



MURANG'A UNIVERSITY COLLEGE

(A Constituent College of Jomo Kenyatta University of Agriculture and Technology)

EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE.

HBC2110: INTRODUCTION TO BUSINESS STATISTICS

YEAR I: SEMESTER II

DURATION: 2 HOURS: AUGUST 2013 EXAMINATION

INSTRUCTIONS

Question One is compulsory. Answer any other two questions

QUESTION ONE (30 marks)

- (a) (i) Mention five qualities of a good measure of central tendency. (5 mks).
- (ii) The mean monthly salary paid to all employees in a company is Kshs. 16,000. The mean monthly salaries paid to non-technical and technical employees are Kshs. 18,000 and Kshs. 12,000 respectively.
- Determine the percentage of technical and non-technical employees of the company. (4 mks).
- (iii) The breaking strength of 80 "test pieces" of a certain alloy is given in the following table, the unit being given to the nearest thousand Kilograms per square inch.

Breaking strength	Number of Pieces
44 – 46	3
46 – 48	24
48 – 50	27
50 – 52	21
52 – 54	5

Calculate the average breaking strength of the alloy and the standard deviation. (6 mks)

- (b) In trying to evaluate the effectiveness in its advertising campaign, a firm compiled the following information.

Year	2003	2004	2005	2006	2007	2008	2009	2010
Advertisement expenditure (sh. 000)	12	15	15	23	24	38	42	48
Sales (Sh. Millions)	5.0	5.6	5.8	7.0	7.2	8.8	9.2	9.5

Determine the regression equation of sales on advertising expenditure. Estimate the probable sales when advertisement expenditure is 60,000. (10 mks)

- (c) Two types of new cars produced in South Africa are tested for petrol mileage. One group consisting of 36 cars averaged 14 kms per litre, while the other group consisting of 72 cars averaged 12.5 kms per litre.
- What test statistic is appropriate? (1 mk)
 - If $\sigma_1^2 = 1.5$, and $\sigma_2^2 = 2.0$ test whether there exists a significant difference in the petrol consumption of these two types of cars. (Use $\alpha = 0.01$). (4 mks)

Question Two(20 marks)

- List any five problems that can be encountered in the construction of Index Numbers (5 mks)
 - Calculate from the following data the Fisher's Ideal Index Number for the year 2010. (7 mks).

Commodity Selected	2009		2010	
	Prices (shs.)	Expenditure on quantity Consumed (shs)	Price (shs)	Expenditure on quantity consumed (shs)
A	8	200	65	1,950
B	20	1,400	30	1,650
C	5	80	20	900
D	10	360	15	300
E	27	2,160	10	600

- (b) The Human Resource Department of a company has records which show the following analysis of its 200 engineers.

Age (years)	Bachelor's degree	Master's degree	Total
Under 30	90	10	100
30 – 40	20	30	50
Over 40	40	10	50
Total	150	50	200

If an engineer is selected at random from the company, find:

- The probability he has only a bachelors degree. (2 mks)
- The probability he has a master's degree, given that he is over 40 years. (3 mks)

(c) The probability that a contractor will get a plumbing contract is $\frac{2}{3}$ and the probability that he will not get an electric contract is $\frac{5}{9}$. If the probability of getting at least one contract is $\frac{4}{5}$, what is the probability that he will get both? (3 mks).

Question Three (20 marks)

- (a) Mention the four components of time series analysis. (4 mks).
 (b) The Managers of an import agency are investigating the length of time that customers take to pay their invoices, the normal terms for which are 30 days net. They have checked the payment records of 100 customers at random and have compiled the following table.

Payment in	Number of Customers
5 to 9 days	4
10 to 14 days	10
15 to 19 days	17
20 to 24 days	20
25 to 29 days	22
30 to 34 days	16
35 to 39 days	8
40 to 44 days	3

Required

Calculate the standard deviation (6 mks).

- (c) A company is interested in knowing if there is a significant difference in the average salary received by foremen in two divisions. Accordingly, samples of 12 foremen in the first division and 10 in the second division are selected at random. Based upon experience, foremen's salaries are known to be approximately normally distributed, and deviations are about the same.

