arunima Company starts production of 600 pieces of shirt weekly and the average weekly yield is 80%, with 20% defective shirt. One-quarter of the defective shirt can be reworked at a cost of \$5. Analyze product cost per unit & quality productivity ratio (QPR). Compute the Product cost per unit & QPR if the product yield is increased to 95% good quality.	**4**	**CO-2** **Level-4**
4. Country Hospital orders syringes from a hospital supply firm. The hospital expects to use 40,000 per year. The cost to order and have the syringes delivered is \$800. The annual carrying cost is \$1.90 per syringe because of security and theft. The hospital supply firm offers the following quantity discount pricing schedule. Quantity *Price* 0-999 \$ 3.40	**8**	**CO-3** **Level-5**

1000 – 19,999	$ 3.20		
20,000 – 29,999	$ 3.00		
30,000 – 39,999	$ 2.80		
40,000 – 49,999	$ 2.60		
50,000 +	$ 2.40		
Determine the order size for the hospital.			

5. ***Determine*** a network for the project below for ***critical path and project completion time. Also determine the Activity Slack.*** | 8 | **CO-3 Level-5**

Activity	*Predecessor*	*Time (In Weeks)*
A	.....	4
B	.....	6
C	A	2
D	A	8
E	A	7
F	E	4
G	F,D	4
H	B,C	4
I	G,H	3
K	I	2

Or. Alex Mason has a wide-curving, uphill driveway leading to his garage. When there is a heavy snow, Alex hires a local carpenter, who shovels snow on the side in the winter, to shovel his driveway. The snow- shoveler charges $30 to shovel the driveway. Following is a probability distribution of the number of heavy snows each winter.

Heavy Snows	1	2	3	4	5	6	7
Probability	0.12	0.19	0.24	0.22	0.13	0.08	0.02

Alex is considering the purchase of a new self-propelled snow blower for $575 that would allow him, his wife, or his children to clear the driveway after a snow. Provide your **Opinion** either he should buy or hire the snow- shoveler.