**S475/1**

**SUBSID. MATHEMATICS**

**PAPER 1**

**2hours**

**MID-TERM ΙΙ EXAMINATIONS**

**S.5**

SUBSIDIARY MATHEMATICS

**PAPER 1**

2hours

**INSTRUCTIONS :**

* *Answer* **all** *the questions in section* ***A*** *and section* **B***.*
* **All** *working* **must** *be shown clearly.*
* *Each question in section* **A** *carries* **5** *marks while each question in*

*Section* **B** *carries* **15** *marks.*

* *Begin each answer on a fresh page.*
* *Graph papers are provided.*
* *Silent non-programmable scientific calculators and mathematical tables with a list of formulae may be used.*

**Turn Over**

**SECTION A**

1. The marks scored in a test by 8 student are 3, 4, -1, 22, 14, 0, 9, 18.   
   Determine the:-
2. Mean mark (02 marks)
3. Variance (03 marks)
4. Express  in the form  where a and b are integers.

(05marks)

1. The roots of the equation are α and 2. Find the values of α and k.

(05marks)

1. Given that . Find the value of.

(05marks)

1. The table below shows scores by 10 students (A to J) in Physics and Mathematics tests.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Student | A | B | C | D | E | F | G | H | I | J |
| Mathematics | 28 | 20 | 40 | 28 | 21 | 31 | 36 | 29 | 33 | 24 |
| Physics | 30 | 20 | 40 | 28 | 22 | 35 | 35 | 27 | 31 | 23 |

Calculate the rank correction coefficient for the data and comment on your result. (05 marks)

**SECTION B**

6 . The table below shows the sales of soda in crates at a certain canteen open for fivedays in a week.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Week | Mon | Tue | Wed | Thur | Fri |
| 1 | 142 | 177 | 213 | 171 | 138 |
| 2 | 125 | 172 | 191 | 170 | 131 |
| 3 | 114 | 158 | 192 | 155 | 127 |

1. Calculate the five point moving averages for the sales of sodas in creates.

(06 marks)

1. On the same axes plot the original data and the moving averages (07 marks)
2. Comment on the trend of the sales of soda (02 marks)

7. The table below shows the prices (in UgShs) of some food items in January, June and December together with the corresponding weights.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Price(in UgShs)** | | | **Weight** |
|  | **January** | **June** | **December** |
| Matooke  (1 bunch) | 15,000 | 13,000 | 18,000 | 4 |
| Meat 91kg) | 6,500 | 6,000 | 7,150 | 1 |
| Posho (1kg) | 2,000 | 1,800 | 1,600 | 3 |
| Beans (1kg) | 2,200 | 2,000 | 2,860 | 2 |

Taking January as the base month, calculate the;

1. Simple aggregate price index for June. Comment on your results.

(5marks)

b) Weighted aggregate price index for December. Comment on your results

(10marks)

**END**