

**Pharmacy 125  
Second Long Exam  
First Semester, AY 2020 – 2021**

**DEPARTMENT OF PHARMACY TEST REMINDERS:**

Read and follow test instructions carefully. Failure to comply will make answers automatically incorrect. Unless otherwise stated, use TWO (2) decimal places only if a decimal is necessary in the final answer. Practice honesty and integrity throughout the exam. Do NOT reproduce any part of this exam.

**Budgeting**

You are the production manager of a toll manufacturer for ascorbic acid syrups.

The marketing department said that the budgeted production units are expected to increase by 50 bottles per quarter in 2021. The forecasted production units by the first quarter is 180. The company is expecting to receive the following accounts receivable in 2021:

- 1<sup>st</sup> quarter: ₱ 2,100
- 2<sup>nd</sup> quarter: ₱ 6,010
- 3<sup>rd</sup> quarter: ₱ 10,000
- 4<sup>th</sup> quarter: ₱ 19,500

Also, there are investors who have declared their cash investments for each quarter of 2021. These investments will be used by the company as its beginning cash for each quarter of 2021.

- Mr. Milenyo will invest ₱ 70,000 in 2 equal installments for the first half of 2021.
- Ms. Linya will invest ₱ 55,000 at the start of the 3<sup>rd</sup> quarter and ₱ 40,000 on the 4<sup>th</sup> quarter.
- Ms. Laya will invest ₱ 35,000 at the beginning of 4<sup>th</sup> quarter

The company is strict in maintaining a balance of ₱ 12,500 at the end of each quarter so it has partnered with a bank for loans. The loans will be paid in the earliest quarter in which there is sufficient cash. Interest of the principal amount given by the bank is at 0.20% per quarter unpaid.

The company spends ₱ 20/bottle for the materials, ₱ 12/bottle for the labor, and ₱ 5/bottle for the manufacturing overhead. Also, it pays its rent of ₱ 20,000 each quarter.

1. Which quarter will the company need to loan from the bank?
2. Which quarter has the highest cash ending balance?

### **Break-even Analysis**

The operations manager of a start-up company decided to manufacture 500 mg paracetamol tablets packaged in a blister packaging. Each set of blister pack contains 10 tablets. A box of the paracetamol tablet contains 10 sets of blister packs. During the manufacture of a pilot batch, the following costs were determined:

<b>Item</b>	<b>Cost</b>
Manufacturing Plant Rent	₱ 4,900/month
Administrative Staff Salary	₱ 2,500/month
Plant Operator Salary	₱ 1.20/tablet
Utilities	₱ 560/month + ₱ 0.30/tablet
Sales & marketing cost	₱ 540/month + ₱ 0.75/tablet
Paracetamol	₱ 1.25/tablet
Potato starch	₱ 0.75/tablet
Talc	₱ 0.50/tablet
Magnesium stearate	₱ 0.50/tablet
Potassium sorbate	₱ 0.25/tablet
Packaging materials	₱ 1.00/tablet

Based on the financial data from the production, marketing, and sales departments, the company is expecting a demand of 50 boxes of paracetamol for its first batch of production. It plans to sell each paracetamol tablet for ₱ 9.50. What should be the minimum number of paracetamol tablets that the company produces to break-even?

If the company has a target net income of ₱ 5,800 for its first batch of production, what should be the minimum number of paracetamol tablets that should be produced?

*Messy Beshy is a company that manufactures house cleaning products.*

**Differential Analysis**

The company has been using an equipment that mixes their liquid formulations with a book value of ₱ 4,000,000 for 8 years. According to the manufacturer of the equipment, the mixing equipment is expected to have 14 years of useful life upon purchase. This unit could be sold for ₱ 350,000. The company is considering replacing this machine with a new one that costs ₱ 6,000,000 to decrease the variable manufacturing costs from ₱ 380,000 to ₱ 230,000 annually.

Given the information, answer the following questions:

1. Should the company replace their mixing equipment?
2. Explain your decision in number 1. Use complete sentences.

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## Capital Investment Analysis

**Part A.** The management is considering 2 proposals from different departments. Proposal A suggests investing in a new product line that will require the company to buy a machine worth ₱ 120,000 with a ₱ 35,000 residual value at the end of its useful life years. This proposal is estimated to yield a total income of ₱ 67,000 over three years. On the other hand, Proposal B will require the company to buy a machine worth ₱ 380,000 with no residual value. It is estimated to yield a total income ₱ 785,000 over six years.

