



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)
Faculty of Engineering and Technology

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

DIPLOMA IN CIVIL ENGINEERING (DCE 10A)

EBC 2217: CIVIL ENGINEERING & COMPUTER AIDED DESIGN

END OF SEMESTER EXAMINATION

SERIES: APRIL 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *A Desktop Computer or a Laptop computer installed with the following application software:-*
 - A Word Processor
 - AutoCAD
- *Create a folder in the desktop and name it **DC 10A SE 12**, Save **ALL** your answers in **Word** and **AutoCAD** in this folder. Name your **Word** and **AutoCAD** file using your **FULL names** followed by your **Student Number***

This paper consists of **FIVE** questions

Answer any **THREE** questions. Maximum marks for each part of a question are clearly shown

This paper consists of **THREE** printed pages

The information given in Table 1 below relates to a proposed pipe-line.

TABLE 1:

CHAINAGE	BEARINGS			FORMATION LEVEL (above sea level)
	°	'	''	
0+000	00	00	00	112.000
0+100	55	55	21	115.200
0+150	125	17	40	117.300
0+200	238	39	57	129.550
0+250	180	00	00	125.650
0+350	256	16	36	135.500
0+450	294	21	39	148.750
0+500	37	03	34	145.450

Question 1 (20 marks)

Using the information given in Table 1, plot the route plan of the proposed pipe-line (20 marks)

Question 2 (20 marks)

Using the information given in Table 1, plot the longitudinal section (profile) of the proposed pipe-line (20 marks)

Question 3 (20 marks)

Figure 1 below shows the front elevation of a façade to the main entrance of an estate. Draw the elevation

Question 4:

The following information relates to a proposed residential house:

- 250mm thick external load bearing stone block wall
- 750 mm wide x 250mm deep plain concrete strip foundation
- Depth of strip foundation – at least 750mm below the average ground level
- Solid ground floor slab: 125mm thick, at least 150mm above the average ground level
- Ceiling height = 300mm above the FFL

Using AutoCAD, draw a section through an external wall from the strip foundation up to and including the eaves (closed eaves). Include an external timber door in the section
(20 marks)

Question 5 (20 marks)

Figure 2 below shows the elevation of a land mark across a road. Using AutoCAD, draw the elevation and give the maximum height at the centre of the road.