EASTERN UNIVERSITY, SRI LANKA

FACULTY OF COMMERCE AND MANAGEMENT

THIRD YEAR - SECOND SEMESTER EXAMINATION IN COMMERCE (SPECIALIZATION IN ACCOUNTING AND FINANCE) 2012/ 2013 (JULY/ AUGUST 2015)

(PROPER/ REPEAT)

DAF 3034 ADVANCED MANAGEMENT ACCOUNTING

Answer all questions **Time: 03 Hours**

Calculator is permitted

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01. i. What is the basic premise of the heading approach for meeting funds requirements? What is the effect of this approach on the profitability and risk?

(05 Marks)

ii. A newly formed company has applied for a loan to a commercial bank for financing its working capital for the company. Add 10 per cent to your estimated figure to cover unforeseen contingencies. The information about the projected Income Statement of the company is as follows.

Details	Rs.	Rs.
Sales		2,100,000
Cost of goods sold		1,530,000
Gross profit		570,000
Administrative expenses	140,000	
Selling expenses	130,000	270,000
Profit before tax		300,000
Provision for tax		100,000

Note: Cost of goods sold has been derived as follows:

Details	Rs.
Material used	840,000
Wages and Manufacturing expenses	625,000
Depreciation	235,000
	1,700,000
Less: Stock of finished goods (10 per cent not yet sold)	170,000
	1,530,000

The figures given above relate only to the goods that have been finished and not to working progress; goods equal to 15 per cent of the year's production (in terms of physical units) are in progress on an average, requiring full materials but only 40 per cent of other expenses. The company believes in keeping two month consumption of material in stock. Desired cash balance is Rs.40,000.

Average time lag in payment of all expenses is 1 month; suppliers of materials extend 1.5 months credit; sales are 20 per cent cash; rest are at two months credit; 70 per cent of the income tax has to be paid in advance in quarterly instalments.

You can make such other assumptions as you deem necessary for estimating working capital requirements.

Required:
Estimate the Net Working Capital of the company.

(15 Marks)

(Total 20 Marks)

02 i. A company is considering an investment proposal to install new milling controls at a cost of Rs.50,000. The facility has a life expectancy of 5 years and no salvage value. The tax rate is 35 per cent. Assume the firm uses straight line depreciation and the same is allowed for tax purposes. The estimated cash flows before depreciation and tax (CFBT) from the investment proposal are as follows:

Year	CFBT (Rs.)
1	10,000
2	10,692
3	12,769
4	13,462
5	20,385

Compute the following:

a. Payback period

b. Average rate of return

c. Net present value at 10 per cent discount rate

d. Internal rate of return

e. Profitability index at 10 per cent discount rate

(10 Marks)

ii. XYZ Ltd. is considering replacing a hand operated weaving machine with new fully automated machine. Given the following information, advise the management whether the machine should be replaced or not, based on NPV.

Existing situation:

One full time operator's salary	Rs. 36,000
Variable overtime	Rs. 3,000
Fringe benefits	Rs. 3,000
Original price of hand operated machine	Rs. 60,000
Expected life (years)	10
No. of years used	5
Depreciation method	Written down value
Current salvage value of old machine	Rs. 36,000

Proposed situation:

Fully automated operation	No operator is necessary
Cost of machine	Rs. 180,000
Transportation costs	Rs. 3,000
Installation costs	Rs. 15,000
Expected economic life (years)	5
Depreciation method	Written down value
Annual maintenance	Rs. 3,000
Cost of defects	Rs. 3,000
Salvage value after 5 years	Rs. 20,000
Tax rate	35 per cent
Required rate of return	15 per cent

(10 Marks)

(Total 20 Marks)

03. i. Supply, demand and transportation cost (per unit) for a transportation problem are shown in the table below.

Supply origins (Factories)	Demand destinations (warehouses)			Origin availability (units)
	W1	W2	W3	
F1	90	80	100	1,000
F2	20	40	50	1,900
F3	40	90	60	1,600
Destination requirement (units)	700	2,000	1,800	4,500

Required:

Determine an initial basic feasible solution using North-West corner rule.

(06 Marks)

ii. PQR Ltd. produces floor polishers at plants in three locations. The products are sent to three retail outlets. The plant capacities and the demand at the retail outlets for the next month are as follows:

Plant	Production capacity
P_1	500
P_2	400
P_3	300

Retail outlet	Forecasted demand
R_1	450
R_2	150
R_3	300

The production cost at each plant is different, and the sales prices at the retail outlets vary. Taking production costs, sales prices and transportation costs into account, the profit for producing one unit at plant P_i, sending it to retail outlet R_j and selling it at R_j are shown in following Table.

		Retail outlet		
		R_1	R_2	R_3
Plant	P_1	20	80	100
	P_2	60	110	60
	P_3	120	70	90

Find the production and distribution plan that maximizes profit and find the maximum profit.

(14 Marks)

(Total 20 Marks)

04. i. A horticulturist wishes to mix fertilizer that will provide a minimum of 15 units of potash, 20 units of nitrates and 24 units of phosphates. Brand 1 provides 3 units of potash, 1 unit of nitrates and 3 units of phosphates; it costs Rs.120. Brand 2 provides 1 unit of potash, 5 unit of nitrates and 2 units of phosphates; it costs Rs.60.

Set up a linear programming model to help the horticulturist to express the least cost combination of fertilizers that will meet the desired specifications. Graph the constraints of the model. Determine the optimal strategy.

(08 Marks)

ii. Use Simplex Method to solve the following Linear Programming problem.

Maximization $z = 3x_1 + 5x_2 + 4x_3$

Subject to the constraints:

$$2x_1 + 3x_2 \leq 8$$

$$2x_2 + 5x_3 \leq 10$$

$$3x_1 + 2x_2 + 4x_3 = 15$$

$$x_1, x_2, x_3 \geq 0$$

(12 Marks)

(Total 20 Marks)

05. i. PQ sells fireworks for the five weeks preceding July 4. PQ had budgeted sales for the period of Rs. 75,000. Expected expenses were as follows:

	Rs.
Cost of fireworks	35,000
Labour cost	15,000
Other costs	8,000
Total costs	58,000

Actual sales were Rs.74,860, almost equal to the budget. PQ spent Rs. 39,500 for fireworks, Rs. 13,000 for labour and Rs. 8,020 for other costs.

Required:

a. Compute budgeted profit and actual profit
b. Prepare a performance report to help identify those costs that were significantly differ from the budget.

c. Suppose the PQ uses a management by exception rule. What costs deserve further explanation? Why?

(05 Marks)

ii. What is a balanced scorecard and why are more and more companies using one?

(05 Marks)

iii. The table below gives the activities with time and cost estimates of a project.

Activity	Preceding Activity	Duration (days)		Costs (Rs.)	
		Normal	Crash	Normal	Crash
A	-	4	3	2,600	3,200
B	-	8	5	3,000	5,100
C	A	5	3	1,700	2,700
D	A	9	7	2,200	3,000
E	B, C	5	3	2,000	3,600
F	D, E	3	3	3,000	3,000
G	F	2	1	1,000	1,200

a. Draw the project Network for the above data.

b. Determine critical path of the project and cost slope of every critical activities.

c. What is the total cost of completing the project within 18 days?

(10 Marks)

(Total 20 Marks)