KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL AND ELECTRONICS ENGINEERING

EEE 210: AUTOCAD AND MATLAB

DATE: WEDNESDAY 18TH APRIL, 2012 **TIME:** 8.00 A.M. – 10.00 A.M.

INSTRUCTIONS

ANSWER ANY THREE QUESTIONS

Q1 What do you understand by the following terms as used in CAD systems. Use sketches as much as possible

a) CAD/CAM (4marks)

b) Wire frame modeling. (4marks)

c) Describe by sketches and commands the various dimensioning techniques in AutoCAD (4marks)

d) Explain the concept and use of the layers in Autocad, (4marks)

e) Explain the concept and use of the trim ,extend, fillet. (4marks)

Q2

(a) Define the three types of Boolean operators and with sketches show how they can be used to modify solids in CAD. (4 marks)

b) What are the two types of arrays used, what commands are required for each of them.. (4 marks)

c) Describe any four types of primitives (4 marks)

d) Describe the concept and commands used for polyline, construction line. (4 marks)

e) How is 3D array achieved? (4 marks)

Q3. a) Give a brief description of MATLAB. (5 marks)

b) How is MATLAB used in research? (5 marks)

c) Discribe how you would utilize AUTOCAD to draw Fig Q3. (10 marks)

Q4

a) Using a CAD system of your choice describe the commands you input to draw the figure Q4 attached .(12 marks).

b) Describe the various methods of visualizing drawings (4 marks)

c), Explain the use of the following commands: region, explode,.

(4 marks)

Q5. With sketches and commands show how the following are achieved in computer graphics:

a) Mirror and move (4 marks)

b) Offset and rotate (4 marks)

c) Scale and stretch (4 marks)

d) Coppy and chamfer (4marks)

e) 3D orbit and text edit (4marks)

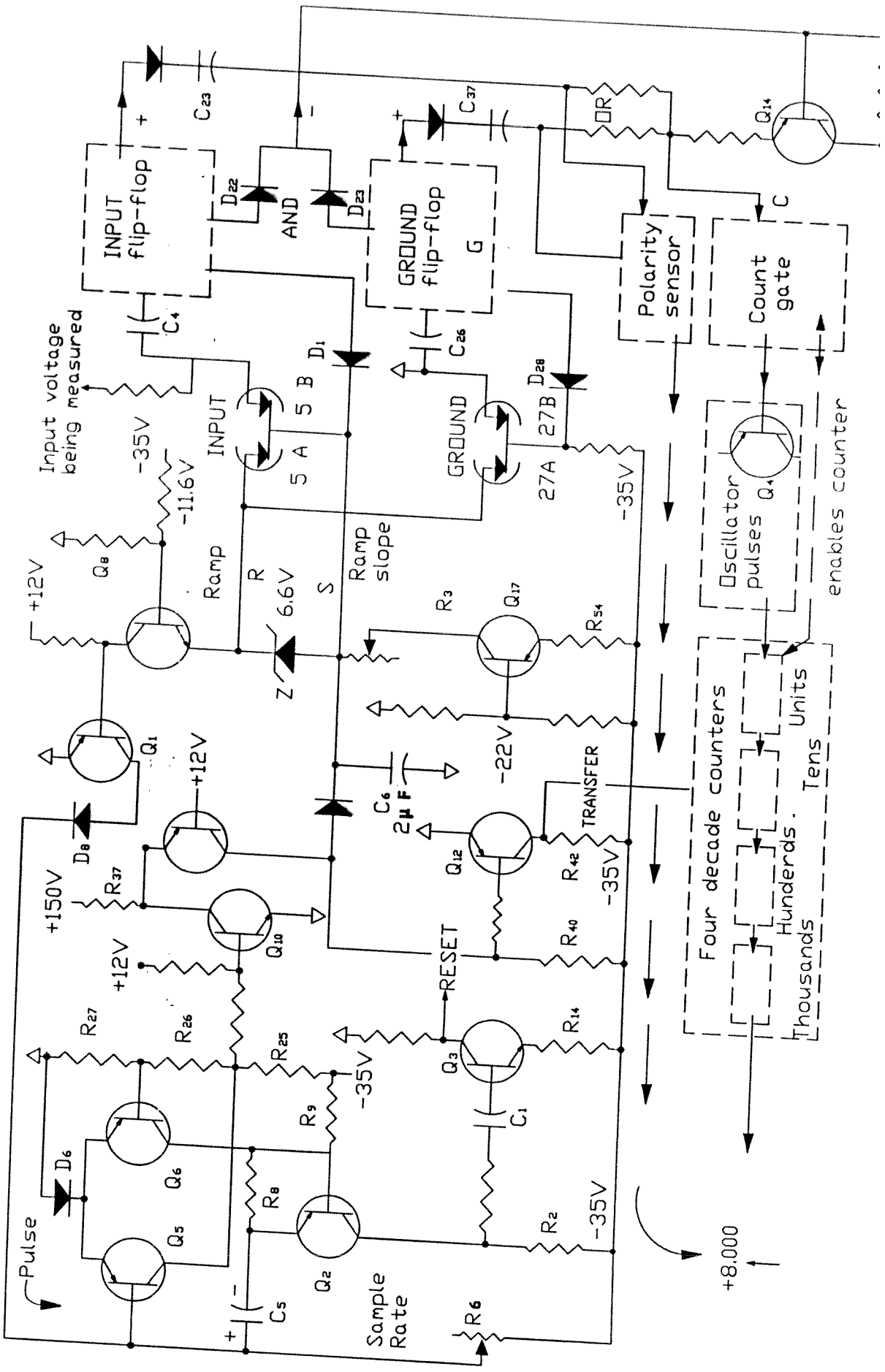
INPUT flip-flop
AND
GROUND flip-flop
Polarity sensor
Count gate
Input voltage being measured
-35V
-11.6V
INPUT
GROUND
Ramp
Ramp slope
6.6V
+12V
-22V
TRANSFER
RESET
+150V
Four decade counters
Units
Tens
Hunderds.
Thousands
Oscillator pulses
enables counter
Pulse
Sample Rate
+8.000

