

Nyaraya Cluster Examination

**Kenya Certificate of Secondary Education**

# **2023 Form Four Evaluation Programme**

**447/2 POWER MECHANICS Paper 2**

**JULY/AUGUST 2023**

**447/2**

 **POWER MECHANICS**

 **Paper 2 (PRACTICALS)**

 **July/August**

**TIME - 21/2**

 **NAME …………………………………………… Index Number …………………**

**Candidate’s signature …………………… Date ……………………………**

**Instructions to candidates**

**INSTRUCTION TO CANDIDATES**

1. Write your name and index number in the spaces provided above.
2. There are **TEN** stations in this examination.
3. Candidates are allowed 15 minutes at each station.
4. At each station, candidates are not allowed to either review the previous stations work or read instructions for the other stations.
5. Attempt **ALL** exercises in each station.

 **For examiner’s use only**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Stations** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | **TOTAL****SCORE** |
| **Candidate’s score** |  |  |  |  |  |  |  |  |  |  |  |

**STATION 1**

**I**n the space provided, sketch in a good proportion a sectional view of a worm and sector steering box. Label **four** parts. (10mks)

 **STATION 2**

Using the tools, materials and equipment provided, make a template of a bottle opener shown in the figure below. (10mks)

 

 **STATION 3**

Using the components provided connect a three lamp lighting circuit such that two lamps are in series while the third lamp is in parallel.

Let the examiner check your work. (10mks)

 **STATION 4**

Identify the tools labelled 1-10. For each tool state the use. Complete the table below.

 (10mks)

|  |  |  |
| --- | --- | --- |
| **TOOL** | **NAME**  | **USE** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |

 **STATION 5**

Using the tools and materials provided, trace and make a gasket of the component provided.

 (10mks)

 **STATION 6**

Identify the parts labelled A, B, C, D and E. Complete the table below. (1**0mks)**

|  |  |  |  |
| --- | --- | --- | --- |
| **PART** | **NAME** | **VEHICLE****SYSTEM** | **DEFEC**T |
| **A** |  |  |  |
| **B** |  |  |  |
| **C** |  |  |  |
| **D** |  |  |  |
| **E** |  |  |  |

 **STATION 7**

Identify the fastening devices labelled P, Q, R, S, T, U, W, X, and Y. Complete the table below.

 (10mks)

|  |  |  |
| --- | --- | --- |
| **DEVICE** | **NAME** | **USES** |
| P |  |  |
| Q |  |  |
| R |  |  |
| S |  |  |
| T |  |  |
| U |  |  |
| V |  |  |
| W |  |  |
| X |  |  |
| Y |  |  |

 **STATION 8**

For the tyre provided:

1. Identify and record the following: 7mks
2. Maximum load ………………………………………………………………………………
3. Maximum inflation ………………………………………………………………………………
4. Tyre construction ………………………………………………………………………………
5. Rim diameter ………………………………………………………………………………
6. Tyre wear ………………………………………………………………………………
7. Manufacturer ………………………………………………………………………………
8. Tyre width ………………………………………………………………………………
9. Demonstrate to the examiner how to measure the following (3mks)
10. Height
11. Width
12. Tread depth

  **STATION 9**

1. On the single cylinder engine provided, identify the parts numbered 1,2,3,4 and 5 and state their functions .complete the table below. (5mks)

|  |  |  |  |
| --- | --- | --- | --- |
| **PART** | **NAME** | **FUNCTION** | **SYSTEM** |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |

1. Test for a spark and let the examiner check your work**.** (5mks)

 **STATION 10**

On the multi-cylinder engine provided, carry out the following tasks:

1. Identify five components of a suspension system and explain their functions to the examiner.

 (5mks)

1. Explain to the examiner how to identify a misfiring cylinder.(5mks)