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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, 2021/2022 Academic Year

Level 300

CSBF 324: MANAGERIAL ECONOMICS

JUNE, 2022 **Total marks [60marks] Duration : 1hour**

INSTRUCTIONS TO CANDIDATES:

- ***Answer all questions in this section by circling the correct answer***

Examiner: Osei-Anim Reindolph

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SECTION A

Objectives

1. Which of the following will cause a change in quantity supplied?
   A. Technological change
   B. A change in input prices
   C. A change in the market price of the good
   D. A change in the number of firms in the market
2. Market equilibrium exists when _____ at the prevailing price.
   A. quantity demanded is less than quantity supplied
   B. quantity supplied is greater than quantity demanded
   C. quantity demanded equals quantity supplied
   D. quantity demanded is greater than quantity supplied
3. A positive cross elasticity of demand coefficient indicates that
   A. a product is an inferior good
   B. a product is a normal good
   C. two products are complementary goods
   D. two products are substitute goods
4. The demand curve will shift to the left for most consumer goods when
   A. incomes decrease
   B. the prices of substitutes increase
   C. the prices of complements fall
   D. the prices of the goods increases
5. When the decrease in the price of one good causes the demand for another good to decrease, the goods are
   A. normal
   B. inferior
   C. complements
   D. substitutes
6. The negatively sloping section of the long run average cost curve illustrates
   A. increasing returns to scale
   B. constant returns to scale
   C. decreasing returns to scale
   D. diseconomies of scale
7. The break-even point is where
   A. total variable cost equals total fixed cost
   B. total fixed cost equals total cost
   C. total variable cost equals total revenue
   D. total cost equals total revenue
8. Which of the following ***cannot*** be classified as a market structure?
   A. Oligopoly
   B. Perfect competition
   C. Communism
   D. Monopolistic competition
9. A profit maximizing perfectly competitive firm produces at an output level where

A. P = ATC
B. MR = MC
C. MR = ATC
D. P = MR

10. Which of the following is ***not*** a valid option for a perfectly competitive firm?
    A. Increasing its output
    B. Decreasing its output
    C. Increasing its price
    D. Increasing its resources
11. Marginal revenue for a monopolist is
    A. equal to price
    B. greater than price
    C. equal to average revenue
    D. less than price
12. The law of variable proportions states that as the quantity of one factor is increased, keeping the other factors fixed, the ..... of that factor will eventually decline.
    A. total product
    B. average product
    C. marginal product
    D. average cost
13. Which of the following statements best describes a production function?
    A. The maximum profit generated from given levels of inputs
    B. The maximum level of output generated from given levels of inputs
    C. All levels of output that can be generated from given levels of inputs
    D. All levels of inputs that could be produced from a given level of output
14. Suppose the demand for good A goes up when the price of good B goes down. We can say that goods A and B are:
    A. Substitutes.
    B. Complements.
    C. Unrelated goods.
    D. Perfect substitutes

14. Marginal revenue for a monopolist is
    A. equal to price
    B. greater than price
    C. equal to average revenue
    D. less than price
15. Direct methods of demand estimation are techniques that
    A. do not involve regression analysis
    B. estimates demand hypothetically
    C. is based on the intuition of the estimator
    D. is largely based on demand and supply analysis
16. Managerial economics is best defined as the economic study of
    A. how businesses can make the most profits
    B. how businesses can decide on the best use of scarce resources

C. how businesses can operate at the lowest costs
D. how businesses can sell the most products

17. To maximize the value of the firm, management must
A. maximize short-run profit
B. maximize short-run revenue
C. maximize long-run profit
D. minimize short-run average profit

18. Microeconomics is **NOT** concerned with the behavior of
A. consumers
B. industries
C. firms
D. aggregate demand

19. The law of demand establishes
A. an inverse relationship between price and quantity demanded
B. a direct relationship between price and quantity demanded
C. a positive relationship between price and quantity demanded
D. no relationship between price and quantity demanded

20. When the decrease in the price of one good causes the demand for another good to decrease, then the goods are
A. normal
B. inferior
C. substitutes
D. complements

