UNIVERSITY OF JOHANNESBURG

PROGRAM	:	NATIONAL DIPLOMA BUILDING
SUBJECT	:	**QUANTITY SURVEYING 1**
CODE	:	**FQSG11B**
DATE	:	SUMMER EXAMINATION 2015 10 NOVEMBER 2015
DURATION	:	4 HOURS (SESSION 2) 12:30
WEIGHT	:	40 : 60
TOTAL MARKS	:	100

ASSESSOR	:	MR. BERNARD M. ARTHUR-AIDOO
MODERATOR	:	MR. NAZEEM ANSRAY
NUMBER OF PAGES	:	3 PAGES

INSTRUCTIONS	:	**ANSWER ALL THE QUESTIONS IN SEQUENCE OF THE MEASURING LIST**
REQUIREMENTS	:	ONE ANSWER SHEET, STANDARD SYSTEM MEASUREMENT, CONVERSION CHART ONE SCIENTIFIC CALCULATOR,

SECTION A

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

SPECIFICATION

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 – 750 x 230mm
110mm wall foundation – 500 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.

Internal and External finishes

Floor finish

- Wool carpets of 25mm thick laid on cement sand screed to all rooms except toilet and kitchen areas

Ceiling

- 6.4mm gypsum plaster board ceiling fixing to 38mm x 38mm wood brandering @ 450mm c/c
- 75mm gypsum covers cornice.

Plastering

- 1.4 cement sand plaster to walls internally
- 1:2 cement plaster for external use only

Painting

- 2 coats PAV on both ceiling and walls both internal
- 3 coats PVA on external walls
- KPS 3 coats on skirting not exceeding 300mm girth

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Door and Window schedule is as shown below:
Purposed made Doors to be hanged on 69 x 108mm wrot frame built into a one brick thick wall
D1 – 900 x 2100mm high (1 No.)
D2 – 900 x 2100mm high (2 No.)

Decoration of Door
Door and frame to be primed and undercoat and finished with 2 coats glass enamel paint.

Ironmongery ON Door
100mm in chromium plated nylon butt hinges
Floor mounted door stopper with rubber buffer
10mm diameter X 150mm galvanized steel dowels required to each stile for all doors.

Purposed made Windows
W1 –1000 x 1000mm high (6 No.)
W2 – 700 x 700mm high (1 No.)
W3 – 400 x 700mm high (2 No.)
Ignore all iron mongery to windows

Measurement of roof

Measure the quantities of the following items required for the roof construction of the bungalow shown on the attached drawings and in accordance with the specification given below.

3.1 Wall plate
3.2 Truss type T1 to T4 (shown on drawing)
Pitch of Roof is subtend at an angle of 35° with an overhang of 450mm

Specification

- All roof structural timber to be sawn South African pine grade stress grade 4
- The roof trusses are to be fabricated with approved galvanised mild steel double-sided round toothed timber connectors bolted with 12mm Diameter mild steel bolt with head, nut & washers.
- Trusses are to be tied down to wall at 1200mm centres with 33 x 1.2mm thick Galvanised mild steel hoop iron fixed in 600mm girth wrapped around and spiked to wallplate.
- Wall plate to be 38mm x 114mm Sawn South African pine fixed to wall with 33 x 1.2mm thick Galvanised mild steel hoop iron fixed in 600mm girth at 760mm centres with one end built into brickwork and other end wrapped around and spiked to the wall plate.
- Everite big six roof sheets on 50 x 76mm sawn South African pine purlins at 1000mm centres.

