JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF ENGINEERING AND TECHNOLOGY

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

1ST   YEAR 1ST SEMESTER UNIVERSITY EXAMINATIONS 2021-2022 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: TCB 1101

COURSE TITLE: ENGINEERING DRAWING I

EXAM VENUE: **STREAM: BSc CONSTRUCTION MGT**

DATE: /12/2021   **EXAM SESSION:**

DURATION: 3 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

SECTION A: 10 Marks (Each question carries 1 mark)

This section has only one question which is compulsory. Answer in the spaces provided.

QUESTION ONE   (10 marks)

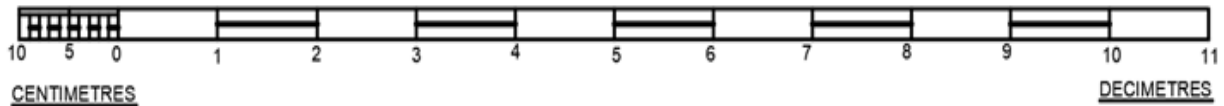a) Referring to the given Figure Q1a, answer the questions below.

Figure Q1a

i.   Name the type of scale which the figure represents (1 mark)

ii.   Name the smallest unit which the figure can be used to accurately measure (1 mark)

b) Below is a figure you have encountered in your drawing class. Refer to the figure to answer the questions that follow
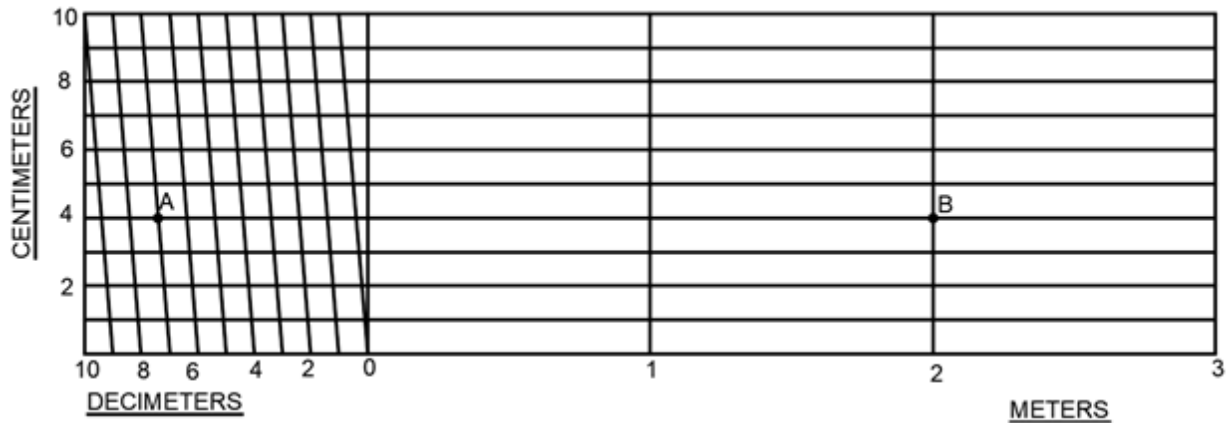

Figure Q1b

i.   Name the Figure Q1b shown above. (1 mark)

ii.   What distance is represented by AB? (1 mark)

iii.   What is the maximum length which can be measured using the figure? (1 mark)

c) Define Engineering Drawing (1 mark)

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d) Why do we use orthographic projections in design and not pictorial projection? (2 marks)

e) How would you apply drawing in your profession? (2 marks)

SECTION B: 10 Marks

The candidate is supposed to attempt all questions in this section. Answers to questions in this section must be written in the spaces provided. Answers must be precise and concise.

The questions are supposed to be structured/short answer questions which carry 2 to 5 marks each, making a total of 10 marks.

QUESTION 2 (10 marks)

Listed here below are some drawing equipment which aids in drafting work. Name each equipment and state its purpose in drafting.
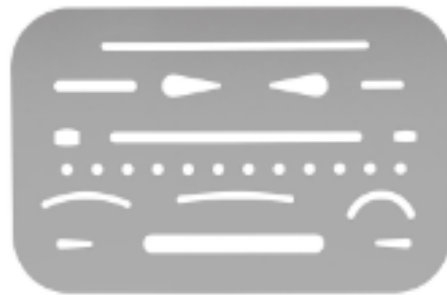
a) Equipment in Figure Q2(a) (2 marks)

Figure Q2(a)

b) Equipment in Figure Q2(b) (2 marks)

Figure Q2(b)

c) Equipment in Figure Q2(c) (2 marks)

Figure Q2(c)

d) Equipment in Figure Q2(d) (2 marks)

Figure Q2(d)

e) Equipment in Figure Q2(e) 2 marks)

Figure Q2(e)

SECTION C: 30 Marks

QUESTION THREE (15 marks)

