CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS
RESIT/SPECIAL EXAMINATIONS

EXAMINATION FOR THE AWARD OF CERTIFICATE IN PROCUREMENT AND LOGISTICS MANAGEMENT AND CERTIFICATE IN BUSINESS MANAGEMENT

CIBM 00151: BUSINESS MATHEMATICS

STREAMS: **TIME: 2 HOURS**

DAY/DATE:WEDNESDAY 25/07/2018   **2.30 A.M – 4.30 P.M**

INSTRUCTION:

- **Answer all questions**

1.   (a) Give any three disadvantages of postal questionnaire.   [3marks]

        (b) The weights of different employees in a company PQR were recorded as follow.

Weight (kg)	No. of employees
30-34	10
34-38	5
38-42	5
42-46	12
46-50	14
50-54	24
54-58	8
58-62	6
62-66	2
66-70	16

Required :

(i)   Find the mean weight of the employees   [3marks]
(ii)   The median weight   [3marks]

(iii)   The standard deviation of the employees' weights   [3marks]

(c) The selling rice of a sewing machine is ksh 12750, if bought for cash discount of 15% is given on the selling price. The hire purchase terms comprise of a deposit of 30% on the selling price and 12 monthly installments of 975 each.

Required:

(i)   The cash [rice of the sewing machine.   [2marks]
(ii)   The hire purchase of the sewing machine.   [3marks]
(iii)   The difference in price between cash and buying in the hire purchase terms.

          [2marks]
(iv)   Percentage increase of the hire purchase price over the selling price.

          [3marks]

(d) Mwekezaji borrowed a loan of ksh 100,000 from mkopo microfinance whose interest rate was 10% p.a and the repayment period was 5 years.

          (i)Determine the annual installation amount payable.   [3marks]

          (ii) Prepare the respective loan amortization schedule that would aid mwekekaji in repayment of the loan.   [5marks]

2.   (a) Juma invested a certain amount of money in the bank which paid 12% p.a simple interest . After 5 years his total savings was ksh 5600. Determine the amount of money he invested initially.   [3marks]

(b) Calculate the harmonic mean of the given data 10m/s, 20m/s, 22.5m/s and 25m/s.

[3marks]

(c) The table below shoes the rates at which income tax was charged in Kenya in a certain year.

Monthly income	Tax rate
1 – 9840	10%
9841 – 18960	15%
18961 – 28080	20%
28081 – 37200	25%
37201 – 46320	30%
46321 -55440	35%
55441 and above	40%

Mfanyikazi earned monthly income as follows:

Basic salary   ksh 38,500

House allowance   ksh 22,500

Medical allowance   ksh 6,750

Other allowances   ksh 10,780

He has a Kenyan resident and hence entitled to a tax relief of ksh 1280 per month .

Calculate

(i)His monthly taxable   [3marks]

(ii) The net income tax he paid per month   [6marks]

(iii)Net income per month   [2marks]

(d) Find the present value of ksh 10,000 receivable after three years if the rate of interest is 10% per annum.   [3marks]

3.   (a) Khadija and Fatuma are partners in a business. Khadija is entitled to a salary of ksh 20,000 p.a. Their profit sharing is 3:2 respectively. If the profit for the year is ksh 80,000. Calculate how much each would receive.   [5marks]

(b) A Canadian tourism ame to kenya with sterling pounds 10190 and US dollars 2050. He changed the foreign cash to ksh paying a bank charge of 1% . He stayed in Kenya for 17 days spending ksh 30,000 per day. He also bought goods worth ksh 87,300 to take back home. He bought an air ticket of 55,000. He then changed the remaining cash into Canadian dollars.

1 US$ = ksh 60

1 sterling pound = ksh 98

1 Canadian dollar = ksh 43

Required :

(i)   Find the amount of money he received in ksh   [3marks]
(ii)   Find the amount spent in Kenya in US dollars.   [4marks]
(iii)   Find the amount he remained with in Canadian dollars.   [3marks]

(c) Give five methods of data collection. [15marks]