



MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

FIRST YEAR FIRST SEMESTER EXAMINATION CERTIFICATE IN ELECTRICAL
ENGINEERING

EPC 102: TECHNICAL DRAWING 1

DATE: 15/12/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS:

- This Examination contains two sections A and B
- Section A is compulsory
- Attempt any other two questions from section B

SECTION A: COMPULSORY (30 marks)

1. (a) Using the uppercase and lowercase letters, print the following letters and numbers A B C D E G J P Q T Y Z
0-9 (5 marks)
- (b) Sketch the following types of lines
 - (i) Border line
 - (ii) Dimensioning line
 - (iii) Hidden line
 - (iv) Construction line

- (v) Centre line (5 marks)
- (c) Construct a heptagon given the diameter of a circle 70 mm. (10 marks)
- (d) Draw a line 90mm and divide it in the ratio of 2:1:4. (5 marks)
- (e) Draw the first and third angle projection symbols (5 marks)

SECTION B: ANSWER ANY TWO QUESTIONS

2. (a) Construct a pentagon given one side 35 mm. (10 marks)
- (b) Construct a triangle ABC circumscribed in a circle AB=70mm, BC=65mm and AC=45mm (10 marks)
3. (a) Fig 2 shows views of a machined block drawn in 1st angle projection. Draw an isometric block corner x as the lowest point. (15 marks)

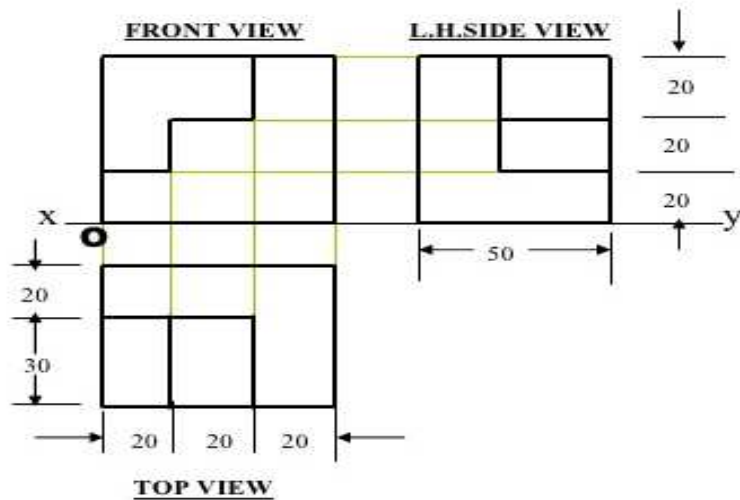


FIG.2.

- (b) Sketch the following electrical symbol symbols;
- i) resistor
 - ii) one way switch
 - iii) socket outlet
 - iv) diode
 - v) distribution board (5 marks)
4. (a) Draw in vertical free hand lettering the following sentence taking size =6mm

CERTIFICATE IN ELECTRICAL ENGINEERING =10 MARKS

- (b) Given a line 120 mm long, divide it into the ratio 1:4:2. (5 marks)
5. (a) Construct an internal tangent between two circles radii 25 mm and 40 mm with centre distance 80 mm. (10 marks)
- (b) Construct 125° , 105° , 75° 90° angles (10 marks)