SEPTEMBER – DECEMBER TRIMESTER, 2022

EXAMINATION FOR DIPLOMA IN BUSINESS MANAGEMENT/ INFORMATION TECHNOLOGY/ PROCUREMENT AND SUPPLY CHAIN MANAGEMENT
DAY PROGRAMME

RBM 016: STATISTICS AND DATA ANALYSIS

DATE: 6TH DECEMBER 2022 **TIME: 2 HOURS**

SPECIAL INSTRUCTIONS

1. Write your REGISTRATION NO. Clearly on the answer booklet(s).
2. Answer Question One and ANY other TWO questions.
3. Questions in all sections should be answered in answer booklet(s).
4. PLEASE start the answer to EACH question on a NEW PAGE.
5. For the questions, write the number of the question on the answer booklet(s) in the order you answered.
6. Write on both sides of each leaf and indicate number of each question at the top of each page.
7. Write the answers in paragraph form unless stated otherwise.
8. Marks allocated to each question are shown at the end of the question.
9. All rough work must be done on the answer booklet and crossed through!
10. Use supplementary pages only when you have exhausted those in this booklet.
11. Fasten the supplementary pages to the inside back cover of this booklet.

QUESTION ONE

(a) The following distributor gives the difference in age between husband and wife in a particular community:

Difference in age	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	449	705	507	281	109	52	16	4

Required:

(i) Calculate the mean, mode and median **(9 Marks).**

(ii) Calculate the standard deviation and coefficient of variation **(5 Marks).**

(b) Outline **two** importance of learning statistics **(2 Marks).**
(c) Explain **four** methods of collecting primary data **(8 Marks).**
(d) Differentiate between a sample and a population **(2 Marks).**
(e) Differentiate between discrete and continuous series **(4 Marks).**

QUESTION TWO

(a) In January 2020, a firm employed 90 staff of whom 79 were men. During the year 17 staff left and 13 of these were men. The total recruitment during the years was 13 out of whom 3 were women.
During 2021, wastage declined by 3 amongst men compared with 2020 and no women left, 6 more men but 2 fewer women were recruited than in the previous year. The total number employed on 1st January 2022, amounted to 93.

Required: Arrange the above information in concise tabular form showing all relevant totals and sub-totals **(10 Marks).**

(b) **Marks in Statistics:**

12,36,40,30,28,20,19,10.10,16,19,27,15,26,20,19,7,45,33,21,26,37,6,20,11,17,37,30,20,5

(c) From the following observations above, prepare a frequency distribution using the following methods

(i) Inclusive **(5 Marks).**

(ii) Exclusive **(5 Marks).**

HINT: the first class to be 5-10

QUESTION THREE

(a) The information below represents production of cash crop in Kenya in thousands tonnes

Year	Maize	Wheat	Beans
2017	40	20	30
2018	70	40	50
2019	60	20	40
2020	90	70	70
2021	120	80	90

Required:

(i) Simple bar chart

(ii) Multiple bar chart

(iii) Component bar chart

(iv) Pie chart **(12 Marks).**

(b) With examples explain the following types of sampling

(i) Simple random sampling

(ii) Systematic random sampling **(4 Marks).**

(c) Outline **four** qualities of a good average **(4 Marks).**

QUESTION FOUR

(a) The following information relates to XYZ Limited.

Machine hours	50	30	10	50	40	30	20	60	40	20
Maintenance cost(Shs.000)	120	110	60	150	100	80	70	150	110	50

Required:

(i) Using the regression method compute the regression line (y=a+bx) **(10 Marks).**

(ii) Estimate the maintenance cost when the company has used 15 machine hours using the above two methods (**2 Marks).**

(b)

Monthly wages(000)	50-55	55-60	60-65	65-70	70-75	75-80	80-85
No. of workers	6	10	22	30	16	12	15

Calculate the;

(i) First and third quartiles **(6 Marks).**

(ii) Quartile Deviation and interpret your result **(2Marks).**