



EASTERN UNIVERSITY, SRI LANKA

FACULTY OF COMMERCE AND MANAGEMENT

**THIRD YEAR - SECOND SEMESTER EXAMINATION IN BUSINESS ADMINISTRATION/
COMMERCE/ SPECIALIZATION IN HUMAN RESOURCE MANAGEMENT/ MARKETING
MANAGEMENT/ ACCOUNTING & FINANCE/ ENTERPRISE DEVELOPMENT 2008/ 2009**

(JUNE 2010)

(PROPER/ REPEAT)

DAF 3124 MANAGEMENT ACCOUNTING

Answer all questions

Time: 03 Hours

Calculator is permitted

01. i. Explain the Scope of "Management Accounting".

(2 Marks)

ii. The Rocket Ltd wants to buy a new item of equipment which will be used to provide a service to customers of the company. Two models of equipment are available, one with a slightly higher capacity and greater reliability than the other. The expected costs and profits of each item are as follows.

| | Equipment X | Equipment Y |
|-----------------------------|--------------------|--------------------|
| Capital cost | Rs.80, 000 | Rs.150, 000 |
| Life | 5 years | 5 years |
| Profits before depreciation | Rs. | Rs. |
| Year 1 | 50,000 | 50,000 |
| Year 2 | 50,000 | 50,000 |
| Year 3 | 30,000 | 60,000 |
| Year 4 | 20,000 | 60,000 |
| Year 5 | 10,000 | 60,000 |
| Disposal value | Nil | Nil |

ARR is measured as the average annual profit after depreciation, divided by the original capital cost of the asset. Which item of equipment should be selected if the company's target ARR is 15%.

(4 Marks)

iii. A toy manufacturing company is considering replacing an existing piece of equipment with one of two new more sophisticated machines. The old machine

was purchased three years ago at a cost of Rs.70,000. The machine originally had a projected life of 7 years and was to be depreciated straight line to zero salvage value. The two new pieces of equipment being considered are machine X and machine Y. Machine X would cost Rs.80,000 to purchase and Rs.20,000 to install. It has a 4 year life with no salvage value. It will be depreciated straight line. Machine Y would cost Rs.115,000 and Rs.25,000 to install. It has also 4 year life with no salvage value. Due to the expansion in operation, the management estimates the net working capital requirement of machine X at Rs.10,000 and machine Y at Rs.20,000. This old machine can be sold for Rs.25,000 on one year credit. The firm is taxed at 55% on normal gains and 30% on capital gains. Assuming the cost of capital to be 10%, which machine, if either, should the company acquire? The projected profits before depreciation and taxes currently and with each of the new machines are as follows.

| Year | With present machine | With machine X | With machine Y |
|------|----------------------|----------------|----------------|
| 1 | Rs.25,000 | Rs.50,000 | Rs.90,000 |
| 2 | Rs.25,000 | Rs.50,000 | Rs.90,000 |
| 3 | Rs.25,000 | Rs.50,000 | Rs.90,000 |
| 4 | Rs.25,000 | Rs.50,000 | Rs.90,000 |

What would be your answer, if the company has under consideration only the proposal to purchase machine X?

(14 Marks)

(Total 20 Marks)

- 02 i. What is the importance of working capital for a manufacturing firm? What shall be the repercussions if a firm has (a) paucity of working capital, (b) excess working capital?
- (05 Marks)
- ii. Explain the merit of a matching financial plan relating to a financing plan that extensively uses (a) long- term financing or (b) short term financing.
- (05 Marks)
- iii. The management of Regal has called for a statement showing the working capital needs to finance a level of activity of 180,000 units of output for the year. The cost structure for the company's product for the above mentioned activity level is detailed below.

| | Cost per unit Rs. |
|--|-------------------|
| Raw materials | 20 |
| Direct Labour | 5 |
| Overheads (including depreciation of Rs. 5 per unit) | <u>15</u> |
| | 40 |
| Profit | <u>10</u> |
| Selling price | <u>50</u> |

Additional information:

- a. Minimum desired cash balance is Rs. 20,000.
- b. Raw materials are held in stock, on average, for 2 months.
- c. Work-in-progress (assume 50% completion stage) will approximate to half month's production
- d. Finished goods remain in warehouse, on an average, for a month.
- e. Suppliers of materials extend a month's credit and debtors are provided two month's credit; cash sales are 25% of total sales.
- f. There is a time lag in payment of wages of a month and half-a-month in case of overheads.

