

**W1-2-60-1-6**

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

# **UNIVERSITY EXAMINATIONS 2018/2019**

FIRST YEAR FIRST SEMESTER EXAMINATION FOR THE DIPLOMA IN BUSINESS ADMINISTRATION

**HCB 0005: INTRODUCTION TO QUANTITATIVE METHODS**

DATE: APRIL 2019 TIME: 1.30 HOURS

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**INSTRUCTIONS:**

**ANSWER ALL QUESTIONS**

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**QUESTION ONE [30 MARKS]**

1. A quick survey of 1000 children in s refugee camp produced the following results:

320 children were fed on beans

200 children were fed on rice

450 children were fed on potatoes

150 children were fed on beans and potatoes

70 children were fed on beans and rice

100 children were fed on rice and potatoes

300 children were fed on none of the three types of foods

Required:

1. Present the above information in the form of a Venn diagram [10 marks]
2. The no. of children who were fed on all the three types of food [1 mark]
3. The no. of children who were fed on exactly one of the three types of food. [1 mark]
4. The no. of children who were fed on at least two types of foods. [1 mark].
5. Amiran is considering a project which promises equal receipt of shs. 5 000 each year for the nest 5 years. if the discounting rate is 15% , determine the present value of this annuity if:
6. The annuities occur at the end of each year.
7. The annuities occur at the beginning of each year. [7 marks]

**QUESTION TWO [20 MARKS]**

1. The table below shows the prices of foods consumed by various households over the past 4 years.

Commodities 2011 2012 2013 2014

Meat 100 120 130 160

Maize 10 20 25 30

Beans 40 42 32 40

Wheat 35 45 41 70

Millet 180 200 220 200

Rice 60 55 65 45

Calculate the general price index using 2011 as the base year. [16 marks]

1. Highlight four limitations of general index numbers. [4 marks]

**QUESTION THREE [20 MARKS]**

1. The following tables shows marks of students in a class

Marks NO.

0 – 10 2

10 – 20 7

20 – 30 21

30 – 40 25

40 – 50 30

50 – 60 35

60 – 70 28

70 – 89 12

**Determine:**

1. The median
2. Upper quantile
3. 6th decile
4. 80th percentile [22 marks]

**QUESTION FOUR [20 MARKS]**

ABC Ltd has a five year project where initial cash outlay is 10 000 and have zero

salvage value. The project will generate the following cash flows:

Year Cash flows

1 3 800

2 2 400

3 4 200

4 3 500

5 3 000

The company uses straight line method of depreciation.

1. Determine the accounting profits of the project and hence its accounting rate of return. (ARR)
2. If the company uses a standard ARR of 30%, advise the firm whether the project should be chosen.
3. Compute the simple payback period of the project.