\*\*\*Must be done in excel format; show how solutions are derived\*\*\*

1. Computing net present value. Assume that you have an after-tax cost of capital of 10 percent. Compute the net present value of each of the five projects listed in the following table.



Rank the above projects from 1 (best for you) to 5.

2. Computing net present value. Gators, Inc., is considering a project that requires an initial investment of $2,000,000 and that will generate the following cash inflows for the next five years:



Calculate the net present value of this project if Gator’s cost of capital is:

a. 12 percent.

b. 20 percent.

3. Computing internal rate of return. What is the internal rate of return on the following projects, each of which requires a $20,000 cash outlay now and returns the cash flows indicated?

a. $10,426.72 at the end of Years 1 and 2.

b. $3,196.40 at the end of Years 1 through 10.

c. $3,429.28 at the end of Years 1 through 13.

d. $3,939.00 at the end of Years 1 through 15.

e. $8,397.84 at the end of Years 3 through 7.

f. $3,618.80 at the end of Years 2 through 10.

g. $37,508.98 at the end of Year 5 only.

4. Net present value graph and indifference cost of capital. Specialized Consulting Service Company’s after-tax net cash flows associated with two mutually exclusive projects, Alpha and Beta, are as follows:



a. Calculate the net present value for each project using discount rates of 0, 0.04, 0.08, 0.12, 0.15, 0.20, and 0.25.

b. Prepare a graph as follows. Label the vertical axis “Net Present Value in Dollars” and the horizontal axis “Discount Rate in Percent per Year.” Plot the net present value amounts calculated in part a. for project Alpha and project Beta.

c. State the decision rule for choosing between projects Alpha and Beta as a function of the firm’s cost of capital.

d. What generalizations can you draw from this exercise?

5. Solving for cash payments. Alabama Corporation purchases raw materials on account from various suppliers. It normally pays for 70 percent of these in the month purchased, 20 percent in the first month after purchase, and the remaining 10 percent in the second month after purchase. Raw materials purchases during the last five months of the year are expected to be:

Aug $1,000,000

Sep 900,000

Oct 1,250,000

Nov 1,750,000

Dec 950,000

Compute the expected amount of cash payments to suppliers for the months of

October, November, and December.

6. Flexible budgeting-manufacturing costs. As a result of studying past cost behavior and adjusting for expected price increases in the future, Nicholson Company estimates that its manufacturing costs will be as follows:

Direct Materials $10 per unit

Direct Labor $6 per unit

Manufacturing Overhead:

Variable $3 per unit

Fixed $100,000 per Period

Nicholson uses these estimates for planning and control purposes.

a. Nicholson expects to produce 20,000 units during the next period. Prepare a schedule of the expected manufacturing costs.

b. Suppose that Nicholson produces only 16,000 units during the next period. Prepare a flexible budget of manufacturing costs for the 16,000-unit level of activity.

c. Suppose that Nicholson produces 25,000 units during the next period. Prepare a

flexible budget of manufacturing costs for the 25,000-unit level of activity.