

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF BUILT ENVIRONMENT
DEPARTMENT OF QUANTITY SURVEYING
BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE
PART IV FIRST SEMESTER EXAMINATIONS – DECEMBER 2011
MEASUREMENT III - AQS 4107

Instructions to Candidates

Answer all questions.

SMM Booklet to be provided

SECTION A (Plumbing)

Question One

Fig 1 shows the layout for a residence. Given that

- Galvanised mild steel pipe shall be used for cold water.
- Hot water pipe shall be of copper to BS PART 1 with fittings conex or other approved compression fittings.
- Hot and cold water valves to be fullway gate valves type to BS 1952.
- All pipework to walls shall either be supported by brackets or holderbats spaced at 2mcentres or chased.
- Pipes in trenches to be laid 750mm deep.
- Water mains to be 20m from building
- The ceiling height of the buliding is 3m

a) Measure hot and cold water supply services (40 marks)

b) Take off the sanitary appliances (10 marks)

SECTION B: Civil & Structural Engineering Work

Question Two

A portion of road formation is taken to verify the claim for earthworks submitted by the contractor. The ground levels along the centre line on the portion of this road from chainage 50 to chainage 56 are given below. The chain was taken at 30m intervals and the formation level of the road is 95,00. The width of the road is 10m and side slopes of banking is 1:2 and sides slopes of cutting is 1:1,5.

Chainage	50	51	52	53	54	55	56
Ground level	96,20	95,80	95,40	94,80	94,00	93,50	93.50

Calculate the volumes of cutting and filling using the mean section area method. (25 marks)

Question Three

Referring to **Fig S1**, estimate the mass of the purlins, rafter bracings trusses and main girder.
(25 marks)