Roof Drainage

- 150mm diameter size rainwater down PVC pipe fixed to 270mm cavity wall.
- Protection to rainwater pipe by painting 2 coats of PVA round the pipe

SECTION B

1.1. Explain the difference between pretender and post -tendering? **(2 Marks)**

1.2. Identify at least four skills required by a quantity surveyor when practicing. **(4 Marks)**

1.3. Demonstrate on a dimension sheet how the following are applied in Quantity surveying practice.

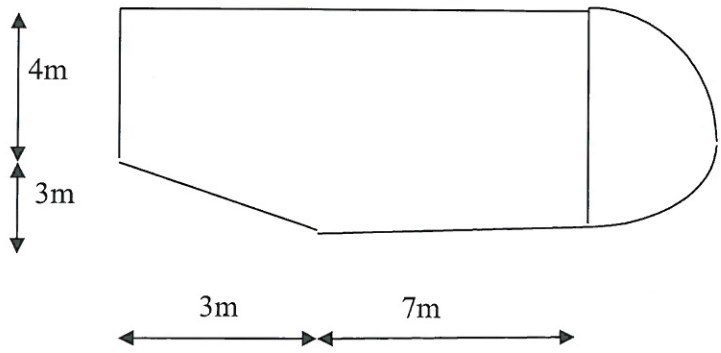
i Timesing **(2 Marks)**
ii Ampasand sign **(2 Marks)**
iii Grouping of dimension **(2 Marks)**

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 responsibilities of a QS during post tender period **(2 Marks)**

1.6. Write short notes on the term ''narrow width'' in plastering **(2 Marks)**

1.7. The figure below is the layout of building on a site to be cleared. Measure using the given dimensions without making any allowance from the face of the wall.



1.8. State two functions of a bill of Quantities prepared by a Quantity surveyor **(2 Marks)**

(20 Marks)

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Dimension paper

Student No.....

UNIVERSITY OF JOHANNESBURG

Dimension paper

Student No.....

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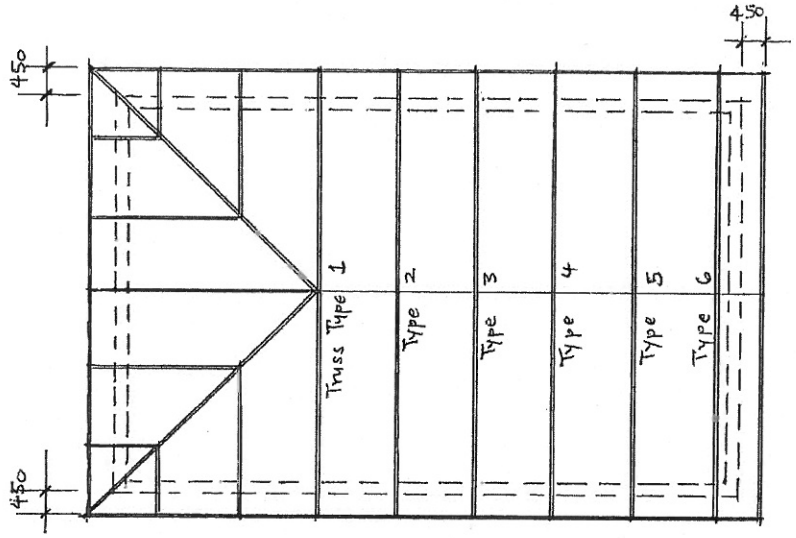
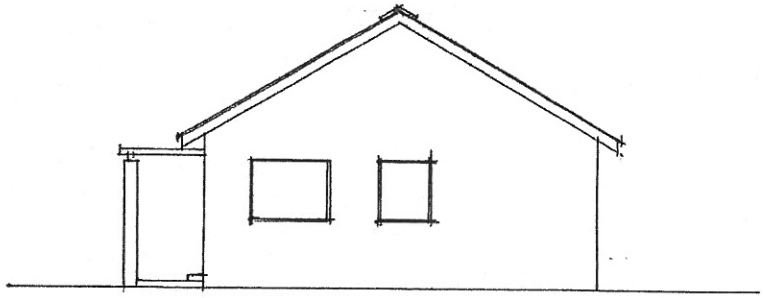
DRAWING NO: QSU 100/2014/02.

