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SCHOOL OF ACCOUNTING AND BUSINESS
BSc. (APPLIED ACCOUNTING) GENERAL / SPECIAL DEGREE
PROGRAMME

END SEMESTER EXAMINATION – JULY 2016

AFM 31130 Strategic Management Accounting

Date : 31st July 2016
Time : 9.00 a.m. – 12.00 p.m.
Duration : Three (03) hours

Instructions to Candidates:

- This paper consists of three sections (A, B and C).
- Section A – Answer **ALL** questions in the separate sheet given
- Section B – Answer the question
- Section C – Answer **Any Four (04)** questions
- The total marks for the paper is 100.
- The marks for each question are shown in brackets.
- Use of scientific calculator is allowed.
- Answers should be written neatly and legibly.

Section A

Answer **ALL** questions

Question No. 01

1. Which of the following situations may largely benefit from an Activity-Based Costing system?
 - a. Where standard high-volume goods and services with significant profits are produced
 - b. Where indirect costs are insignificant in proportion to direct costs.
 - c. A company that loses relatively high priced bids.
 - d. Where goods and services are complex and may require many different processes or inputs

(02 Marks)

2. PT provides expert quality assurance services on a consultancy basis. The management of the company is uncertain whether to price the services it offers at the Deluxe, High, Standard or Low fee level. There is also uncertainty regarding the mix of staff that would be available to provide each of the services. As the staff are on different pay scales the mix of staff would affect the variable costs of each service.

The Table below details the annual contribution earned from each of the possible alternatives.

Staff-mix	Fee level			
	Deluxe	High	Standard	Low
X	Rs. 135,000	Rs. 140,000	Rs. 137,500	Rs. 120,000
Y	Rs. 150,000	Rs. 160,000	Rs. 165,000	Rs. 160,000
Z	Rs. 165,000	Rs. 180,000	Rs. 192,500	Rs. 200,000

If PT applies the minimax regret criterion, the fee level it will choose is:

- a. Deluxe
- b. High
- c. Standard
- d. Low

(02 Marks)

3. A decision maker who uses the Maximax criterion would be classified as:

- a. Risk averse
- b. Risk seeking
- c. Risk neutral
- d. Risk spreading

(02 Marks)

4. A flexible budget is a budget that is

- a. Set prior to the control period and not subsequently changed in response to changes in activity, costs or revenues
- b. Continuously updated by adding a further accounting period when the earliest accounting period has expired
- c. Changed in response to changes in the level of activity
- d. Changed in response to changes in costs

(02 Marks)

Information required for questions 5 and 6 is as follows

A company produces a product that requires two materials, Material A and Material B. Details of the material quantities and costs for the month of August are as follows:

	Material A		Material B	
	Budget	Actual	Budget	Actual
Quantity (kg)	24,000	23,000	36,000	38,000
Cost per kg	Rs2.40	Rs2.30	Rs1.30	Rs1.38

Budgeted and actual output of the product for August is 12,000 units.

5. The material mix variance:

- a. Rs. 1,540 Favourable
- b. Rs. 1,540 Adverse
- c. Rs. 1,288 Favourable
- d. Rs. 1,288 Adverse

(02 Marks)

6. The material yield variance for August is:

- a. Rs. 200 Adverse
- b. Rs. 1,740 Adverse
- c. Rs. 200 Favourable
- d. Rs. 1,740 Favourable

(02 Marks)

Information required for questions 7 and 8 are as follows:

A company is estimating its costs based on past information. The total costs incurred by the company at different levels of output are as follows:

Output	Output (units)	Total costs Rs
	160,000	2,420,000
	185,000	2,775,000
	190,000	2,840,000

The company uses the high-low method to separate total costs into their fixed and variable elements. Ignore inflation.

7. The estimated total costs for an output of 205,000 units:

- a. Rs. 2,870,000
- b. Rs. 3,050,000
- c. Rs. 3,064,211
- d. Rs. 3,080,857

(02 Marks)

8. The company has now realised that there is a stepped increase in fixed costs of Rs. 30,000 when output reaches 180,000 units.

The estimated total costs for an output of 175,000 units using the additional information:

- a. Rs. 2,645,000
- b. Rs. 2,275,000
- c. Rs. 2,615,000
- d. Rs. 2,630,000

(02 Marks)

9. Which one of the following describes best use of both financial and non-financial measures in assessing whether an entity has achieved its objectives?