21. The price of HP Laptop Computer decreases from ¢3,000 per unit to ¢1,800 per unit and as a result the quantity demanded has increased from 350 per week to 410 per week. This implies that the price elasticity of demand for HP Laptop Computer is
A. fairly elastic
B. fairly inelastic
C. unit elastic
D. perfectly elastic

22. The supply of a good refers to
A. actual production of the good
B. total existing stock of the good
C. stock available for the sale
D. amount of the good offered for sale at a particular price per unit of time

23. If the quantity supplied of a product is greater than the quantity demanded for the product
A. there is a shortage of the product
B. there is a surplus of the product
C. the product is a normal good
D. the product is an inferior good

24. When the government sets the price of a good and that price is below the equilibrium price, the result will be
A. a surplus of the good
B. a shortage of the good
C. an increase in the demand for the good
D. a decrease in the supply of the good

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25. The market demand curve for a perfectly competitive industry is $Qd = 12 - 2P$. The market supply curve is $Qs = 3 + P$. The market will be in equilibrium if
    A. P = 6 and Q = 9
    B. P = 5 and Q = 2
    C. P = 4 and Q = 4
    D. P = 3 and Q = 6
26. The income of a consumer decreases and the consumer's demand for a particular good increases. It can be concluded that the good is
    A. normal
    B. inferior
    C. a substitute
    D. a complement
27. A change in quantity demanded implies a
    A. movement along the same demand curve
    B. shift in demand curve to the left
    C. shift in demand curve to the right
    D. fall in price and quantity demanded
28. Economics of scale may arise due to the following except
    A. spreading out of promotional, research and development costs
    B. specialization of labour types
    C. divisible nature of many types of capital
    D. specialization of capital
29. In a perfectly competitive industry, a firm can:
    A. Make an economic profit in the short-run but not in the long-run
    B. Make an economic loss in the long-run but not in the short-run
    C. Make an accounting profit, but not an economic profit, in the long-run
    D. All of the above.
30. In a model of monopolistic competition in the long run equilibrium
    A. no firms remain in the market.
    B. new firms will want to enter the market.
    C. all firms must be operating at minimum average cost.
    D. there are no economic profits being made.
31. The cross price elasticity of demand is defined as the
    A. Percentage change in the quantity demanded divided by the percentage change in the good's price.
    B. Percentage change in the quantity demanded divided by the percentage change in a different good's price.
    C. Percentage change in the good's price divided by the percentage change in a different good's price
    D. Change in the quantity demanded of a good divided by the change in its price
32. Which of the following is NOT a major factor of production?
    A. Land.
    B. A bank loan.
    C. Labor
    D. Capital.
33. Managerial economics is best defined as the economic study of
    A. how businesses can make the most profits
    B. how businesses can decide on the best use of scarce resources

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C. how businesses can operate at the lowest costs
D. how businesses can sell the most products

34. To maximize the value of the firm, management must
A. maximize short-run profit
B. maximize short-run revenue
C. maximize long-run profit
D. minimize short-run average profit

35. The existence of profits determines the following except
A. the type of goods and services that are bought and sold
B. the quantity of goods and services that are produced and sold
C. the demand for the various factors of production
D. the demand for monetary resources

36. The following theories of profits can explain the observed profit rates in industries except
A. frictional theory of profit
B. risk-bearing theory of profit
C. managerial theory of profit
D. innovation theory of profit

37. The wealth or value of the firm is given by the following; where PV is present value, r, is the discount rate, t, is the time period, π, is the expected profit in each of the n years considered.

A. $PV=\sum_{t=1}^{n} \frac{\pi n}{(1+r)}t$

B. $PV=\sum_{t=1}^{n} \frac{\pi t}{(1+r)}t$

C. $PV=\sum_{t=1}^{n} \frac{\pi r}{(1+r)}t$

D. $PV=\sum_{t=1}^{n} \frac{\pi n}{(1+r)}r$

38. Deduce the marginal cost (MC) from the following total cost (TC) function

$TC= 250 + 352Q - 0.0065Q^2 + 0.15Q^3$

A. $352 - 0.013Q + 0.045Q^2$
B. $352 - 0.13Q + 0.045Q^2$
C. $352 - 0.0013Q + 0.0045Q^2$
D. $352 - 0.013Q + 0.45Q^2$

39. According to Michael Porter, one of the factors that determine incumbent profitability is the power of buyers. In his view

