maths –special/1

MA115 Business Problem Solving

Directions: Please answer the following essay question using your own paper. Keep a copy of your work and include your name and student number on every page.

Managers at ANP Company are trying to determine an inventory policy for the coming year.

They estimate that its sales for 200x may vary depending on the strength of the economy, and have produced the following estimate of sales for the year:

|  |  |  |
| --- | --- | --- |
| **Economic Conditions** | **Probability of occurrence** | **Sales Level (Units)** |
| Poor | 0.2 | 100,000 |
| Moderate | 0.5 | 220,000 |
| Good | 0.3 | 280,000 |

ANP sells each unit for $7.50. Each unit costs $3.00 to purchase, and the firm typically incurs the following costs:- order cost - $200 per order; carrying costs :- Insurance - $0.80 per unit; warehousing cost – $0.50 per unit; security costs - $0.25 per unit; shrinkage allowance – $0.10 per unit.

a. Calculate the firm’s expected level of sales. **20 points**

b. Determine the economic order quantity based on the expected sales level

(Round to the nearest 100). **20 points**

c. Calculate the reorder point, assuming 4 days lead time and smooth sales levels throughout the year (round to the nearest 100). Assume a 5–day work week and a 52-week year. 15 **points**

**Part d and e of this assignment are on the following page**d. Calculate the firm’s expected net profit and net profit as a percentage of sales for the year assuming the following:

a. The firm maintains a beginning and ending inventory equal to the reorder point unit level.

b. Sales returns are expected to be 0.50% of sales.

c. Unit purchase cost in the previous year was $2.80.

d. Budgeted selling expenses total $350,000.

E. Budgeted general expenses total $420,000 **30 points**

e. List three non-quantitative factors that might influence the decision on inventory policy.

**15 points**

**Please show all of your calculations**

This is the end of Assignment 2.