



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF ENGINEERING AND TECHNOLOGY
BUILDING AND CIVIL ENGINEERING DEPARTMENT
FIRST SEMESTER FIRST YEAR EXAMINATION FOR
DIPLOMA IN BUILDING AND CIVIL
ENTREPRENEURSHIP

DATE: 25/11/2021

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

- *This Examination contains FIVE questions*
- *Attempt all questions*
- *All questions carry equal marks*

1. State **Seven** Characteristics of Entrepreneurship. (7 marks)
2. State **Six** Role of Entrepreneur in An Enterprise. (6 marks)
3. Describe **Five** Factors Affecting Entrepreneurship Development in Kenya. (5 marks)
4. Explain **Five** Contribution of Entrepreneurship Towards Realization of Vision 2030
(10 marks)
5. Define Self Employment (2 marks)
6. State **Three** Types of Entrepreneurs (3 marks)
7. Explain **Six** Factors That Inhibit Entrepreneurship Development in Kenya.
(12 marks)
8. Explain Five Factors That Lead to Business Failure in Kenya Today. (10 marks)
9. Discuss the Following Statement Basing Your Argument on Current Situation in Kenya Today. 'Are The Entrepreneur Born or Made' (20 marks)
11. State Five Causes of Business Failure. (5 marks)



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SCHOOL OF ENGINEERING AND TECHNOLOGY
BUILDING AND CIVIL ENGINEERING DEPARTMENT
FIRST SEMESTER FIRST YEAR EXAMINATION FOR
CERTIFICATE IN BUILDING AND CIVIL
TECHNICAL DRAWING