- a. Performance measurement
- b. Balanced scorecard
- c. Target setting
- d. Benchmarking

(02 Marks)

10. Return on Investment (ROI) cannot be improved by

- a. Increasing sales
- b. Reducing expenses
- c. Reducing assets
- d. Increasing assets

(02 Marks)

(Total 20 Marks)

Section B

Answer the following questions

Question No. 02

- a. Navarre Ltd. is a divisionalised company. Decisions about bonuses and promotions for Divisional Managers are at the discretion of the company's Directors, but are significantly influenced by each division's return on investment (ROI). For the purposes of ROI calculations, fixed assets are measured at their net book value at the end of the financial year.

The following forecasts are available for the company's three divisions for the year ended December 31, 2017:

	Sales (Rs)	Net profit (Rs)	Capital as at 31st December (Rs)
Division A	600,000	125,000	1,100,000
Division B	500,000	80,000	900,000
Division C	200,000	37,000	210,000

After the above forecasts were prepared, one possible extra project was identified for each division. These projects would commence on 1st January 2017, and each Divisional Manager must decide by that date as to whether or not to accept his or her division's possible extra project. Details of these possible extra projects (which would continue for several years if accepted) are as follows:

- **Division A** could increase its market share. This would result in extra sales of Rs. 160,000 in 2017 and Rs. 200,000 in each subsequent year. The profit margin on sales would be 19%. The only additional investment required would be an increase of Rs. 225,000 in the division's working capital for the duration of the project.
- **Division B** could invest Rs. 200,000 in new technology which would improve the

productivity of the division's manufacturing facilities. This extra investment would be depreciated on a straight-line basis over an 8-year life, and an additional investment of Rs. 60,000 in the division's working capital would also be required for the duration of the project. The productivity improvement would result in increased sales of Rs. 130,000 in 2010 and Rs. 140,000 in each year thereafter. The profit margin on sales would be 30%, before taking account of depreciation.

- **Division C** could invest Rs. 40,000 in a new delivery vehicle, which would be depreciated at a rate of 30% per annum on a diminishing balance basis. Annual sales would increase by Rs. 64,000, and the profit margin on sales would be 25% before depreciation. An additional working capital investment of Rs. 10,000 would also be required.

Required:

i. For 2017, calculate each of the following:

- The ROI for each division, and for Navarre Ltd. as a whole, assuming that the extra projects are not accepted.
- The expected ROI for each of the three extra projects.

(06 Marks)

ii. Calculate the ROI of each extra project for 2018

(05 Marks)

iii. Explain whether each Divisional Manager is likely to accept his or her division's proposed extra project based on the best interests of the company's shareholders in each case, insofar as is possible from the information available.

(05 Marks)

- b. Ruwan and Sons Company (R & S) has two divisions, Y and Z. The following budgeted information is available.

Division Y manufactures motors and budgets to transfer 60,000 motors to Division Z and to sell 40,000 motors to external customers.

Division Z assembles food mixers and uses one motor for each food mixer produced.

The standard cost information per motor for Division Y is as follows:

	Rs.
Direct materials	70
Direct labour	20
Variable production overhead	10
Fixed production overhead	40
Fixed selling and administration overhead	10
Total standard cost	150

In order to set the external selling price the company uses a 33.33% mark up on total standard cost.

- Calculate the budgeted profit/(loss) for Division Y if the transfer price is set at marginal cost.
- Calculate the budgeted profit/(loss) for Division Y if the transfer price is set at the total production cost.

(4 Marks)

(Total 20 Marks)

Section C

Answer any **FOUR (04)** questions

Question No. 03

The Gama Co produces three products, A, B and C, all made from the same material. Until now, it has used traditional absorption costing to allocate overheads to its products. The company is now considering an Activity Based Costing system in the hope that it will improve profitability. Information for the three products for the last year is as follows:

	A	B	C
Production and sales volumes (units)	15,000	12,000	18,000
Selling price per unit	Rs 7.50	Rs 12	Rs 13
Raw material usage (kg)per unit	2	3	4
Direct labour hours per unit	0.1	0.15	0.2
Machine hours per unit	0.5	0.7	0.9
Number of production runs per annum	16	12	8
Number of purchase orders per annum	24	28	42
Number of deliveries to retailers per annum	48	30	62

The price for raw materials remained constant throughout the year at Rs. 1.20 per kg. Similarly, the direct labour cost for the whole workforce was Rs. 14.80 per hour. The annual overhead costs were as follows:

	Rs.
Machine set up costs	26,550
Machine running costs	66,400
Procurement costs	48,000
Delivery costs	54,320

Required:

