



DATE

: SUMMER EXAMINATION 2017
13 NOVEMBER 2017

DURATION

: (SESSION 2) 12:30 - 15:30

FACULTY	:	ENGINEERING AND BUILT ENVIRONMENT
DEPARTMENT	:	CONSTRUCTION MANAGEMENT & QUANTITY SURVEYING
COURSE	:	QUANTITY SURVEYING – QSB111
LECTURER	:	BERNARD MARTIN ARTHUR-AIDOO
MODERATOR	:	Mr. ANSARY NAZEEM
DATE	:	Nov- Dec 2017
MARKS	:	100

INSTRUCTIONS ANSWER ALL QUESTIONS

SECTION A

Measure the foundation and floor construction, super structure walls, internal finishes, and of the office building as shown on drawing no QSB 111 in accordance with the specification given below.

SPECIFICATION

Earthworks

- Use 3.0m clearance from the face of the wall as your QS note.
- The soil investigation reveals that the ground is ordinary earth but interspersed with soft rock approximately 10% and hard rock 5%.
- Backfilling to trenches from excavated material compacted to 98% modified AASHTO density.
- Topsoil to be stripped to an average thickness of 120mm and stockpile for later re-use in landscaping of garden.
- Excavation to surface trenches to commence from strip level.
- Surplus excavated material to be carted away to a dumpsite to be located by the contractor.

Concrete

- Concrete in footings to be unreinforced concrete class 20Mpa/19mm stone size.

Masonry Brickwork

- 270mm Cavity wall formed of two half brick skins with 50mm cavity between, built in NFX bricks in class II cement mortar in stretcher bond, skins tied together with and including galvanised wire butterfly ties.
- 110mm thick wall in stretcher bond with class II in cement mortar as internal wall.
- 3 courses of brickwork walling as beam filling and band

Foundation - Cavity wall foundation – 870 x 230mm
110mm wall foundation – 700 x 230mm

Floor Construction

- 1:4 in 50mm thick cement screed
- 100mm thick unreinforced concrete 20Mpa/19mm surface Bed,
- 50mm thick sand river bed supplied by a nominated agent
- Compacted inert earth filling material 150mm thick.

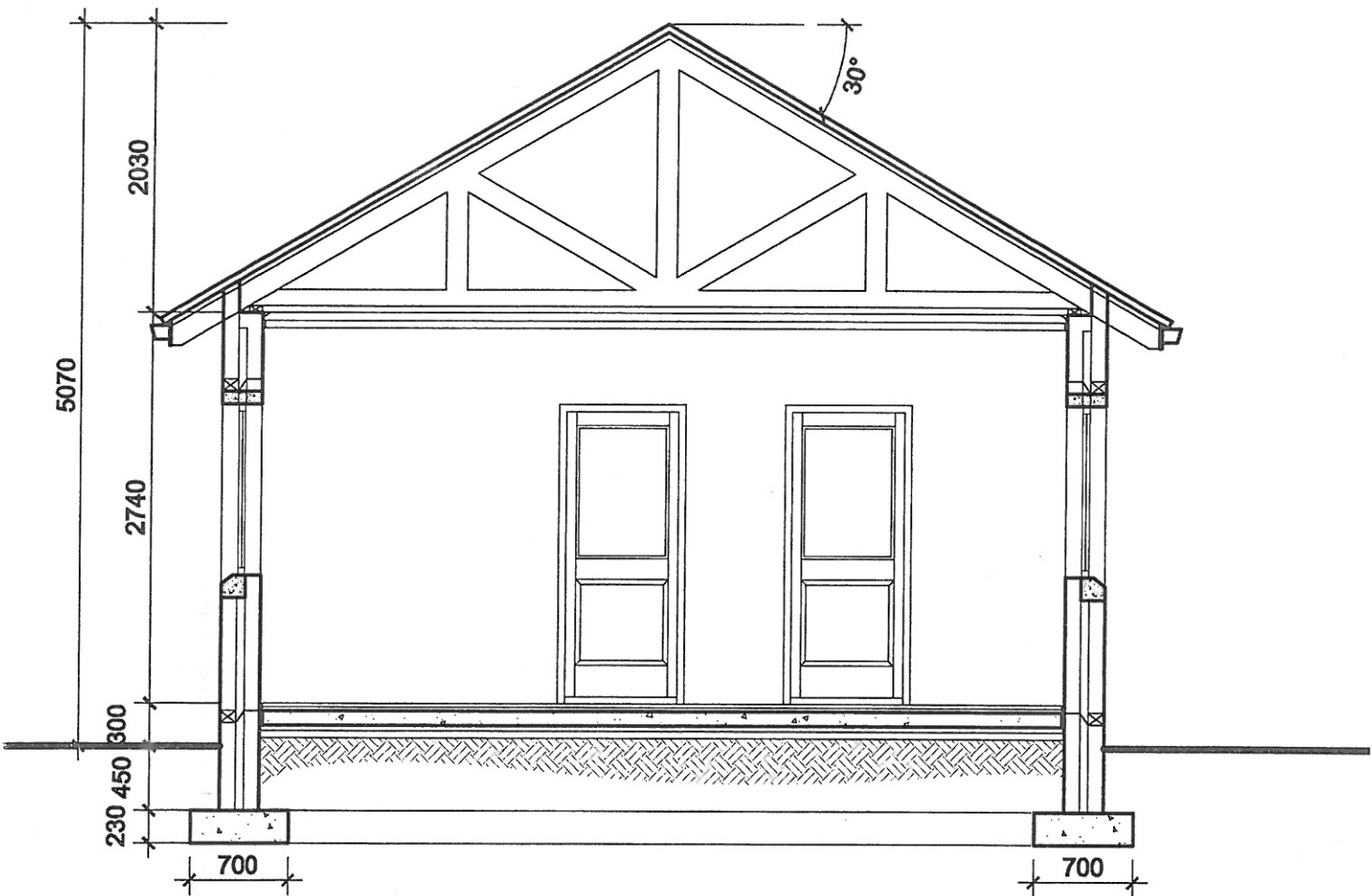
Waterproofing

- 250 Micron damp proof membrane laid on top of 50mm thick sand bedding on compacted earth filling.
- 375 Micron SANS approved damp proof course on walls.

SECTION B

- 1.1. Explain the term 'risk of collapse' in trench excavations? **(2 Marks)**
- 1.2. Identify at least **FOUR** skills required by a quantity surveyor when practicing. **(4 Marks)**
- 1.3. Illustrate on a dimension sheet how the following are applied in Quantity surveying practice.
 - i Squaring **(2 Marks)**
 - ii Timesing **(2 Marks)**
 - iii Grouping of dimension **(2 Marks)**
- 1.4. Demonstrate the following on a dimension paper. Excavate for surface trench not exceeding 2m depth. Using the following dimension length of trench 20.75, width of trench 0.5m and depth of trench 1.0m. **(2 Marks)**
- 1.5. List **TWO** items to be mentioned in the description of trench excavation **(2 Marks)**
- 1.6. Explain the reasons why river sand bedding is measured in the floor construction **(2 Marks)**
- 1.7. State **TWO** functions of a bill of Quantities prepared by a Quantity surveyor **(2 Marks)**

(20 Marks)



SECTION A-A 1:50