	First division	Second division
Sample size	12	10
Average weekly salary of foremen (sh)	10500	9800
Standard deviation of salaries (sh)	68	74

Is there a significant difference in the salaries received by the foremen? (10mks)

Question Four (20 marks)

- (a) (i) Mention five conditions for the application of the **Chi-square Test** (5 mks)
 (ii) A school bought a total of 500 colour television sets. Three different brands were purchased, and their repair records were kept for each set's operation. The data is given below.

Brand	Operations	Number of Repairs		Total
		1	2 or more	
A	143	70	37	250
B	90	67	43	200
C	17	13	20	50
Total	250	150	100	500

Is there a relationship between brand and number of repairs? (8 mks).

- b (i) Distinguish between Karl Pearson's and Bowley's coefficient of skewness. (2 mks)
- (ii) Compute an appropriate measure of skewness for the following data (5mks)

Sales (millions)	Number of companies
Below 50	12
50 – 60	30
60 – 70	65
70 – 80	78
80 – 90	80
90 – 100	55
100 – 110	45
110 – 120	25
120 and above	10

Question Five (20 marks)

- (a) In a restaurant the average Sales of Pizzas is 200 per day. Due to a new office building in the vicinity, the sales increased during the first 27 days and these were found to be 205, 215, 216, 220, 225, 236, 240, 241, 245, 250, 216, 240, 238, 204, 217, 219, 225, 235, 196, 193, 215, 168, 190, 216, 218, 222, and 219.

At 5% significance level test that the sales of Pizzas have increased. (10 mks)

- (b) Fit a straight line trend for the following data by the method of least squares and find the trend values. Estimate the sales for 2016. (10mks)

2004	2005	2006	2007	2008	2009	2010
33	35	60	67	68	82	90



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SPECIAL/SUPPLEMENTARY EXAMINATION

YEAR I: SEMESTER II

DURATION: 2 HOURS: AUGUST 2013 EXAMINATION

INSTRUCTIONS

Question One is compulsory. Answer any other two questions

QUESTION ONE (30 marks)

- (a) Explain three properties of arithmetic mean. (3 mks).
- (b) Explain four uses of index numbers (4 mks).
- (c) A company has three establishments E_1 , E_2 and E_3 in three cities. Analysis of the daily wages paid to the employees in the three establishments is given below.

	E1	E2	E3
Number of employees	20	25	40
Average daily wages (shs)	305	300	340
Standard deviation (shs)	50	40	45

Required

Find the average and the standard deviation of the wages of all the 85 employees in the company (8 mks).

- (d) A piece of equipment will function only when all the three components A, B and C are working. The probability of A failing during one year is 0.15, that of B failing is 0.05 and that of C failing is 0.10. What is the probability that the equipment will fail before the end of the year (4 mks).
- (e) A buyer of electric bulbs bought 100 bulbs each of two brands. Upon testing these he found that brand A had a mean life of 1500 hours with standard deviation of 50 hours whereas brand B had a mean life of 1530 hours with a standard deviation of 60 hours. Can it be concluded at 5% level of significance that the two brands differ significantly in quality of the bulbs (4 mks).

- (f) Mention four components of time series (4 mks).
- (g) The average daily wage for a group of 25 persons working in a factory was calculated to be sh. 378.40. It was later discovered that one figure was misread as 160 instead of the correct value sh. 200. Calculate the correct average daily wage. (3 mks).

Question Two (20 marks)

- (a) Mention four qualities of a good measure of variation (4 mks).
- (b) A purchasing agent obtained samples of 60 Watt bulbs from two companies. He had the samples tested in his own laboratory for length of life with the following results.

Length of life (In hours)	Samples from	
	Company A	Company B
1700 – 1900	10	3
1900 – 2100	16	40
2100 – 2300	20	12
2300 – 2500	80	3
2500 – 2700	6	2

- (i) Which company's bulb do you think are better in terms of average life (6 mks).
- (ii) If prices of both types are same, which company's bulb would you buy and why (6 mks).
- (c) An ambulance service claims that it takes, on the average, 8.9 minutes to reach its destination in emergency calls. To check on this claim, the agency which licenses ambulance services has then timed on 50 emergency calls getting a mean of 9.3 minutes with a standard deviation of 1.8 minutes. At the level of significance of 0.05 does this constitute evidence that the figure claimed is too low? (4 mks).

