

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF ENGINEERING AND TECHNOLOGY

UNIVERSITY EXAMIMATION FOR THE DEGREE IN SCIENCE IN RENEWABLE ENERGY TECHNOLOGY AND MANAGEMENT

2ND YEAR 2ND SEMESTER 2023/2024 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: TEB 1214

COURSE TITLE: WORKSHOP PROCESS AND PRACTICE

EXAM VENUE: STREAM: BSc. REN ENGY TEC & MGT

DATE: /04/2024 EXAM SESSION:

DURATION: 2 HOURS

Instructions

- 1. Answer question 1 (Compulsory) and ANY other two questions
- 2. Candidates are advised not to write on question paper
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.

QUESTION ONE (COMPULSORY)

- a) Discuss five types of lathes. (5 Marks)
- b) Outline four causes of failures on a twist drill. (4 Marks)
- c) Discuss the working principle of a shaping machine. (3 Marks)
- d) State the function of a morse taper (2 Marks).
- e) Using a well labeled diagram show the parts of a twist drill and state the functions of the flute. (6 Marks)

QUESTION TWO

- a) State and explain eleven safety precautions that must be observed when using a lathe machine in a workshop. (11 Marks)
- b) Outline four basic conditions that must be satisfied to successfully drill a hole on a work piece (4 Marks)

QUESTION THREE

- a) Discuss any five cutting operations that could be used in fabrication of goods in a workshop.
 (10 Marks)
- b) Using well labelled sketches discuss the following operations, which can be performed by a shaper machine (5 Marks).

QUESTION FOUR

- a) Discuss five parts of the shaper machine. (10 Marks)
- b) Outline any five design considerations an operator should observed when screw thread cutting when using a lathe machine. (5 Marks)