Based on the average rate of return of each proposal, answer the following questions:

1. Which proposal should the company choose?
2. Explain your decision in number 1. Use complete sentences.

**Part B.** The company received another proposal with an estimated annual net cash flow of ₱ 75,000 for 5 years. If approved, the proposal will cost the company ₱ 350,000. Assume a minimum rate of return of 8%.

Given the information, answer the following questions:

1. What is the net present value?
2. Should the company proceed with the proposal?

(n) Periods	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%
1	.96154	.95238	.94340	.93458	.92593	.91743	.90909	.90090	.89286	.86957
2	.92456	.90703	.89000	.87344	.85734	.84168	.82645	.81162	.79719	.75614
3	.88900	.86384	.83962	.81630	.79383	.77218	.75132	.73119	.71178	.65752
4	.85480	.82270	.79209	.76290	.73503	.70843	.68301	.65873	.63552	.57175
5	.82193	.78353	.74726	.71299	.68058	.64993	.62092	.59345	.56743	.49718
6	.79031	.74622	.70496	.66634	.63017	.59627	.56447	.53464	.50663	.43233
7	.75992	.71068	.66506	.62275	.58349	.54703	.51316	.48166	.45235	.37594
8	.73069	.67684	.62741	.58201	.54027	.50187	.46651	.43393	.40388	.32690
9	.70259	.64461	.59190	.54393	.50025	.46043	.42410	.39092	.36061	.28426
10	.67556	.61391	.55839	.50835	.46319	.42241	.38554	.35218	.32197	.24719

(n) Payments	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%
1	.96154	.95238	.94340	.93458	.92593	.91743	.90909	.90090	.89286	.86957
2	1.88609	1.85941	1.83339	1.80802	1.78326	1.75911	1.73554	1.71252	1.69005	1.62571
3	2.77509	2.72325	2.67301	2.62432	2.57710	2.53130	2.48685	2.44371	2.40183	2.28323
4	3.62990	3.54595	3.46511	3.38721	3.31213	3.23972	3.16986	3.10245	3.03735	2.85498
5	4.45182	4.32948	4.21236	4.10020	3.99271	3.88965	3.79079	3.69590	3.60478	3.35216
6	5.24214	5.07569	4.91732	4.76654	4.62288	4.48592	4.35526	4.23054	4.11141	3.78448
7	6.00205	5.78637	5.58238	5.38929	5.20637	5.03295	4.86842	4.71220	4.56376	4.16042
8	6.73274	6.46321	6.20979	5.97130	5.74664	5.53482	5.33493	5.14612	4.96764	4.48732
9	7.43533	7.10782	6.80169	6.51523	6.24689	5.99525	5.75902	5.53705	5.32825	4.77158
10	8.11090	7.72173	7.36009	7.02358	6.71008	6.41766	6.14457	5.88923	5.65022	5.01877

## Statement of Cash Flows

The following balances are reported on Messy Beshy's comparative balance sheets on December 31.

<b>MESSY BESHY COMPANY</b>		
Comparative Balance Sheets (partial)		
December 31		
	2019	2018
Cash	₱ 840,000	₱ 162,500
Accounts Receivable	968,750	762,500
Inventory	1,042,500	1,083,750
Accounts payable	651,250	626,250

The income statement for the year ended December 31, 2019, for Messy Beshy Company contains the following condensed information.

<b>MESSY BESHY COMPANY</b>		
Income Statement		
For the year ended December 31, 2019		
Sales Revenue		8,228,750
Operating expenses (excluding depreciation)	6,150,000	
Depreciation expense	1,100,000	7,250,000
Income before tax		978,750
Income tax expense		441,250
Net Income		<u>537,500</u>

The following additional information are given:

1. Included in operating expenses is a ₱ 30,000 loss resulting from the sale of equipment for ₱ 337,500 cash.
2. Equipment was purchased at a cost of ₱ 937,500.
3. Income tax expense of ₱ 441,250 represents the amount paid in 2019.
4. Dividends declared and paid in 2017 totaled ₱ 250,000.

Prepare the statement of cash flow for the year ended December 31, 2019.