Question Three (20 marks)

- (a) The following table shows the recorded data showing the test scores made by salesmen on an intelligence test and their weekly sales.

Sales men	1	2	3	4	5	6	7	8	9	10
Test Score	40	70	50	60	80	50	90	40	60	60
Sales (Sh. Million)	2.5	6.0	4.0	5.0	4.0	2.5	5.5	3.0	4.5	3.0

Determine the regression equation of sales on test scores and estimate the probable weekly sales volume if a salesman makes a score of 100. (10 mks).

- (b) Compute index number from the following data using fisher's ideal index formula (7 mks).

Commodity	Base year		Current year	
	Quantity	Price	Quantity	Price
A	12	10	15	12
B	15	7	20	5
C	24	5	20	9
D	5	16	5	14

- (c) Distinguish between independent events and mutually exclusive events (3mks)

Question Four (20 marks)

- (a) Mention any five problems encountered in the construction of index numbers (5 mks).
- (b) The probability that a management trainee will remain with the company is 0.60. The probability that an employee earns more than Kshs. 50,000 per month is 0.50. The probability that an employee in a management trainee who remained with the company and earns more than Kshs. 50,000 per month is 0.70. Find the probability that an employee earns more than Ksh. 50,000 per month given that he is a management trainee who stayed with the company? (7 mks).
- (c) Calculate Bowley's coefficient of skewness from the following data. (8 mks).

Sales (million shs).	Number of companies
Below 50	8
50 – 60	20
60 – 70	40
70 – 80	65
80 – 90	80

Question Five (20 marks)

- (a) Mention five factors to be considered when designing a questionnaire. (5 mks).
- (b) Compared to the previous year the overhead expenses went up by 32% in 2008; they increased by 40% the next year and by 50% in the following. Calculate the average rate of increase in the overhead expenses over the three years. (5 mks).
- (c) In a restaurant the average Sales of Pizzas is 200 per day. Due to a new office building in the vicinity, the sales increased during the first 27 days and these were found to be 205, 215, 216, 220, 225, 236, 240, 241, 245, 250, 216, 240, 238, 204, 217, 219, 225, 235, 196, 193, 215, 168, 190, 216, 218, 222, and 219.
At 5% significance level test that the sales of Pizzas have increased. (10 mks)



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EXAMINATION FOR THE DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY.

HBC2107: INTRODUCTION TO MICRO-ECONOMICS

YEAR I: SEMESTER II

DURATION: 2 HOURS: AUGUST 2013 EXAMINATION

INSTRUCTIONS

Question One is compulsory. Answer any other two questions

Question One

- (a) Distinguish between “individual demand” and “market demand” (3 mks).
- (b) Write short notes on the following fundamental concepts in economics.
 - (i) Scarcity and choice.
 - (ii) Opportunity cost.
 - (iii) Positive and normative economics (7 mks).
- (c) Describe any five factors that might cause a shift of the supply curve in an economy. (10 mks).
- (d) Discuss any three practical applications in management and economic policy decision making. (6 mks).
- (e) Illustrate and explain consumer equilibrium under the cardinalist approach (4 mks).

Question Two

- (a) Differentiate between economies of scale and returns to scale. (3 mks).
- (b) Given a firm's demand function
 $Q - 90 + 2P = 0$ and its average cost function
 $AC = Q^2 - 9Q + 57 - 2/Q$. Determine the level of output which maximizes profits. (5 mks).
- (c) Explain six key features of a mixed economic system. (12 mks).

Question Three

- (a) With the aid of a well labeled diagram explain the profit maximizing level of output of a firm in a perfectly competitive market structure. (6 mks).
- (b) Identify the factors that influence the success of a price cartel. (5 mks).
- (c) Explain any four factors of production (8 mks).

Question Four

- (a) Explain any four uses of indifference curve analysis (8 mks).
- (b) Explain the meaning of mobility of factors of production. To what extent are factors of production mobile? (6 mks).
- (c) (i) Outline four factors that determine price elasticity of demand for a commodity (4 mks).
(ii) Define the term cross elasticity of demand (2 mks).