You are required to prepare a statement showing working capital needs.

(10 Marks)

(Total 20 Marks)

03. i. The following particulars were obtained from the books of a firm for two periods.

| Particulars | Period I | Period II |
|------------------------|----------|-----------|
| Units sold | 3,500 | 4,500 |
| Selling price per unit | Rs.50 | Rs.50 |
| Profit/ Loss | Rs.5,000 | Rs.5,000 |
| | Loss | Profit |

You are required to calculate:

- a. P/V ratio
- b. The amount of fixed expenses
- c. Break even point
- d. Profit when the sales were Rs.500,000
- e. Margin of safety for the period II

(10 Marks)

- ii. Z Ltd. manufactures two products using one type of material and one grade of labour. Shown below is an extract from the company's working papers for the next period's budget.

| Details | Product A | Product B |
|---|-----------|-----------|
| Budgeted sales (units) | 3,600 | 4,800 |
| Budgeted material consumption, per product (Kg) | 5 | 3 |
| Budgeted material cost Rs.12 per Kg | | |
| Standard hours allowed per product | 5 | 4 |
| Budgeted wage rate Rs.8 per hour | | |

Additional information

- There are twelve 5 days weeks (60 days) in the budgeted period and it is anticipated that sales and production will occur evenly throughout the whole period.
- It is anticipated that stock at the beginning of the period will be: Product A 1,020 units; Product B 2,400 units; Raw material 4,300 Kgs.
- The target closing stock, expressed in terms of anticipated activity during the budget period are: Product A 15 days sales; Product B 20 days sales; Raw material 10 days consumption.
- The target productive ratio (or efficiency ratio) for the productive hours worked by the direct workers in actually manufacturing the products is 80%; in addition the non productive down time is budgeted at 20% of the productive hours worked.
- Over time premium is 50% and is payable, if a worker works for more than 40 hours a week. There are 90 direct workers.

Required:

Calculate the material purchases budget and the wages budget for the direct workers, showing the quantities and values, for the next period.

(10 Marks)

(Total 20 Marks)

04. i. A factory manufactures two products X and Y on which the profits earned per unit are Rs.5 and Rs.6 respectively. Each product is processed on two machines – M_1 and M_2 . Product X requires one minute of processing time on M_1 and two minutes on M_2 while Y requires one minute on M_1 and one minute on M_2 . Machine M_1 is available for hours not more than 7 hours and 40 minutes while Machine M_2 is available for not more than 10 hours during any working day. Find the number of units of product X and Y to be manufactured to get maximum profit.

You are required to solve the above Linear Programming problem using graphical method.

(10 Marks)

- ii. Solve the following problem using simplex method.

Minimize $Z = 3x_1 + 4x_2$

Subject to constraints $2x_1 + 3x_2 \geq 90$

$4x_1 + 3x_2 \geq 120$

where $x_1, x_2 \geq 0$

(10 Marks)

(Total 20 Marks)

05. i. Briefly explain pessimistic, most probable and optimistic time.

(2 Marks)

- ii. The table below gives activities with time and cost estimates of a construction project.

| Activity | Preceding Activity | Time (days) | | Cost (Rs.) | |
|----------|--------------------|-------------|-------|------------|-------|
| | | Normal | Crash | Normal | Crash |
| A | - | 20 | 17 | 6,000 | 7,200 |
| B | - | 25 | 25 | 2,000 | 2,000 |
| C | A | 10 | 8 | 3,000 | 4,400 |
| D | A | 12 | 6 | 4,000 | 7,000 |
| E | B, C | 5 | 2 | 3,000 | 4,200 |
| F | D, E | 10 | 5 | 3,000 | 6,000 |

You are required to:

- a. Draw up project network for the above data.

(5 Marks)

- b. Find the total float and free float for each non-critical activity.

(5 Marks)

- c. Consider the crashing the activity duration times step by step until the shortest duration is reached.

(7 Marks)

(Total 20 Marks)