Given the orthographic multi-views of an object below, develop the pictorial view using the isometric method
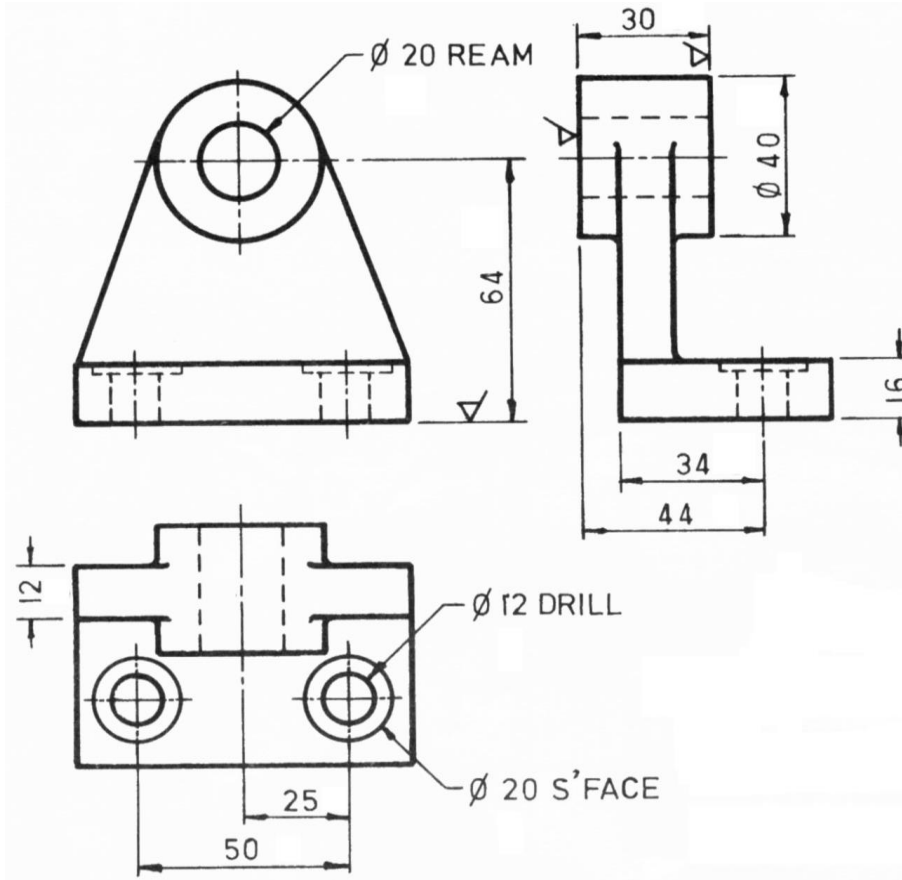

Figure Q3

QUESTION FOUR (15 marks)

Figure Q4 shows a pictorial view of an object. Develop three orthographic views of the same. Show only the minimum views required to completely describe the object. Take the front as the side shown by arrow **X**.
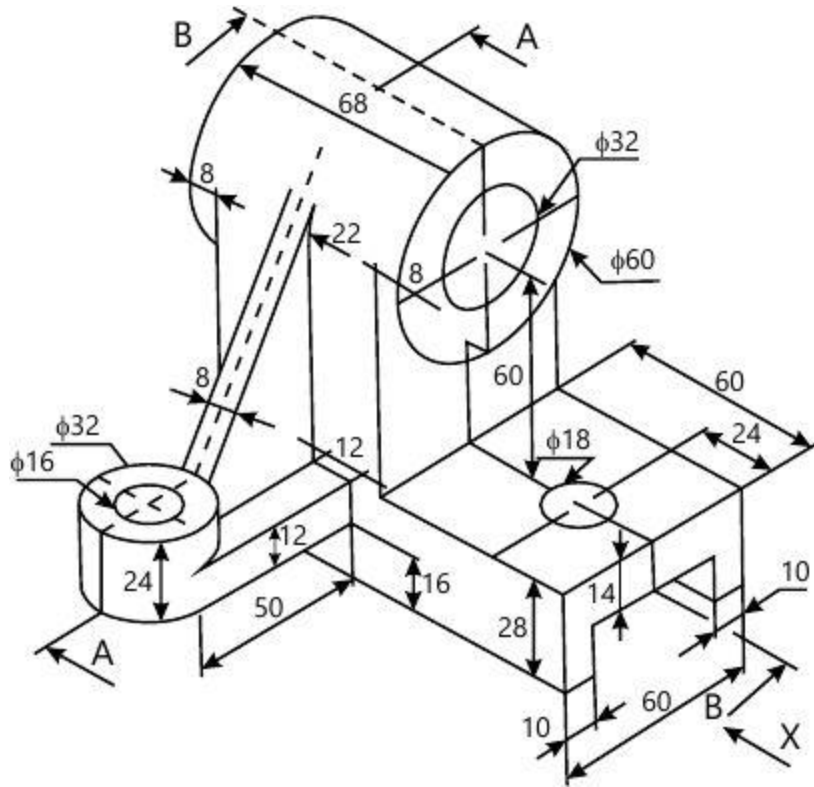
Figure Q4: Pictorial View

QUESTION FIVE (15 Marks)

a) Draw an ellipse in a parallelogram ABCD of side AB = 90 mm, BC = 110 mm, and angle ABC = 120°. (7.5 marks)

b) Draw a parabolic arc with a span of 1000 mm and a rise of 800 mm. Use the rectangular method. (7.5 marks)