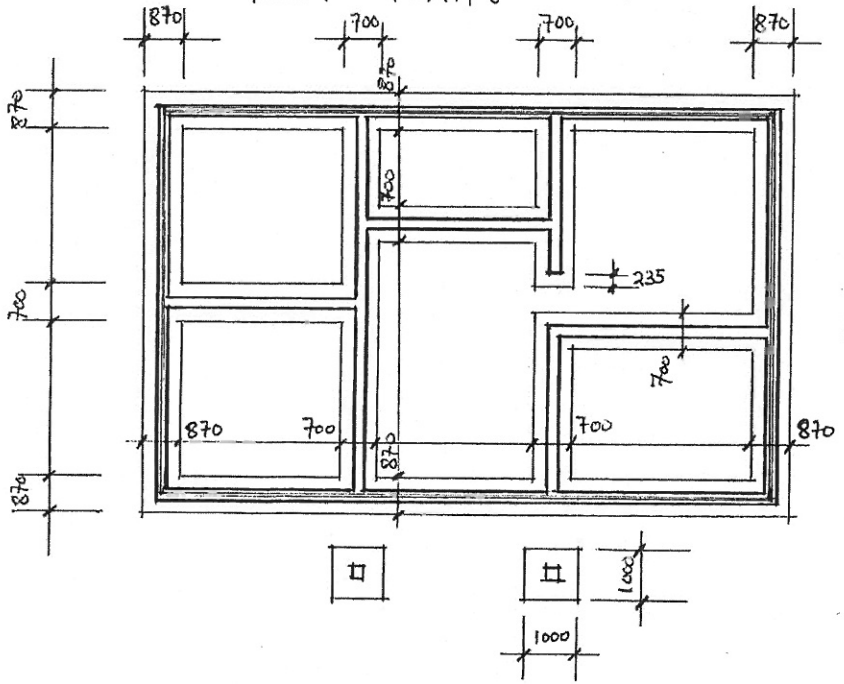
OFFICE BUILDING.



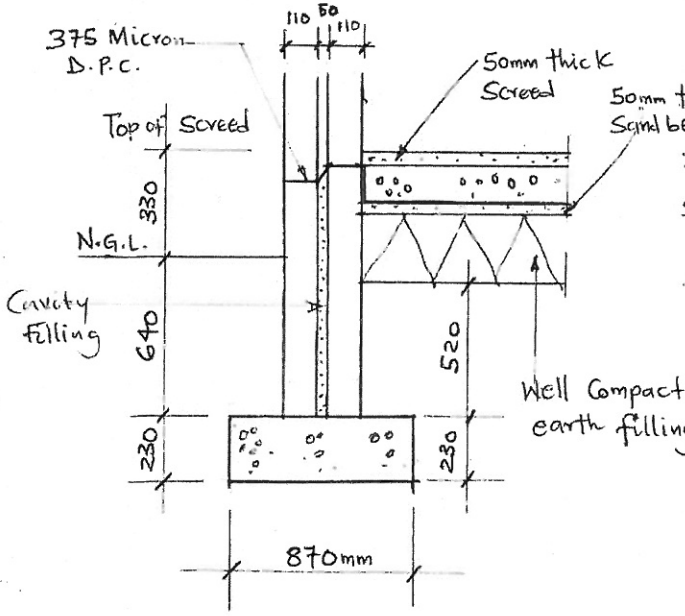
ROOF PLAN (SCALE 1:100)



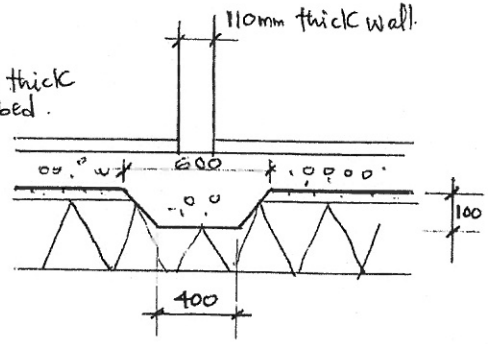
EAST ELEVATION (SCALE 1:100)



FOUNDATION PLAN (SCALE 1:100)



