****

**GARISSA UNIVERSITY**

**UNIVERSITY EXAMINATION 2020/2021 ACADEMIC YEAR ONE**

**SECOND SEMESTER EXAMINATION**

**SCHOOL OF BUSINESS AND ECONOMICS**

**FOR THE CERTIFICATE IN BUSINESS MANAGEMENT**

**COURSE CODE: CBM 12**

**COURSE TITLE: BASIC MATHEMATICS II**

**EXAMINATION DURATION: 2 HOURS**

**DATE: 24/08/2021 TIME: 12.00-2.00 PM**

**INSTRUCTION TO CANDIDATES**

* **The examination has FIVE (5) questions**
* **Question ONE (1) is COMPULSORY**
* **Choose any other TWO (2) questions from the remaining FOUR (4) questions**
* **Use sketch diagrams to illustrate your answer whenever necessary**
* **Do not carry mobile phones or any other written materials in examination room**
* **Do not write on this paper**

**This paper consists of FOUR (4) printed pages *please turn over***

**QUESTION ONE (COMPULSORY)**

1. Calculate the mean, median and the mode from the following frequency table. (10marks)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| grade | 50-59 | 60-69 | 70-79 | 80-89 | 90-99 | 100-109 | 110-119 |
| frequency | 7 | 81 | 192 | 312 | 218 | 82 | 18 |

1. Differentiate between correlation and regression (2marks)
2. State four characteristic of normal distribution (4marks
3. Calculate the harmonic mean from the following data. 5.3, 17, 2, 2.3, 8, 11, 15, 20.8, 11 (4marks)
4. Highlight five qualities of good measure of central tendency (5marks
5. Define the term correlation (2marks)
6. State the three types of correlation (3marks

**QUESTION TWO**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MARKS | 0-10 | 11-20 | 21-30 | 31-40 | 41-50 |
| NO. OF STUDENTS | 12 | 9 | 15 | 11 | 8 |

1. Using an assumed mean of 25.7. calculate
2. mean (3marks)
3. median (3marks)
4. modal class (1mark)
5. standard deviation (3marks)
6. Discuss three methods of data collection. (6marks)
7. Highlight any four sources of secondary data (4marks)

**QUESTION THREE**

 2006 2007

 Price Qty price Qty

Commodity;

A 2 8 4 6

B 5 10 6 5

C 4 14 5 10

D 2 19 2 13

1. Calculate
2. Laspeyres index number (3marks)
3. Paasche index number ( 3marks)
4. Dorbish index number (3marks)
5. Fishers index number (3marks)
6. Marshall index number (3marks)
7. I. Define the term correlation (2marks)

ii. State the three types of correlation (3marks

**QUESTION FOUR**

The following represents qualitative analysis and financial accounting for given students. The ranking was given as below.

|  |  |  |
| --- | --- | --- |
| student | Qualitative ranking | Financial ranking |
| A | 2 | 3 |
| B | 7 | 6 |
| C | 6 | 4 |
| D | 1 | 2 |
| E | 4 | 5 |
| F | 3 | 1 |
| G | 5 | 7 |

**Required;**

1. Calculate Rank correlation coefficient (10marks)
2. Explain three characteristics of binomial distribution (6marks)
3. Calculate the arithmetic mean from the following data. (4marks)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 20 | 43 | 75 | 67 | 72 | 49 | 37 | 9 | 8 | 6 |

**QUESTION FIVE**

1. Write short notes on the following concepts
2. spatial classification (3marks)
3. manifold classification (3marks)
4. Qualitative classification (3marks)
5. Temporal classification (3marks)
6. Quantitative classification (3marks)
7. Using the data below calculate quartile deviation and its coefficient. (5marks)

 20, 32, 26, 45, 51, 34, 49, 47, 34, 27