A. concentrated buyers can force price up which increase incumbent profitability
B. concentrated buyers can force price down which reduce incumbent profitability
C. fragmented buyers have more bargaining power
D. fragmented buyers can increase incumbent profitability

40. Diseconomies of scale is a situation where a firm's
A. long-run average cost decrease as output increases
B. long-run average cost increase as output decreases
C. long-run average cost decrease as output decreases
D. long-run average cost increase as output increases

41. Economics of scale may arise due to the following except
A. spreading out of promotional, research and development costs
B. specialization of labour types
C. divisible nature of many types of capital
D. specialization of capital

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42. A sunk cost is a
    A. cost that may be recovered later on in the production process
    B. cost that is forever lost after it has been paid
    C. semi-fixed cost that may increase by certain amounts as output increases
    D. cost that may not be recovered in the short –run

Given that the demand and supply functions for "titila" soap are

$$\mathbf{Qd = 106 - 12P}$$

$$\mathbf{Qs=10 + 4P}$$

Use the above functions to answer questions 43 and 44

43. Find the equilibrium price of "titila" soap
    A. GH¢14.50
    B. GH¢12
    C. GH¢6
    D. GH¢7.25
44. . If the government establishes a price floor of GH¢8 what quantity will be demanded
    A. 118
    B. 94
    C. 96
    D. 10

A project requires an amount of GH¢750,000 for its execution. The project is financed through bank loan at a rate of 12%. The cashflows from 2021 to 2025 are captured in the table below. Use it to answer questions 45 to 50

Year	Cashflow (GH¢)	Discount value	Present value
2021	160,000	0.893	142,857
2022	180,000	**Q45**	**Q46**
2023	200,000	0.712	142,400
2024	**Q47**	**Q48**	286,200
2025	350,000	0.569	198,750

45. A. 0.797
    B. 0.874
    C. 0.753
    D. 0.745

46. A. 144,518
    B. 143,518
    C. 164,342
    D. 152,963

47. A. 250,000
    B. 350,000
    C. 400,000
    D. 450,000

48. A. 0.712
    B. 0.636
    C. 0.742
    D. 0.893
49. What is the price of the project in Ghana cedis?
    A. GH¢ 750,000
    B. GH¢ 198,750
    C. GH¢ 913,646
    D. GH¢ 163,646
50. What is the net present value of this project?
    A. GH¢ 913, 646
    B. GH¢ 163, 646
    C. GH¢ 200,000
    D. GH¢ 198,750
51. Minimum output can be obtained at the level of output where
    A. MC = AVC
    B. MC = AC
    C. MC = MR
    D. MC = ATC
52. Basic assumptions of the law of demand includes
    A. Prices of other goods should change.
    B. There should be substitute for the commodity.
    C. The commodity should not confer any distinction.
    D. The demand for the commodity should not be continuous
53. The higher the price of certain luxurious goods, the higher will be the demand. This concept is called
    A. Giffen effects
    B. Veblen effects
    C. Demonstration effects
    D. Law of variable proportion
54. In economics, the desire backed by purchasing power is known as
    A. Utility
    B. Demand
    C. Consumption
    D. Scarcity
55. Goods produced on small scale have
    A. Relatively inelastic supply
    B. Highly elastic supply
    C. Perfectly elastic supply
    D. None of the above
56. The management of the _____ form of business organization is totalitarian in nature.
    A. Cooperative
    B. Partnership
    C. Individual proprietorship
    D. All of the above
57. Which of the following can also be described as the law of market
    A. Law of demand
    B. Law of supply
    C. Law of income
    D. Law of price

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CSBF 324: MANAGERIAL ECONOMICS

JUNE, 2022 **[100 marks]**

INSTRUCTIONS TO CANDIDATES:

- Answer TWO Questions only. **Question ONE and any other question**
- Write your answer on the answer sheets provided

Examiner: Osei-Anim Reindolph

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Question 1 (Compulsory)

(60marks)

A

Advertisement and sales are two important elements which are vital for the growth of an organization. Lakamuun incorporated is a company that specializes in the production of chromocoat papers. The weekly expenditure on adverts (x) and the weekly sales (y) are presented in the table below.

