EASTERN UNIVERSITY, SRI LANKA
FACULTY OF COMMERCE AND MANAGEMENT
THIRD YEAR-SECOND SEMESTER EXAMINATION IN BBA-2009/10
(JANUARY, 2012)

ECN 3023: Managerial Economics

Answer all questions **Time: Three hours**

Q1.

(i) Why managers pay attention to know elasticity of demand for their products?
(03 Marks)

(ii) With appropriate examples, brief the determinants of elasticity of demand of the product.
(04 Marks)

(iii) BAD Enterprises is considering increasing the price of its harmonicas, currently $20, by 25 per cent. BAD's current revenue is $12,000 per month, and the price elasticity of demand for its harmonicas is estimated to be -1.8.

a. Calculate the effect of the price change on BAD's revenue.
(04 Marks)

b. BAD now considers increasing its advertising expenditure by 50% in order to increase its sales volume. BAD is currently spending $1,500 per month on advertising and estimates its advertisement elasticity of demand to be 1.67. What will its new revenue has to be?
(06 Marks)

c. What is your advice to the Enterprise regarding its move to increase its revenue in both (a) and (b) compared with the original level of profit?
(03 Marks)
(Total = 20 Marks)

Q2.

(i) Brief advantages of using multiple regressions compared with simple regression in managerial decision making
(03 Marks)

(ii) State the nature of using lag variables in regression analyses.
(02 Marks)

(iii) NOKIA Company has recently carried out a survey of the demand for their mobile phones, and the following results were obtained by the statistician.

Results 1

```
. regress  sales price advertisement
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Source	SS	df	MS
Model	550.750777	2	275.375389
Residual	96.1825561	12	8.01521301
Total	646.933333	14	46.2095238

Number of obs	= 15
F(2, 12)	= 34.36
Prob > F	= 0.0000
R-squared	= 0.8513
Adj R-squared	= 0.8265
Root MSE	= 2.8311

sales	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
price	-1.221503	.1611087	-7.58	0.000	-1.572528	-.870477
advertisem~t	.4954404	.0931648	5.32	0.000	.2924517	.6984292
_cons	75.40121	10.1399	7.44	0.000	53.30826	97.49416

Results 2 (log form)

```
. regress  lnsales lnprice lnadvertisement
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Source	SS	df	MS
Model	.12072215	2	.060361075
Residual	.020922171	12	.001743514
Total	.141644321	14	.010117452

Number of obs	= 15
F(2, 12)	= 34.62
Prob > F	= 0.0000
R-squared	= 0.8523
Adj R-squared	= 0.8277
Root MSE	= .04176

lnsales	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnprice	-.8416689	.1099561	-7.65	0.000	-1.081243	-.6020951
lnadvertis~t	.7461459	.1379066	5.41	0.000	.4456732	1.046619
_cons	4.00962	.6469378	6.20	0.000	2.600063	5.419176

(a) Fix demand functions for results 1 and 2, respectively. (04 Marks)

(b) Considering two set of results above, you are asked to advise the management under the following aspects

(a) Impact of price and advertisement on sales revenue (04 Marks)

(b) Significance of the price and advertisement factors (04 Marks)

(c) Comments to improve the models (03 Marks)

(Total = 20 Marks)

Q3.(i) Suppose that you are given the following production function

$Q = 100K^{0.6}L^{0.4}$

Where Q is output, L is Labour and K is capital

(a) Determine the marginal product of capital and labour when K= 25 and L = 100

(04 Marks)

(b) What would your suggestion be to the management on the status of production process? Why?

(03 Marks)

(ii) Suppose a firm uses inputs of labour L and capital K to produce its output, Q, according to the production function $Q = f(K, L) = 10\,L^{0.25}\,K^{0.25}$, labour is paid an hourly wage rate of w = 25 and the rental price of capital is r = 6.25. The firm sells its output at a price of P = 10 / = per unit.

(a) Calculate the optimum level of input and profit level.

(07 Marks)

(b) Find the new profit level of the firm if the price of output and capital increases by 50 % and 100 %, respectively.

(06 Marks)

(Total = 20 Marks)

Q4.

(i) State the Economies of Scale in terms of technical, commercial, financial, managerial and risk bearing point of view.

(08 Marks)

(ii) What is learning curve? How does a learning curve help the management to make decision with regards to its input factor?

(04 Marks)

(iii) A regression results using Cumulative Production (CP) and hours required to produce most recent units (hr) of the RAM Company, and the standard learning curve in percentage are given below. Explain RAM Company's learning curve situation considering information given below.

(08 Marks)

(Total = 20 Marks)

```
. regress lnhr  lncp
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Source	SS	df	MS
Model	.77353377	1	.77353377
Residual	.000071176	1	.000071176
Total	.773604947	2	.386802473

```
Number of obs =       3
F(  1,     1) =10867.85
Prob > F      =  0.0061
R-squared     =  0.9999
Adj R-squared =  0.9998
Root MSE      =  .00844
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lnhr	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lncp	-.2370515	.0022739	-104.25	0.006	-.2659441	-.2081589
_cons	8.298312	.0072804	1139.81	0.001	8.205806	8.390819

b	0.000	-0.074	-0.152	-0.234	-0.322	-0.415	-0.515	-0.621	-0.737	-0.862	-1.000	-1.322	-1.737	-2.322	-3.322
p	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	40%	30%	20%	10%

Q5.

(i) What is market? Does Perfect Competitive Market Exist in Real World?

(03 Marks

(ii) Why does a currency market come close to perfect competition? Explain

(04 Marks

(iii) Using hypothetical examples, explain how far firms' concentration ratio is helpful to differentiate Oligopoly from Monopolistic competitive market structure.

(07 Marks

(iv) Consider the following table and explain the dominant strategy of firm A with respect to firm B

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

(06 Marks

(Total = 20 Marks