Question five

- (a) (i) Why is labour supply curve backward bending? (4 mks)
(ii) Explain why factor demand is a derived demand (3 mks).
(iii) What is MRP? What role does it play in the derivation of demand curve for a factor of production (3 mks).
- (b) Explain any five assumption of the law of variable proportions as applied in production theory (10 mks).



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HBC2107: INTRODUCTION TO MICRO-ECONOMICS

SPECIAL/SUPPLEMENTARY EXAMINATION

YEAR I: SEMESTER II

DURATION: 2 HOURS: AUGUST 2013 EXAMINATION

INSTRUCTIONS

Question One is compulsory. Answer any other two questions.

Question One

- (a) (i) Clearly explain the distinction between supply demand and equilibrium price. (5 mks).
- (ii) Explain the term market equilibrium. (2 mks).
- (iii) Distinguish between “price elasticity of demand” and “cross a price elasticity of demand”
- (b) Explain why elasticity of supply of for agricultural commodities is low. (6 mks).
- (c) (i) Using indifference curve analysis, explain the consumer equilibrium position. (10 mks).
- (ii) What is Oligopoly? Outline four characteristics of an oligopolistic market structure. (4 mks).

Question Two

- (a) Analyze three positive and three negative effects of monopoly market structure in an economy. (12 mks).
- (b) Explain the limitations of indifference curves in economic analysis. (8 mks).

Question Three

- (a) A monopoly firm is faced with the following demand functions, $P = 14 - 0.5Q$. The marginal cost function for the firm is given by $MC = 3 + 4Q$ and the total fixed cost is 4.

Determine

- (i) The profit maximizing output.
- (ii) The level of supernormal profit if any.

- (iii) The output level at the break-even point (10 mks).
- (b) (i) With the aid of a well labeled diagram distinguish between shifts in the demand curve and movements along the demand curve (6 mks).
- (ii) Outline four factors that determine price elasticity of demand for a commodity (4 mks).

Question Four

- (a) (i) Explain the importance of cross elasticity of demand in economic decision making (6 mks).

- (ii) A firm has a demand function given by $Q = 150 - 2p + \frac{80}{p} + 2p^2$

Determine point elasticity of demand when P is sh. 10 and Q is 100kgs. (3mks).
Interpret your results in (ii) above (1 Mk).

- (b) Explain any five sources of economies of scale. (10 mks).

Question five

- (a) With the aid of a diagram describe the profit maximizing and loss making levels of output of a monopolistic firm in the short-run period (10 mks).
- (b) (i) Distinguish between a “price ceiling” and “price floor”. (3 mks).
- (ii) Welfare economics is both positive and normative economics. Discuss. (7 mks).



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**EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS INFORMATION TECHNOLOGY.
HBC 2105: PRINCIPLES OF MANAGEMENT**

**SPECIAL/SUPPLEMENTARY EXAMINATION
YEAR I: SEMESTER II
DURATION: 2 HOURS: AUGUST 2013 EXAMINATION**

INSTRUCTIONS

Question One is compulsory. Answer any other two questions

Question One (30 mks)

- (a) (i) Describe the three major management roles (6 mks).
- (a) (ii) Discuss the three levels of strategy (6 mks).
- (b) Explain any five criticisms of the scientific management theory. (10 mks).
- (c) Explain the major potential sources of conflicts in organizations (8 mks).

Question Two (20 mks).

- (a) What is strategic planning? Explain why there is growing need for strategic planning (10 mks).
- (b) Critically discuss the principal barriers to effective goal setting (10 mks)

Question Three (20 mks).

- (a) Explain any five factors that influence the span of control (10 mks).
- (b) Organizations are becoming increasingly influenced by their external environment. In what ways does the understanding of the external environment enable managers to make better decisions (10 mks)?

Question Four

- (a) Describe the major steps of effectively implementing delegation of authority in an organization with which you are familiar (10 mks).

- (b) It is asserted that managers in general, spend at least seventy-five percent of their working hours communicating. Briefly show how effective performance of managerial functions largely depends on effective communication (10 mks).

Question Five

- (a) Certain characteristics must be incorporated into the design of control systems in order to make them effective. Briefly, describe those characteristic. (10 mks).
- (b) Describe the major outcomes of good corporate governance in an organization (10 mks).