Weekly sales (GH¢)	*Weekly adverts (GH¢)*
5000	350
6000	413
3500	230
8000	631
4500	285
6000	321
7000	431
8500	461
8100	313
8100	303

Required

(a) Compute

i. Covariance **8marks**

ii. Coefficient of correlation **6marks**

iii. Interpret your findings **1marks**

(b) Estimate the least square line using least square method $\hat{y} = b_o + b_1 x$ **5marks**

(c) Using the regression line above estimate the following

(i) Weekly sales if an expenditure of GH¢2150 is spent on adverts. **2marks**

(ii) How much should be spent on adverts if GH¢64500 was generated as sales. **2marks**

(d) Base on the above estimations in C above, what recommendations would you make to Lakamuun Inc. **1mark**

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B

The president of a fast growing firm has authorized the building of a small plant to manufacture a new product. The production engineer has estimated that the total cost function for this product is:

$$TC_1 = 100{,}000 + 1{,}500Q + 3Q^2$$

where TC is measured in Ghana cedis and Q is measured in units of output per year. Before the decision to build this plant was made, the general manager suggested that an alternative plant design having the following total cost equation

$$TC_2 = 140{,}000 + 1{,}000Q + 2.5Q^2$$

would be more economical. Should the firm build the alternative plant? Assume that the firm has the required capital. **15marks**

C

Lakamuun Inc. is a company which manufactures a small household appliance at its plant in Gyinyase for distribution in the Osino district. The production department of the plant has estimated the following total cost function for this product:

$$TC = 200 + 25Q - 2.8Q^2 + 0.12Q^3$$

Where units of output and total cost are measured in thousands

The firm's market research indicates that the demand for this product is expressed by the following demand equation:

$$Q = 35.7 - 0.714P$$

Where Q is in thousand units of product and P is the price in Ghana cedis per unit.

The firm's management would like to know

i. the profit-maximizing output **5 marks**

ii. price of the product and **3 marks**

iii. the maximum profit at this level of operation. **2marks**

D

Ofori Ansah is a manager at Time Tools Company, a nation-wide supplier of tools and accessories to independent electricians and plumbers. A study of annual demand in several regional markets suggests the following

Demand function for a popular socket wrench set:

$$Q = -500 - 10P + 0.001Pop + 0.05Y + 20A$$

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Where Q is quantity, P is price (¢), Pop is population, Y is disposable income per person (¢), and A is advertising measured in terms of personal selling days per year by Time Tools' sales staff.

i. Determine the demand curve faced by Time Tools in a typical market where Pop = 1, 000,000, Y = ¢10,000, and A = 200 days **3marks**

ii. Calculate the quantity demanded at prices of ¢250, ¢275, and ¢300 **3marks**

iii. Calculate the prices necessary to sell 2,000, 3,000, and 4,000 units **3marks**

iv. What general conclusion(s) can be made about your answers in I and II **1mark**

Question 2

a) Last year, Jane quit her ¢60,000 per year job as a Branch Operating Manager for a leading bank in Ghana to buy a small hotel on Lake Bosomtwe. The purchase price of the hotel was ¢350,000, which she financed by selling a tax-free government of Ghana bond that earned 10% per year. Jane's total operating expenses and revenues were ¢100,000 and ¢200,000, respectively.

i. Calculate Jane's accounting profit. ***[4 marks]***

ii. Calculate Jane's economic profit. ***[6 marks]***

b) Charity Afriyie, Chief Financial Officer, has been asked by Samuel Dankyi, Chief Executive Officer and cofounder of Dankyi & Brempong Ltd. (D&B), to analyze two capital investment projects (projects *A* and *B*), which are expected to generate the following profit streams:

Profit streams for Projects **A** and **B** (in ¢ thousands)

Year [Period]	Profit from Project A	Profit from Project B
2018 [1]	¢100	¢350
2019 [2]	200	300
2020 [3]	250	200
2021 [4]	300	100
2022 [5]	325	100

Profits are realized at the end of each period. Assuming that D&B is a profit maximizer, if the discount rate for both projects is 12%, which of the two projects should be adopted?