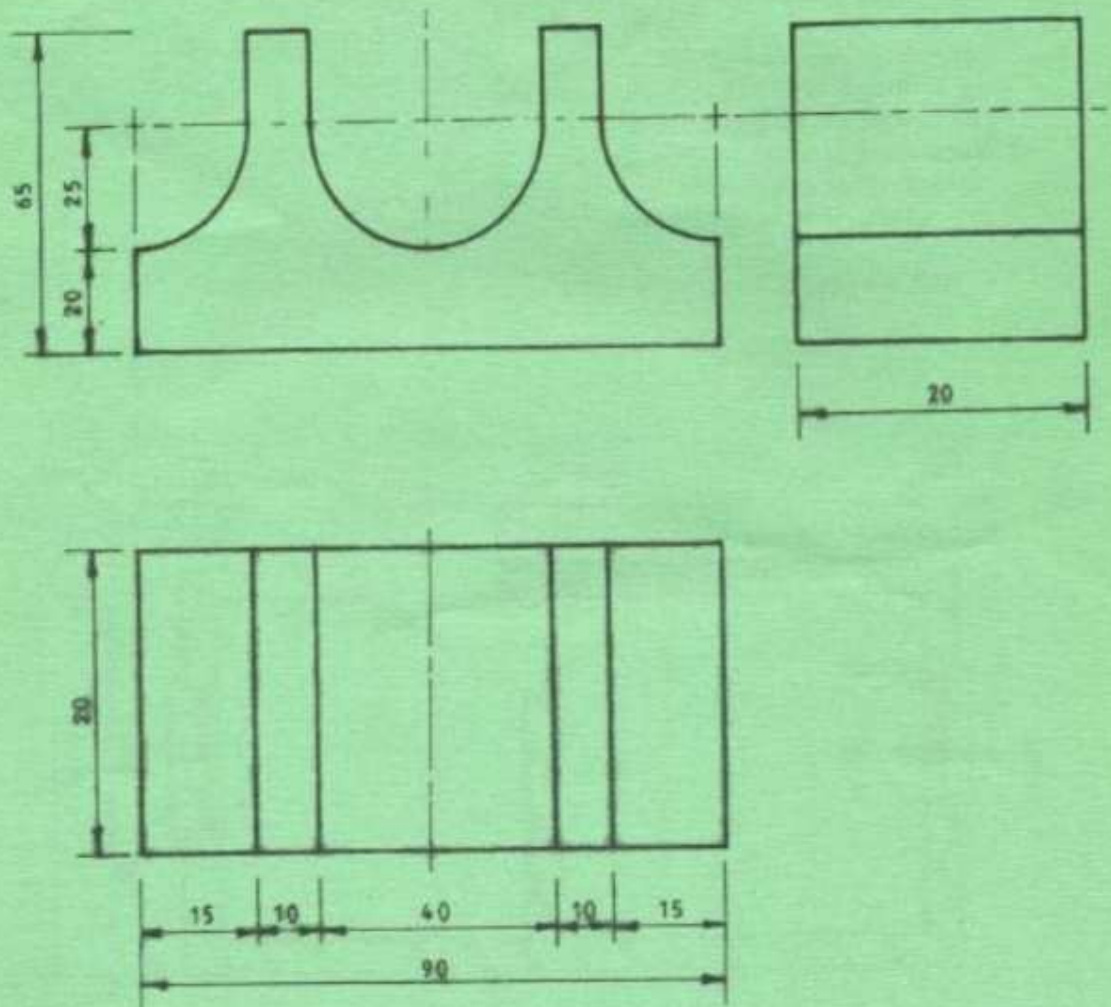
DATE: 30/11/2021

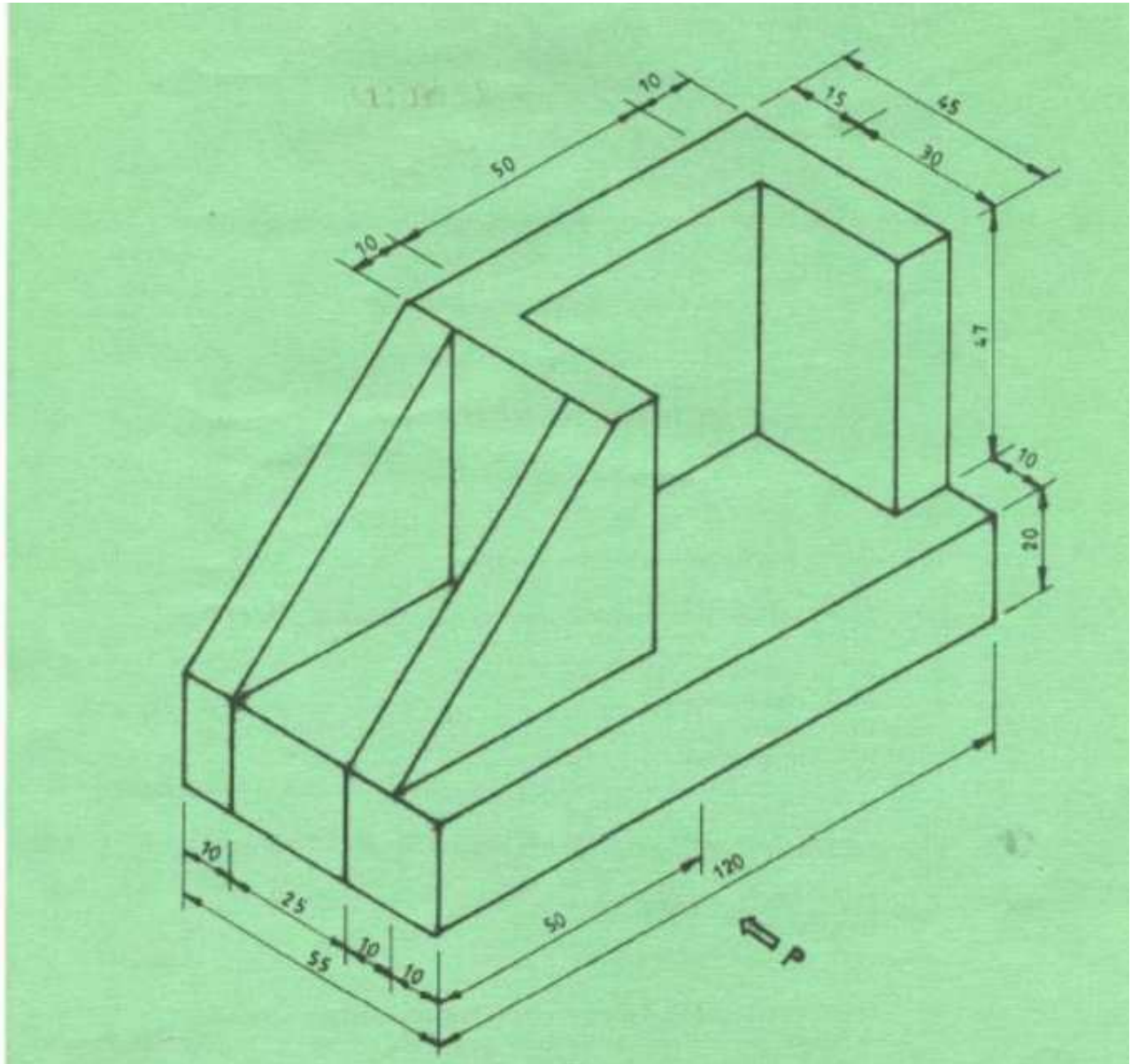
TIME: 2:30 – 5:30 PM

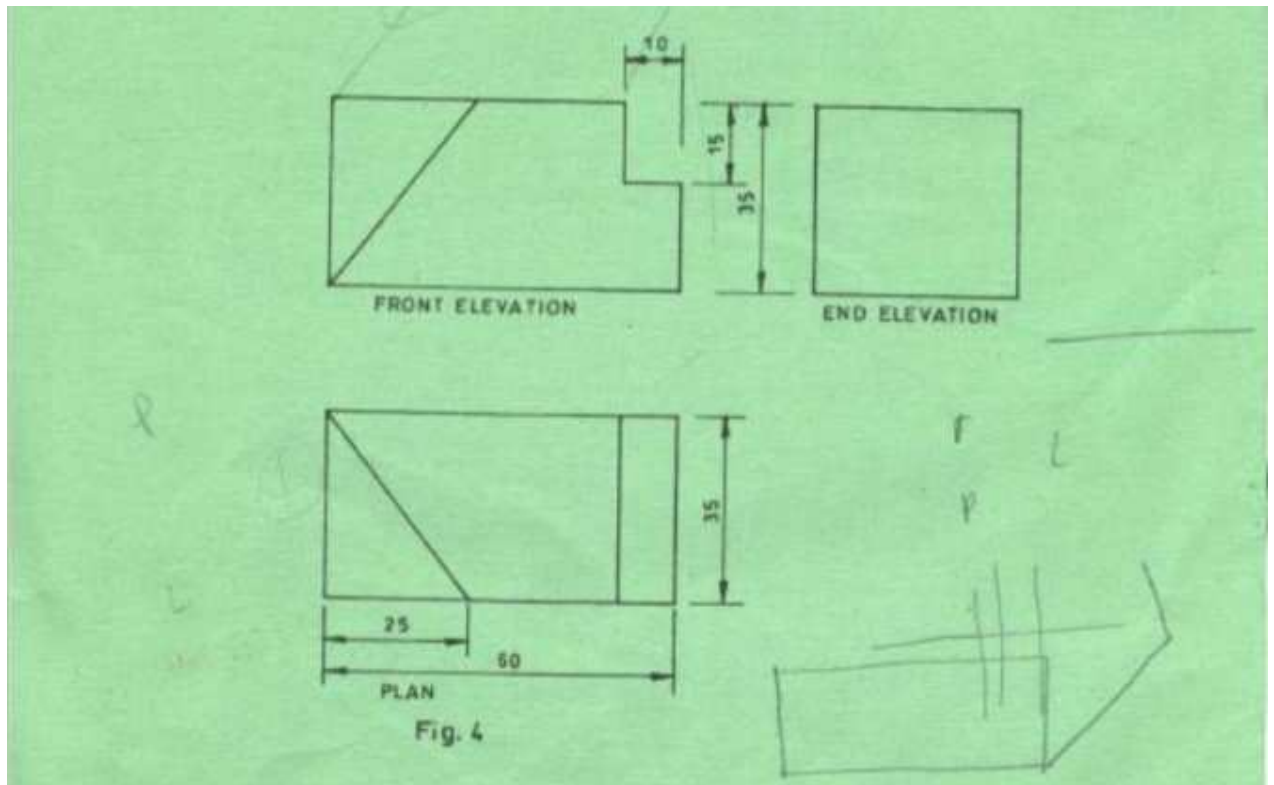
INSTRUCTIONS

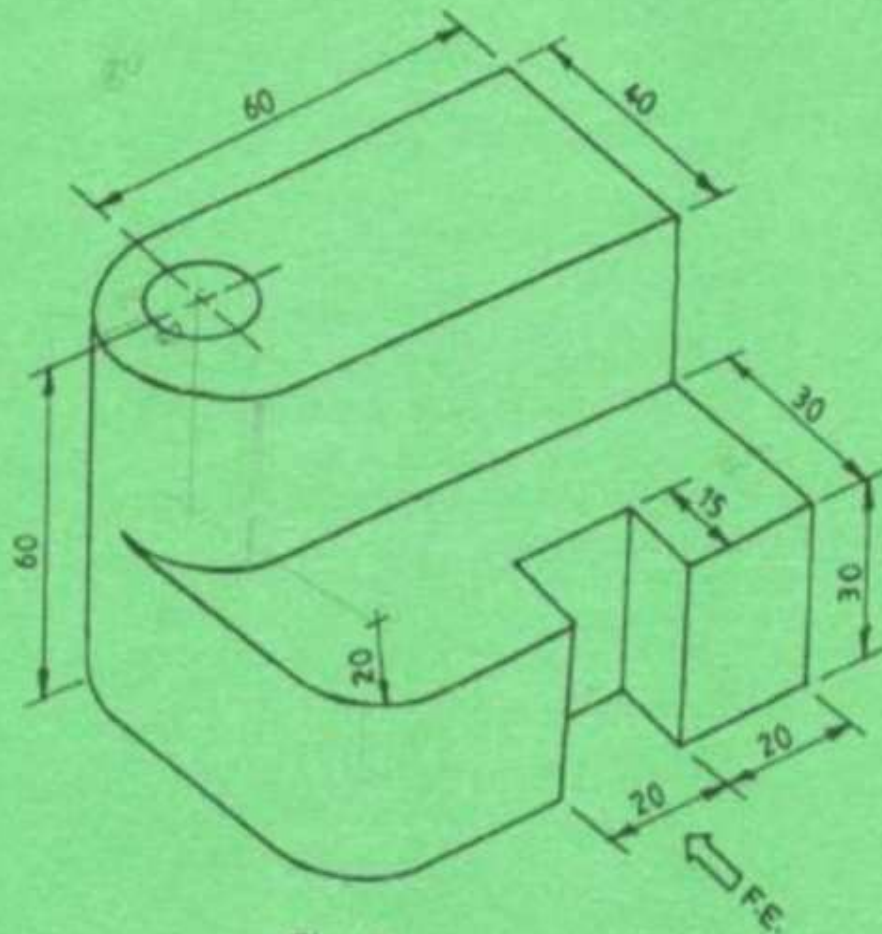
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1. Figure 2 pictorial of shaded object. Draw the object in first angle orthographic projection with the front elevation looking in the direction shown by the arrow. (20 marks)
 2. Figure 3. show the orthographic projection of an object. Draw the figure in isometric. (20 marks)
 3. A front elevation, plan and an incomplete end elevation of a block of wood is shown in figure 4.
 - i. Draw the views and complete the end elevation (5 marks)
 - ii. Make an isometric drawing of the block (10 marks)
 4. Figure 1 shows an isometric drawing of a block. To scale of 1:50, draw the following in first angle projection.
 - i. plan
 - ii. Front elevation from the direction x