Fig Q3

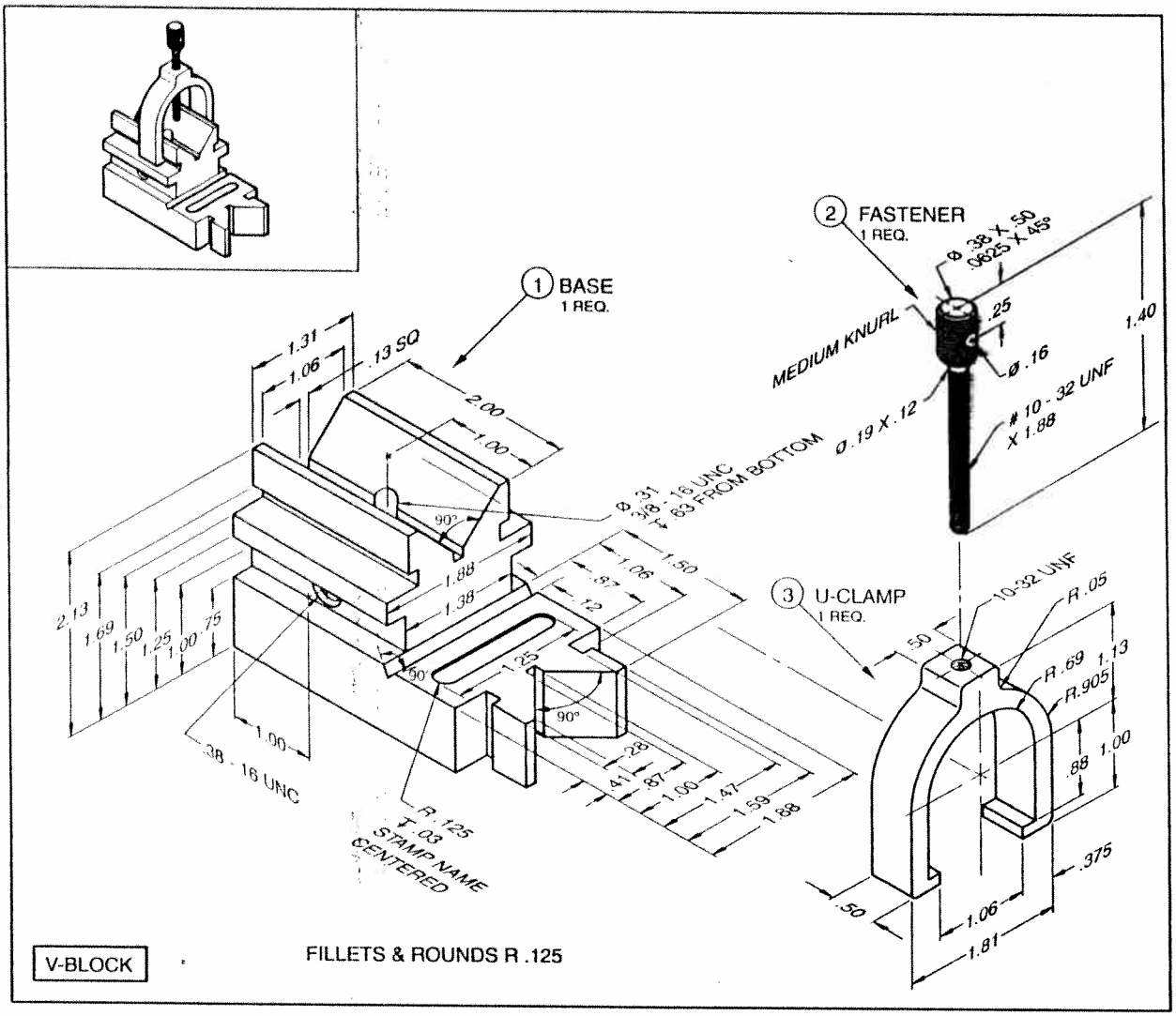

Figure 10.57

V-block

Fig Q4