[10 marks]

c)

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Question 3

a. Copy and complete [*i.e. show workings*] the following table and use that information to answer the questions that follow.

Workers Employed (L)	Total Output (Q)	Marginal Product (MP)	Price of Product (P)	Value Marginal Product (MVP)	Total Revenue (TR)
1	25		¢ 2	¢	¢
2	70		2		
3	110		2		
4	145		2		
5	172		2		
6	191		2		
7	199		2		
8	199		2		

[4marks]

i. Over what range of employment do increasing marginal returns exist? ***[3marks]***

ii. Over what range of employment do decreasing marginal returns exist? ***[2marks]***

iii. If the labour cost per unit is ¢38, how many workers must the firm hire and how much output should it produce? Explain your answer. ***[2marks]***

iv. Distinguish between *economies of scale* and *diseconomies of scale*. ***[2marks]***

b. The only choice variable is Q. The total benefit function is $B(Q) = 100Q - 2Q^2$ and the Total cost function is $C(Q) = \frac{1}{3}Q^3 - 6Q^2 + 52Q + 80$

i. What is the marginal benefit and marginal cost functions? ***[2marks]***

ii. Set up the net benefit function and then determine the level of Q that maximizes net benefit. (Use the positive value of Q.) ***[2marks]***

iii. What is the maximum level of net benefit? ***[3 marks]***

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Question 4 (20marks)

A. The demand equation for a popular brand of fruit drink is given by the equation

$$Q_x = 10 - 5P_x + 0.001I + 10P_y$$

where: Qx = monthly consumption per family in gallons

Px = price per gallon of the fruit drink

I = median annual family income

Py = price per gallon of a competing brand of fruit drink

i. Interpret the parameter estimates. **[*5marks*]**

ii. If $P_x = ¢5$, $I = ¢20{,}000$ and $P_y = ¢6$, calculate the monthly consumption (in gallons) of the fruit drink. **[*3 marks*]**

iii. Suppose that median annual family income increased to ¢30,000. How does this change your answer to part b? **[*2marks*]**

B. How will each of the following changes in demand and/or supply affect equilibrium price and equilibrium quantity in a competitive market; that is, ***do price and quantity rise, fall, or remain unchanged***? Use supply and demand curves to verify your answers.

i. Supply decreases and demand is constant.

ii. Demand decreases and supply is constant.

iii. Supply increases and demand is constant.

iv. Demand increases and supply is constant.

v. Demand increases and supply decreases. [*10 marks*]

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Question 5(20marks)

a) Given the following data, calculate forecasts for the months of May, June, and July using a ***three-month moving average*** and an ***exponential smoothing*** forecast with an alpha of 0.7. Assume a forecast of 61 for the month of April:

Month	Actual Sales	Forecast 3-Month Moving Average	Forecast Exponential Smoothing
January	56		
February	76		
March	58		
April	67		
May	75		
June	76		
July			

[6 marks]

b) G.R. Foods Distributors specializes in the wholesale distribution of food items, such as corn and dry beans. As a manager of this firm, you are concerned about an article you read in today's *Daily Graphic* indicating that supply of all food items are expected to increase by 15% next year as a result of government of Ghana's flagship policy of '*Planting for Food and Jobs*'. You are concerned about the impact this will have on G.R. Dry Foods. What do you think is likely to happen to the price of the products G.R. Foods sells? Why? Illustrate your answer on demand and supply curves diagram. ***[4marks]***

Formulas

$$PV = \frac{A}{[1+r]^t} \qquad F_{t+1} = A_t \qquad F_{t+1} = \frac{\sum A_t}{n} \qquad F_{t+1} = \sum C_t A_t \qquad F_{t+1} = \alpha A_t + (1-\alpha)F_t$$

c) Explain ***four*** major characteristics of perfectly competitive market. ***[4marks]***

d) Suppose that the total cost (TC) and demand equations for a monopolist is given by the following expressions:

$$TC = 500 + 20Q^2$$

$$P = 400 - 20Q$$

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i. What are the profit-maximizing price and quantity? **[*5marks*]**

ii. Given your answer in '*i*' above, what is the firm's maximum profit? **[*1mark*]**