- i. Calculate the full cost per unit for products A, B and C under the traditional absorption costing, using direct labour hours as the basis for apportionment.
(05 Marks)
 - ii. Calculate the full cost per unit of each product using Activity Based Costing method.
(09 Marks)
 - iii. Using your calculation from (i) and (ii) above, explain how Activity Based Costing may help The Gama Co improve the profitability of each product.
(06 Marks)
- (Total 20 Marks)**

Question No. 04

GH manufactures a product using skilled labour and high quality material. The company operates a standard costing system and a just-in-time (JIT) purchasing and production system. The standard selling price and variable costs for one unit of the product are as follows:

	Rs.
Selling price	136
Materials (2 kg @ Rs10 per kg)	20
Labour (3 hours @ Rs24 per hour)	72

The budgeted sales for the month of June were 38,000 units.

Actual results for June were as follows:

Production and sales	36,000 units
Selling price	Rs. 134 per unit
Materials	76,000 kg costing Rs. 754,000
Labour	114,000 hours paid costing Rs. 2,656,000

Required:

Prepare a statement that reconciles the budgeted contribution with the actual contribution for October. Your statement should show the variances in as much detail as possible.

(10 Marks)

At a recent Board meeting of GH the Management Accountant presented a statement showing the variances for the previous quarter in total as follows:

Variance	Rs.	Rs.
Material price variance		15,300 F
Material usage variance	22,500 A	
Labour rate variance		130,800 F
Labour efficiency variance	146,400 A	
Sales volume contribution variance	182,600 A	
Sales price variance	134,000 A	

The Production Director explained to the Board that, in an attempt to reduce costs, he made a decision at the start of the three month period to adjust the labour mix by replacing some of the skilled labour with semi-skilled labour and to reduce the quality of the materials used. The standard costs were not adjusted to reflect these changes.

The Sales Director stated that the sales team were being forced to reduce the selling price due to concerns expressed by customers about the quality of the product. There had also been a large increase in customer complaints and return of faulty products.

Required:

- Discuss the performance of the Production Director using the information given in the variance statement above.

(05 Marks)

The Management Accountant has provided more detailed information regarding the labour mix.
The labour cost shown in the original standard cost was made up as follows:

Skilled labour	1.8 hours @ Rs30 per hour	Rs54
Semi-skilled labour	1.2 hours @ Rs15 per hour	Rs18
	<u>3.0 hours</u>	<u>Rs72</u>

The actual mix of labour used in the month of June was as follows:

Skilled labour	64,000 hours costing Rs. 1,750,000
Semi-skilled labour	50,000 hours costing Rs. 906,000

The Management Accountant has decided to undertake a further variance analysis using more detailed information.

Required:

- ii. Calculate the following variances for Ju, taking account of the more detailed information regarding the labour mix:
 - A. The total labour efficiency variance
 - B. The total labour mix variance using cost method
 - C. The total labour yield variance using weighted average cost method

(05 Marks)

(Total 20 Marks)

Question No. 05

- a. M Ltd has established a new company called Q Ltd. This was established to manufacture and sell an electronic tracking device: the Trackit. The owners are excited about the future profits that the business will generate. They have forecast that sales will grow to 2,600 Trackits per month within five months and will be at that level for the remainder of the first year.

The owners will invest a total of Rs. 250,000 in cash on the first day of operations (that is the first day of Month 1).

They will also transfer non-current assets into the company. Extracts from the company's business plan are shown below.

Forecast sales for the first five months are:

Month	Trackits (units)
1	1,000
2	1,500
3	2,000
4	2,400
5	2,600

The selling price has been set at Rs. 140 per Trackit.

Sales receipts

Sales will be mainly through large retail outlets. The pattern for the receipt of payment is expected to be as follows:

Time of payment	% of sales value
Immediately	15 *
One month later	25
Two months later	40
Three months later	15

The balance represents anticipated bad debts.

* A 4% discount will be given for immediate payment.

Production

The budget production volumes in units are:

Month 1	Month 2	Month 3	Month 4
1,450	1,650	2,120	2,460

Variable production cost

The budgeted variable production cost is Rs. 90 per unit, comprising:

	Rs
Direct materials	60
Direct wages	10
Variable production overheads	20
Total variable cost	<u>90</u>

Direct material: Payment for purchases will be made in the month following receipt. There will be no opening inventory of material in Month 1. It will be company policy to hold inventory of material at the end of each month equal to 20% of the following month's production requirements. The direct material cost includes the cost of an essential component that will be bought in from a specialist manufacturer.

