**KAJJANSI HIGH SCHOOL**

**SET TWO ASSESSMENTS TERM ONE 2024**

MATHEMATICS

**Paper 1**

2 hours 15 minutes

**INSTRUCTIONS TO CANDIDATES:**

* **Attempt all items**

*Answer* **all** *items in this section.*

**ITEM ONE:**

Four members of Gayaza Market order for produce from Namisindwa Village and the items are as given below.

Allan bought one bag of posho, 5 bags of millet, 2 bags of sorghum and 2 bags of rice.

Bella bought 5 bags of posho, 3 bags of millet and 4 bags of rice.

Cate bought 4 bags of posho and 8 bags of rice.

Dorcus bought 3 bags of rice, 4 bags of sorghum, 3 bags of millet and 2 bags of posho.

The cost per bag of the items bought was: Rice at UGX 200,000, sorghum at UGX60,000 , millet at UGX75,000 , posho at UGX100,000 .

**TASK:**

(a) Assist the market members to summarize the above in matrix form for the:

(b) Using your knowledge of matrix multiplication help the members to know how each shall spend on their purchases, and hence find the total cost for all the four venders.

(c) If the sales for the four market Venders was UGX 14.3 million and agreed to share the money amongst Allan, Cate, Bella and Dorcus in the ratio of 2:4:6:1 respectively. Help the members to determine how each take and represent the information on a pie chart. (25 scores)

**ITEM TWO:**

In survey to determine the average weight of a new born baby, the medical class of St. Julian collected weights of 40babies from Kabubbu Health Centre (IV). The weights in kg are given in the table below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2.0 | 2.1 | 2.0 | 2.2 | 6.4 | 2.6 | 3.0 | 3.5 |
| 3.1 | 3.2 | 2.3 | 2.7 | 2.8 | 3.4 | 4.0 | 3.2 |
| 3.7 | 4.5 | 5.0 | 5.4 | 4.9 | 6.0 | 6.4 | 6.3 |
| 5.4 | 4.7 | 4.6 | 4.9 | 6.2 | 6.2 | 6.7 | 2.5 |
| 2.6 | 2.9 | 4.4 | 5.3 | 3.6 | 4.8 | 6.3 | 5.0 |

**TASKS:**

(a) Form frequency distribution table with intervals of O.5 starting with the lowest weight of 2kg

(b) What is the mean weight?

(c) Help the class obtain the median weight.

(d) Represent the information on a statistical graph to obtain the modal weight.

*(25 scores)*

**ITEM THREE**

In kanyike stationary shop, the manager gets the monthly allowance as follows.

Medical Shs. 480,000 per annum

Transport Shs. 50,000

Housing shs.10% of the gross monthly income

Marriage Shs of the gross annual income

Lunch Shs 7,500 per week

Family allowance for 4 children using the following system

12years and below Shs 3,000.

Above 12 years but bellow 18 Shs 2000

Okurut earns a gross annual income of Shs 9,180,000 and his children are aged 5, 9, 15, 17 and 22 years.

His tax structure is given below.

|  |  |
| --- | --- |
| **Taxable income (Shs)** | **Rate (%)** |
| 0 - 130,000 | 5.0 |
| 130,000 - 260,000 | 10.0 |
| 260,000 - 360,000 | 15.0 |
| 360,000 - 400,000 | 20.5 |
| Above 400,000 | 30.0 |

(a) Calculate Okurutz

(i) Monthly taxable income

(ii) Monthly income tax

(b) Express the net income paid as a percentage of his gross monthly income.

**ITEM FOUR:**

At 7:00 am a bus **P** leaves town **A** travelling to town B, 75km away, at an average speed of 60km/hr. After a 30 minutes stopover at B, due to poor state of the road, the bus travels another 35km to town C at 35km/hr. At 8:00 am, an express bus Q leaves town C for town A and travels at a speed of 35km/hr.

**TASK**

1. Draw a distance time graph to show both journeys(Use a scale of 2cm to represent 30minutes on the horizontal axis, and 2cm to represent 10km on the vertical axis)
2. From your graph, find where and when the two buses met.
3. What time did bus P and bus Q reach their respective destination?
4. Calculate the average speed of the bus P for the whole journey.

**END**