

DIPLOMA IN BUSINESS ADMINISTRATION

CMBA 1202 : QUANTITATIVE METHODS

DEC 2016 MAIN EXAM

INSTRUCTIONS

1. Question one is compulsory
2. Answer any other two (2) questions

QUESTION ONE

- a. Define non-probability sampling techniques and discuss any four probability sampling techniques. **(10 marks)**
- b. There are three major manufacturing companies that make a product: Aberations, Brochmailians, and Chompieliens. Aberations has a 45% market share, and Brochmailians has a 35% market share. 6% of Aberations' product is defective, 8% of Brochmailians' product is defective, and 9% of Chompieliens' product is defective.
- i. What is the probability a randomly selected product is defective? **(2 marks)**
 - ii. What is the probability that a defective product came from Brochmailians? **(2 marks)**
 - iii. What is the probability that a non-defective product came from Chompieliens'? **(2 marks)**
 - iv. Are these events independent? Explain your answer **(3 marks)**
- c. Write short notes on the definition of the following:
- v. Correlation **(3 marks)**
 - vi. Regression analysis **(3 marks)**
 - vii. Line of best fit **(2 marks)**
 - viii. Outlier **(3 marks)**

QUESTION TWO

- a) Using graphical representation, Explain the effects an outlier bears on the results of a correlation analysis of two variables. Use scatter graphs. **(9 marks)**
- b) Solve: $(5/6)^x = 6^{1-x}$ **(6 marks)**

QUESTION THREE

- a) Evaluate 3^x at $x = -2, -1, 0, 1, 2$ and 3 **(6 marks)**
- b) graphically represent your answer **(10 marks)**

c) Solve for x: $\frac{4}{2x-1} \geq -2$ (2 marks)

d) Solve the following inequality $2x^2 + 4x \geq x^2 - x - 6$. (2 marks)

QUESTION FOUR

a) Solve : $1/32 = 16^{(12x + 13)}$ (4 marks)

b) Write short notes on the following

- i. Hypothesis testing (4 marks)
- ii. Significance level (4 marks)
- iii. Null hypothesis (4 marks)
- iv. Alternate hypothesis (4 marks)

QUESTION FIVE

a. Discuss in detail four importance of statistics in business research (8 marks)

b. Write short notes on the following

- i. Decision tree (2 marks)
- ii. Principle of choice (2 marks)

c. Discuss three uses of non-parametric statistics (6 marks)