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EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS INFORMATION TECHNOLOGY.

HBC 2105: PRINCIPLES OF MANAGEMENT

YEAR I: SEMESTER II - ACADEMIC YEAR: 2012/2013

DURATION: 2 HOURS: AUGUST 2013 EXAMINATION

INSTRUCTIONS

Question One is compulsory. Answer any other two questions

Question One (30 mks)

- (a) (i) Define management (2 mks)
- (ii) What is mission statement (2 mks).
- (iii) Clearly discuss the principal components of a good mission statement (8mks).
- (b) Explain the characteristics of management (10 mks).
- (c) Describe the four basic components of a strategy. (8 mks).

Question Two (20 mks).

- (a) Explain any five reasons why planning is important in management (10 mks).
- (b) Identify the major barriers to delegation (10 mks).

Question Three (20mks)

- (a) Discuss any five factors that influence the span of control. (10 mks).
- (b) Explain the Maslows hierarchy of needs and how relevant it is to managers. (10 mks).

Question Four (20 mks)

- (a) Management can introduce what is known as planned change in an organization. Describe the steps that can be followed to introduce this planned change. (10 mks).
- (b) Citing examples, where appropriate, discuss the various relationships that can be determined from an organizational chart. (10 mks).

Question Five (20 mks)

- (a) Explain the guidelines that are useful in making corrective action effectiveness. (8 mks).

- (b) Explain six reasons why some managers may behave unethically (12 mks).



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EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE.

HBC2112: PRINCIPLES OF MARKETING

YEAR I: SEMESTER II

YEAR: 2012/2013

DURATION: 2 HOURS: AUGUST 2013 EXAMINATION

INSTRUCTIONS

Question One is compulsory. Answer any other two questions

QUESTION ONE (30mks)

- (a) Explain any four roles of marketing research. (8 mks).
- (b) Explain how the understanding of macro-environment by marketing management aid in decision-making (10 mks).
- (c) Distinguish between market-skimming and market-penetration as forms of pricing strategies (4 mks).
- (d) Discuss any four factors to be considered when setting the price. (8 mks).

Question Two (20mks)

- (a) Discuss the importances of studying consumer behavior (10 mks).
- (b) Explain the three product mix decisions (6 mks).
- (c) Mention the four dimensions of product mix (4 mks).

Question Three (20mks)

- (a) Describe the basis under which market Segmentation can be done. (10 mks).
- (b) Explain the factors a firm can consider when selecting a target market (10 mks).

Question Four (20mks)

- (a) Explain the five marketing philosophies or concepts (10 mks).

(b) Highlight the functions of middleman in the channel of distribution. (10 mks).

Question Five (20mks)

(a) Explain the steps in developing a promotional campaign (14 mks).

(b) Explain the classification of a product based on consumer on goods basis (6 mks).



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EXAMINATION FOR THE DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY.

YEAR I: SEMESTER II

SPECIAL/SUPPLEMENTARY

HBC 2112: PRINCIPLES OF MARKETING

YEAR: 2012/2013

DURATION: 2 HOURS: AUGUST 2013 EXAMINATION

INSTRUCTIONS

Question One is compulsory. Answer any other two questions

Question One (30mks)

- (a) Differentiate between marketing concept and societal marketing concept (4 mks).
- (b) Explain any four limitations of marketing research. (8 mks).
- (c) Discuss the micro-environmental factors that affect an organization. (10 mks).
- (d) After developing their pricing strategies, companies will face situations where they need to cut or raise prices. Describe any four situations that will lead to this price change. (8 mks).

Question Two (20mks)

- (a) Describe the five levels of a product (10 mks).
- (b) Explain any five promotional techniques that a company can use. (10 mks).

Question Three. (20mks)

- (a) Explain giving relevant examples, the determinants of consumer behaviour (8 mks).
- (b) Discuss the factors that affect the choice of distribution channels attributable to a product. (12 mks).

Question Four (20mks)

- (a) Explain why a company may find it difficult to successfully develop a new product. (10 mks).
- (b) Discuss five features that affect price sensitivity. (10 mks).

Question Five. (20mks)

- (a) Describe the four characteristics of a service (8 mks).
- (b) Explain any six types of purchase decisions (12 mks).