



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

UNIVERSITY EXAMINATION FOR:

BSC IN MEDICAL ENGINEERING

EEE 4230: WORKSHOP TECHNOLOGY AND PRACTICE II

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: 16 May 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, Drawing Instruments, Scientific calculator, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

a) Describe with the aid of a circuit diagram the four elementary elements that form an electric circuit

(18 Marks)

b) Describe any THREE primary hazards resulting from electricity on the human body

(12 Marks)

Question TWO

Describe with the aid of sketches and in conjunction with TABLE 1, how the bends of a steel tube diameter 22mm can be bent using a die pipe bender to give the profile shown in FIG 1

(20 Marks)

Question THREE

Discuss the following types of fires stating in each case how the fire type can be contained

- i. Flammable liquid fire
- ii. Electrical fire
- iii. Cooking oil fire
- iv. Combustible material fire

(20Marks)

Question FOUR

a) (i) Differentiate with the aid of sketches between a parallel and a series electrical connection

(ii) Distinguish with the aid of sketches between an open circuit and a short circuit

(12 Marks)

b) Given the following items,

- TWO Switches
- ONE lamp
- Alternating Current supply

Draw neatly to show the wiring diagrams for the following conditions using conventional symbols

- i. Switching lamp from two places
- ii. Switches in parallel

(8 Marks)

Question FIVE

a) (i) Describe in a step by step procedure, the process of threading a galvanized steel pipe using a hand die and stock system

(20 Marks)

	90 deg	60 deg	45 deg	30 deg
15mm Pipe	70mm	46mm	35mm	23mm
22mm Pipe	100mm	66mm	50mm	33mm

TABLE 1

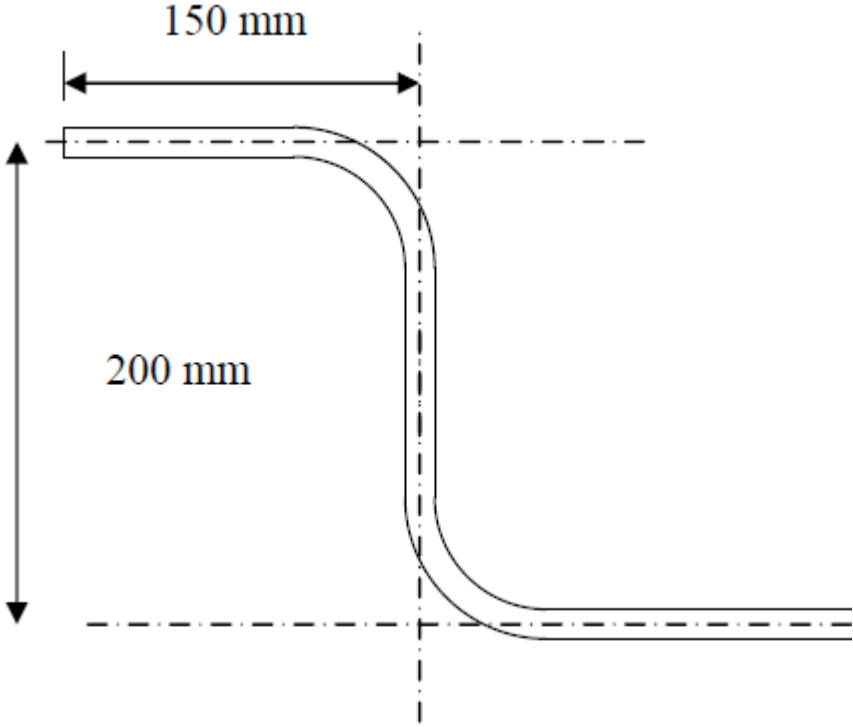


FIG 1