(20 marks)











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SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING
FIRST SEMESTER FIRST YEAR EXAMINATION FOR
DIPLOMA IN BUILDING AND CIVIL MODULE 1
CERTIFICATE; MODULE I IN BUILDING AND CIVIL
CONSTRUCTION PLANT

DATE: 30/11/2021

TIME: 8.30-11.30 AM

INSTRUCTIONS

- *This Examination contains FIVE questions*
- *Attempt all questions*
- *All questions carry equal marks*

SECTION A 50 MARKS

1. State six reasons for mechanization in construction works. (6 marks)
2. List eight classification of mechanical plant. (8 marks)
3. State four advantages and four disadvantages of owning construction plants. (4 marks)
4. Differentiate between owning cost and operating cost of plant (4 marks)
5. State five benefits of plant maintenance (5 marks)
6. State six factor affecting the choice of plant. (6 marks)
7. State three factor affecting the costing owning and operating a machine. (3 marks)
8. Outline five advantages of buying construction plant. (5 marks)
9. Outline the procedure of field maintenance of construction plants. (5 marks)

SECTION B [50 MARKS]

8. Calculate the cost of operating and owning cost of operating plant using the following data:

- Purchase price = KShs 1,250,000
- Useful lifespan = 6 years

Examination Irregularity is punishable by expulsion

- Investment cost = 12% of depreciation
 - Maintenance & repairs = ksh 700,000
 - Diesel consumption = 10L/day @ kshs 100
 - Lubrication oil = 2L/week @ kshs 200 per litre
 - Tyres = 2 sets @ 40,000 per set
 - Hours worked per year = 2,000
 - Working hours per day = 8 hrs. from Monday-Saturday. (20 marks)
9. i. The book value at the beginning of the first year kshs.300,000, lifespan is 5 years. Calculate the percentage depreciation using double the rate method. (10 marks)
- ii. The purchase price of the plant 4,200,000. The re-sale value is 800,000 the lifespan of the plant is 5 years. Calculate the annual depreciation by using sum of the year's method. (10 marks)
10. The cost of the plant kshs 120,000, lifespan is 6 years. Using the straight-line method determine the annual depreciation. (10 marks)



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FIRST SEMESTER FIRST YEAR EXAMINATION FOR
DIPLOMA IN BUILDING AND CIVIL MODULE 1
CERTIFICATE IN BUILDING AND CIVIL
CONSTRUCTION PLANT

DATE: 1/12/2021

TIME: 8:30 – 11:30 AM

INSTRUCTIONS

- *This Examination contains FIVE questions*
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SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING
FIRST SEMESTER FIRST YEAR EXAMINATION FOR
DIPLOMA IN BUILDING AND CIVIL MODULE I
GENERAL BUILDING CONSTRUCTION I

DATE: 26/11/2021

TIME: 11:00 – 1:00 PM

INSTRUCTIONS

- *This Examination contains FIVE questions*
- *Attempt all questions*
- *All questions carry equal marks*

1. Describe four forms of wall construction. (10 marks)
2. Outline four preliminaries work necessary to be conducted before underpinning of building commences. (14 marks)
3. With aid of sketches, describe five types of walls under position walls. (15 marks)
4. With aid of sketches, describe four method of underpinning. (15 marks)
5. State six functional requirement of wall. (6 marks)
6.
 - a) Define the term foundation (2 marks)
 - b) Explain three factors which determine the type of foundation to be used (3 marks)
 - c) With aid of sketches, explain the following types of foundations
 - i. Slab or raft foundation
 - ii. Pad foundation
 - iii. Strip foundation (15 marks)
6.
 - a) Describe five advantages of diaphragm wall method of ground water control (5 marks)
 - b) With aid of sketches explain the following methods of ground water control
 - i sump techniques
 - ii. freezing method
 - iii. Well point method (15 marks)