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CHRISTIAN SERVICE UNIVERSITY COLLEGE

KUMASI

CSUC SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING & FINANCE

BACHELOR OF BUSINESS ADMINISTRATION

End of Second Semester Examination, 2019/2020 Academic Year

Level 300

CSBF 324: MANAGERIAL ECONOMICS

JUNE, 2020   [100 marks]

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INSTRUCTIONS TO CANDIDATES:

- **Answer TWO Questions only. Question ONE and any other question**
- **Write your answer on the answer sheets provided**
- **Your answer for EACH QUESTION should be FOUR (4) pages minimum.**
- **Write your index number clearly at the top of every page of the answer sheets used.**

Note: Marks will be awarded for:

- Introduction
- Content
- Conclusion
- Evidence of Further Reading
- Originality and Independence (Cheating would be penalized and integrity rewarded)
- Correct grammar, clarity of expression and logical presentation of facts.
- Answers to questions must be well referenced.

Examiner: Osei-Anim Reindolph

QUESTION 1 (70MARKS)

A. Orchestra Inc. produces a set of products which costs GH¢500. The turnover of the company averages around GH¢6000 units every month for the past year. In the month of June, Snoozy Inc. who is a key competitor of the company has drastically reduce its prices for the same product from GH¢600 to GH¢450. Consequently Orchestra has experienced a sharp decline in its revenue to 4,500 units a month following the reduction in the prices of Snoozy Inc.

i. Deduce the Arc Cross elasticity of demand between Orchestra and Snoozy Inc**. 3MARKS**

ii. Deduce an economic model to ascertain whether the two companies are in a close competition or otherwise. **3MARKS**

iii. If it is estimated that the arc price elasticity of demand for Orchestra's product is -3.0, at what price would Orchestra charge to sell the same number of units it did before the decline in price of Snoozy **. 3MARKS**

B. i. The marginal revenue of a unit elastic demand is equal to zero. With the aid mathematical equations prove the validity or otherwise of this statement. Based on your conclusion above consider Yamoah Incorporation; a company that produces watches whose estimated demand function is given as follows

$$Qd = 150 - 10P$$

Note

P is the price in GH¢

Qd is the quantity demanded in unit per period of time. Justify the validity of the conclusion you arrived at from the statement in I above using the demand function.

C. Abronye Company has estimated a regression model for its products for the past 3.3 quarters.

$$M = -1.04 + 0.24N_1 - 0.27 N_2$$

Where M is the quarterly sales of the product

N_1 is the quarterly advertisement in thousands for the product N_2 is the advertisement of a competitor for a similar product. Abronye Company has provided additional information in respect of the regression model.

$Sb_1 = 0.032$ $Sb_2 = 0.070$ $R^2 = 0.64$

$S_e = 1.63$ F – Statistic = 31.402

d Statistic of Durbin Watson = 0.4995

i.   Deduce the independent variables, if any that is statistically significant at 0.05 significance level in explaining the revenue from Abronye products   **3MARKS**

ii. In respect of the regression deduce the proportion of the total variation in Abronye's revenue   **3MARKS**

iii. Explain the explanatory power of the regression model using the F – test at 0.05 level of significance.   **3MARKS**

iv. Intuitively explain any other additional statistical information if any that would be useful in evaluating Abronye's model.   **3MARKS**

D. Brisky Ventures an estate agency conducted a survey for a housing demand. The company intends to estimate a regression model to deduce the intrinsic market value of the property within that locality. Brisky has observed that the most expedient and reliable variable that affects the market value of the house is the size. The company has randomly chosen 15 houses for the study and then has estimated both size and the market value as shown in the table below.

Observation	market value (x GH¢1000) Y	Size (X)
1	265.2	12.00
2	279.6	20.2
3	311.2	27.0
4	328.0	30.0
5	352.0	30.6
6	281.2	21.4
8	288.4	21.6
9	292.8	25.2
10	356.0	37.2
11	263.2	14.4
12	272.4	15.0
13	291.2	22.4
14	307.6	23.9
15	320.4	30.7

i.   Plot the data   **5MARKS**

ii. Estimate the regression line and give the economic interpretation of the estimated slope **(b)** coefficient   **10MARKS**

iii. Justify statistically the significance of *Size* as a variable in estimating the market value. **3MARKS**

iv. Estimate the coefficient of determination. **3MARKS**

v. Using a house with the following dimensions of an area (size) of 15 (hundred) square feet construct an approximate 95 percent prediction for such a scenario **2MARKS**

E. One cardinal dimension managers in various organizations have to face is the movement of exchanging rate. Provide an intuitive explanation for the following scenarios as observed in Ghana.

i. If the Ghana cedi depreciates by 30 percent, what will be the likely implication for exports and domestic sales of Snoozy Inc. who is Ghanaian manufacturer? **2MARKS**

ii. If the Ghana cedi is to substantially appreciate in value, what steps would Snoozy Incorporated put in place to reduce the effect of the fluctuations of the exchange rate on the Company's profitability? **2MARKS**

iii. Intuitively explain the main difference between transaction demand, speculative demand and autonomous transactions as applied to the foreign exchange market. Explain which of the factors amongst them determine(s) the long-term quarterly trends in exchange rate movement. **3MARKS**

F. From your knowledge of the relationships among the various cost functions, complete the following the following table. **10MARKS**

Q	TC	FC	VC	ATC	AFC	AVC	MC
0	125	____	____	____	____	____	____
10	____	____	____	____	____	____	5
20	____	____	____	10.50	____	____	____
30	____	____	110	____	____	____	____
40	255	____	____	____	____	____	____
50	____	____	____	____	____	____	____
60	____	____	____	____	____	____	____
70	____	____	____	____	____	____	____
80	____	____	____	____	____	____	____

G. Lakamuun Company specializes in the production of chromocoat papers. The company recently purchased a GH¢200,000 manufacturing plant. The manufacturers of the plant have provided the following information.

i. Potential production capacity of 1000 units of chromocoat papers a month. However the capacity of the plant can increase by 10% if Junky employs subcontractors

ii. The normal production capacity of the manufacturing plant is roughly about 80%. Above this production capacity; the company will see a significant increment in variable costs per unit because of the need to pay overtime wages for the skilled labourers.

iii. For output levels up to 80 percent of capacity, variable cost per unit is $100.

iv. Above 80 and up to 90 percent, variable costs on this additional output increase by 10 percent.

v. When output is above 90 and up to 100 percent of capacity, the additional units cost an additional 25 percent over the unit variable costs for outputs up to 80 percent of capacity.

vi. For production above 100 percent and to 110 percent of capacity, extensive subcontracting work is used and the unit variable costs of these additional units are 50 percent above those at output levels up to 80 percent of capacity.

vii. At 80 percent of capacity, the plant's fixed costs per unit are $50. Total fixed costs are not expected to change within the production range under consideration

Based on the preceding information, complete the following table:

Q	TC	FC	VC	ATC	AFC	AVC	MC
500							
600							
700							
800							
900							
1000							
1100							

10MARKS

2. A firm has many objectives. With the aid of relevant scenarios and examples discuss how these objectives differ from the traditional objective of profit maximization **30MARKS**

3. With the aid of illustrations discuss the relationship between a firm's total revenue curve and demand curve.   **30MARKS**

4. With the aid of illustrations where necessary distinguish between equilibrium of profit maximizing output of a perfectly firm in both short and long run.   **30MARKS**