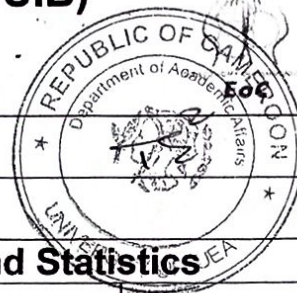




# Catholic University Institute of Buea (CUIB)

2018/2019 ACADEMIC YEAR

First Semester Examinations –2019



School	<b>BUSINESS</b>				
Department	<b>MANAGEMENT</b>				
Course Code	<b>BUS 105</b>	Course Title	<b>Business Maths and Statistics</b>		
Status	<b>C</b>	Credit Value	<b>6</b>		
Date	<b>28/02/2019</b>	Venue		Time	<b>3 Hours</b>
Course Master(s)		<b>Mr MUKETE EMMANUEL</b>			

**Instructions: Answer ALL QUESTIONS in BOTH SECTIONS, and Calculators are allowed.**

## SECTION A: BUSINESS MATHS (25 MARKS)

### QUESTION ONE:(10 marks)

Ekanjewants to buy a piece of land and decides to deposits 300,000frs at the beginning of each year for a period of 4 years in a bank that pays a compound interest of 12% per annum.

- What is the amount in his account at the end of the four years? **(3 marks)**
- What interest is earned? **(2 marks)**
- Repeat this scenario if interest is compounded monthly and deposits were done at the beginning of the month. **(5 marks)**

### QUESTION TWO(8 marks)

- A man runs at a certain number of kilometres per hour (Kph) for a certain number of hours, and then cycles at a certain number of Kph for a certain number of hours. What is his average speed? **(3 marks)**
- The market demand function for Beef is given as  $3P + Q^2 + 5Q - 102 = 0$ , and the supply function is  $P - 2Q^2 + 3Q + 71 = 0$ . Use the elimination method to find the equilibrium price and quantity for beef. **(3 marks)**
- How long will it take for 300,000frs to double itself when invested at a compound interest rate of  $7\frac{1}{4}\%$  per annum?(2 marks)

### QUESTION THREE(7 Marks)

- The total revenue and total cost function is given as  $12Q - Q^2$  and  $35 + 5Q - 2Q^2 + 2Q^3$  respectively. Find the marginal revenue and average cost functions and evaluate them at  $Q = 3$  and  $Q = 5$ . **(4 marks)**
- In a certain time 1,200frs becomes 1,560frs at 10% per annum simple interest. Find the principal that will become 2,232frs at 8% per annum in the same time. **(3 marks)**



## SECTION B: STATISTICS (25 MARKS)

### QUESTION ONE(12 marks)

- State and explain the different branches of statistics(4 marks)
- Differentiate between correlation and Regression (2 marks)
- Using illustration, how is 'Discrete data distribution' different from a 'Continuous data distribution' (4 marks)
- Differentiate between stratified sampling and judgmental sampling(2 marks)

### QUESTION TWO(10 Marks)

The holding of shares in DEF plc are given in the following table.

No. of shares held	No. of persons with these shares	No. of shares held	No. of persons with these shares
Under 50	80	300 - 349	28
50 - 99	142	350 - 399	15
100 - 149	110	400 - 449	9
150 - 199	75	450 - 499	7
200 - 249	52	500 - 549	3
250 - 299	38	550 - 599	2

Calculate

- The arithmetic mean holding (4marks)
- The median holding (3marks)
- The modal holding (3marks)

### QUESTION THREE

A recently retired couple is considering investing their pension lump sums in the purchase of a small shop. Two suitably sited premises, A and B, are discovered. The average weekly takings of the two shops are quoted as 1,050frs and 1,080frs for A and B, respectively. Upon further investigation, the investors discover that the averages quoted come from the following recent weekly takings figures:

Shop A: 1,120frs, 990frs, 1,040frs, 1,030frs, 1,105frs, 1,015frs

Shop B: 1,090frs, 505frs, 915frs, 1,005frs, 2,115frs, 850frs

Advise the couple.(3marks)

END