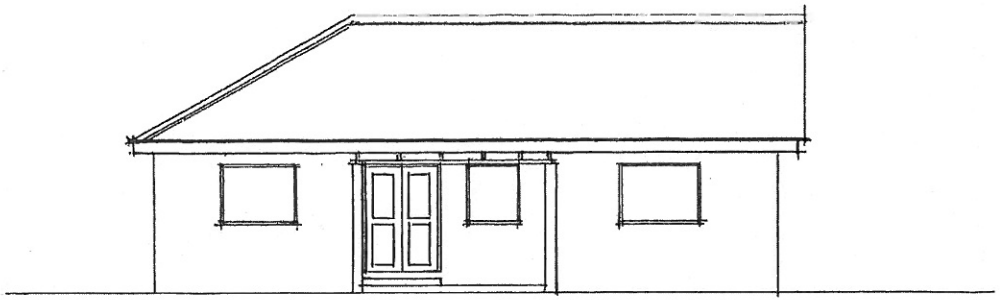
DETAIL AT A



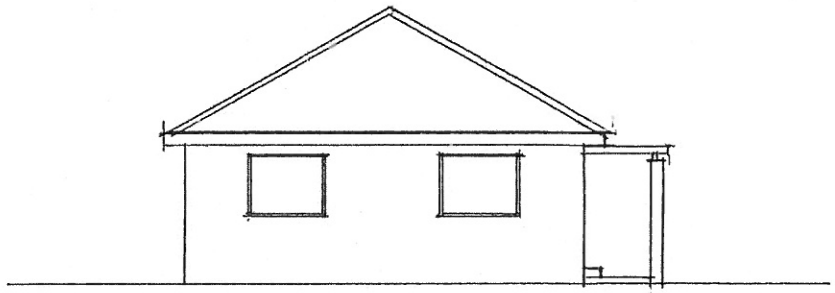
SECTION B-B

DRAWING NO: QSU 100/2014/01

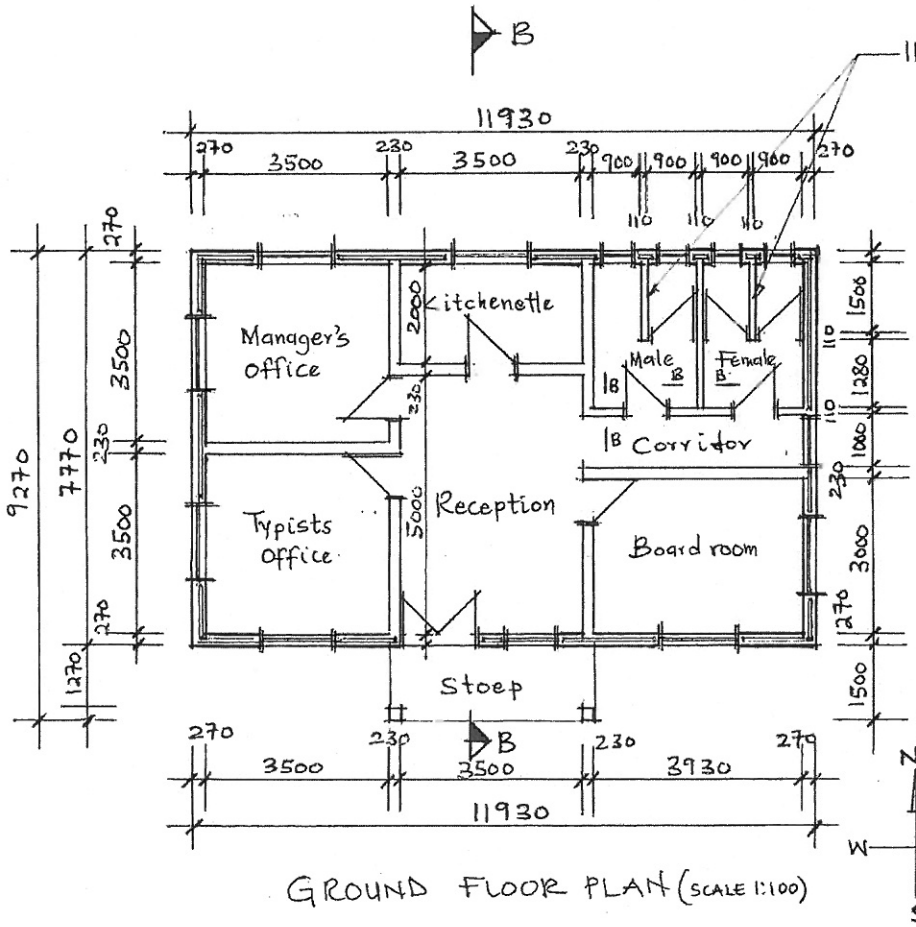
OFFICE BUILDING.