Direct wages will be paid in the month in which the production occurs.

Variable production overheads: 65% will be paid in the month in which production occurs and the remainder will be paid one month later.

Fixed overhead costs: Fixed overheads are estimated at Rs. 840,000 per annum and are expected to be incurred in equal amounts each month. 60% of the fixed overhead costs will be paid in the month in which they are incurred and 15% in the following month. The balance represents depreciation of non-current assets.

Required

Prepare a cash budget for each of the first three months and for that three-month period in total.

(15 Marks)

- b. The manager of Q company are in the process of preparing the budget for the next financial year using incremental budgeting. The company directors are concerned about the budgeting approach being used. They have requested that the budget should be produced using zero based budgeting.

Required:

Explain the potential benefits for the Q company from using zero based budgeting than incremental budgeting

(05 Marks)

(Total 20 Marks)

Question No. 06

- a. Lucky Foods is a food supplying Company and it has the following income statement for a month.

	Rs
Sales: 3,000 units at Rs. 80/unit	240,000
Less: Cost of goods sold	
Variable production cost	180,000
Fixed production cost	19,800
Gross margin	40,200
Selling and administration expenses	
Variable selling cost	21,000
Fixed selling cost	7,500
Net income before taxes	11,700

Required:

- i. Compute the firm's break-even output.
- ii. If it wishes to have a monthly net income before taxes of Rs. 18,000 and its cost structure remains as above, what quantity of output will it need to sell?
- iii. If its variable production costs increase by Rs. 4 per unit, what will be its new break-even output?
- iv. After the increase in costs in (iii), what output will it need to sell if it wishes to have a Rs18,000 monthly profit stated earlier?
- v. Given the above in (iii) variable production cost increase but no change in fixed costs, what will be the firm's monthly profit if it sells 4,000 units of output per month?

(10 Marks)

- b. Lucky Foods produces two products P1 and P2. The selling price and cost data are given below.

	Burger	Pastry
Selling price per unit	80	85
Direct material (2 kg per unit)	40	42
Direct labour (2.5 hrs/ unit)	10	8
Direct expenses	5	5

Further information

	Burger	Pastry
Demand (units)	12,000	15,000
Fixed cost	Rs150,000	Rs110,000

Required:

- i. Compute out the profit or loss if only 40,000 kgs of raw material is available
- ii. Compute out the profit or loss for the company as a whole if available direct labour hours are only 56,200 hours

(10 Marks)

(Total 20 Marks)

Question No. 07

- a. XY has developed two new products, Product X and Product Y, but has insufficient resources to launch both products. The success of the products will depend on the extent of competitor reaction. There is a 20% chance that competitors will take no action, a 50% chance that they will launch a similar product and a 30% chance that they will launch a better product.

The profit/loss that will be earned by each of the products depending on the extent of competitor reaction is as follows:

Competitor reaction	Product X	Product Y
No action	Rs.540,000	Rs.620,000
Launch a similar product	Rs.320,000	Rs.380,000
Launch a better product	(Rs.150,000)	(Rs.200,000)

Another option for XY would be to launch neither product. If it chooses this course of action there is a 60% chance that competitors will take no action and there will be no effect on the company's profit. There is a 40% chance that competitors will launch a new product and company profits will reduce by Rs100,000.

Required:

Using a decision tree and based on the expected value method, advice on the best course of action for the company.

(10 Marks)

- b. A company produces grit for use on public roads during rainy conditions. The grit has to be produced in advance of the rainy season. The level of demand depends on weather conditions. Any excess production has to be disposed of as it will deteriorate before the following rainy season. The company has received the following weather predictions and associated demand for next rainy season.

Weather conditions	Demand
Severe	72,000 ton

Normal	54,000 ton
Mild	38,000 ton

The company needs to determine the quantity of grit to produce for the next rainy season. It can only produce 40,000, 60,000 or 80,000 ton and cannot change the quantity once production has begun.

One tonne of grit has a selling price of Rs. 150 and costs Rs. 70 to produce. Any unsold grit will need to be disposed of at a cost of Rs. 20 per ton.

Required:

- i. Prepare a payoff table showing the profits for production quantities of 40,000 tonnes, 60,000 tonnes and 80,000 tonnes.

(7 Marks)

It has now been estimated that the probabilities of the weather conditions are 30%, 50% and 20% for severe, normal and mild weather respectively.

- ii. Compute the profit that would be earned if the decision on the production quantity was based on the expected value of demand.

(3 Marks)

(Total 20 Marks)