



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DIPLOMA

IN

**CIVIL ENGINEERING, DIPLOMA IN BUILDING
CONSTRUCTION AND DIPLOMA IN ELECTRICAL AND
ELECTRONIC ENGINEERING**

COURSE CODE: DCE 060/DBC 060/DEE 055

COURSE TITLE: ENGINEERING DRAWING I

DATE: TUESDAY 26TH APRIL 2022 TIME: 8.00AM – 11.00AM

INSTRUCTIONS:

1. Answer Question **ONE** and any other **TWO** Questions
2. Marks for each question are indicated in the parenthesis.
3. Examination duration is **3 Hours**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over.

SECTION A – COMPULSORY (30 MARKS)

Candidates are advised to spend no more than **40 minutes** in this section.

QUESTION ONE

Figure Q1 shows a branch pipe A connected to a cone B

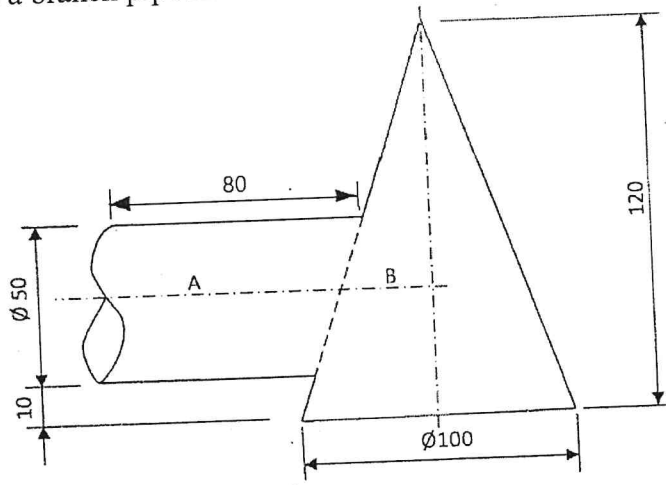


Figure Q1

Draw the curves of interpenetration between the pipe and the cone in:

- The plan
- The elevation

SECTION B (40 MARKS)

Answer **Two** questions from this section

QUESTION TWO (20 MARKS)

Figure Q2 shows the front elevation and the incomplete plan of a truncated square based pyramid.

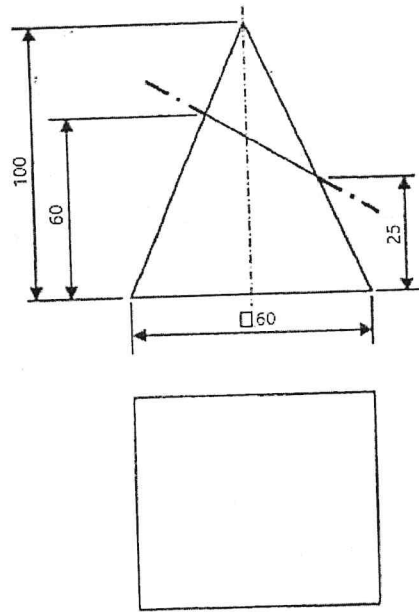


Figure Q2

- Complete the plan
- Draw the true shape of the cut surface
- The surface development of the pyramid

(20 Marks)

QUESTION THREE (20 MARKS)

Figure Q3 shows the front elevation of a truncated hexagonal prism tilted at an angle of 30° .

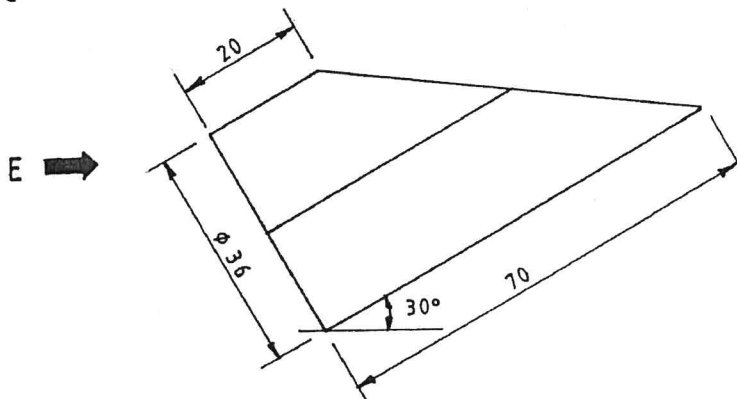


Figure Q3

Copy the given views and draw the following in first angle orthographic projection.

- The end elevation in the direction of arrow E
- The plan

(20 Marks)

QUESTION ONE – COMPULSORY (30 MARKS)

- a) State and explain **five** benefits of using construction plant (10 Marks)
- b) State **five** classifications of construction equipment (5 Marks)
- c) Discuss **five** factors affecting the selection of construction plants and equipment (10 Marks)
- d) Define the following terms as used in construction tools plant and equipment
 - i) A tool (1 Mark)
 - ii) An equipment (2 Marks)
 - iii) Plant schedule construction (2 Marks)

QUESTION TWO (20 MARKS)

- a) What is the importance of performance evaluation as used in construction (2 Marks)
- b) State and explain **two** ways in which performance can be evaluated (4 Marks)
- c) State **one** use of each of the following equipment (5 Marks)
 - i) Roller
 - ii) Dumper
 - iii) Pan type mixer
 - iv) Drilling rig
 - v) Motor grader
- d) Discuss **two** types of maintenance programs of equipment (4 Marks)
- e) Define the term site layout as used in construction plant, tools and equipment (2 Marks)
- f) State **three** roles of an excavator (3 Marks)

QUESTION THREE (20 MARKS)

- a) Discuss **six** factors to consider when selecting a construction equipment (12 Marks)
- b) Name **two** main types of mixers (4 Marks)
- c) State and explain **two** types of equipment costs (4 Marks)

QUESTION FOUR (20 MARKS)

Write the following short notes as used in bitumen laying equipment

- i) Asphalt Pavers (4 Marks)
- ii) Bituminous distributor (5 Marks)
- iii) Road Cleaning Machine (4 Marks)
- iv) Chip Spreader (3 Marks)
- v) Ballast Spreader (4 Marks)