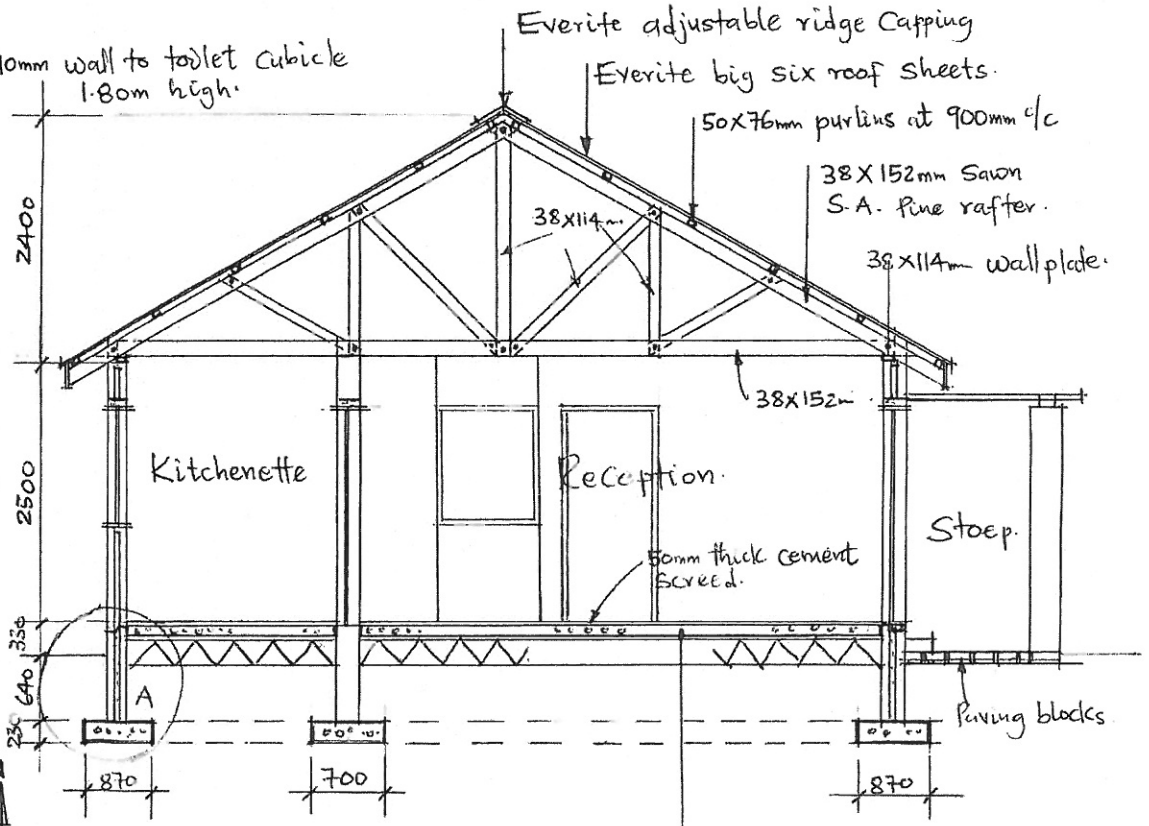
SOUTH ELEVATION (SCALE 1:100)



WEST ELEVATION (SCALE 1:100)



GROUND FLOOR PLAN (SCALE 1:100)



SECTION B-B

(SCALE 1:50)

Concrete class 20MPa/19mm in Surface bed on 250 micron D.P.M. on 50mm thick sand bed on Compacted earth filling