COURSE: DESIGN APPRAISAL AND MEASUREMENT 3A

CODE: ENPD3DA H1

DURATION: 4 HOURS

TOTAL MARKS: 100

INTERNAL EXAMINER: MR E ZULU

EXTERNAL EXAMINER: MRS E HEFER

INSTRUCTIONS AND NOTES

1. A copy of the Standard System of Measuring Building Work is provided
2. Carefully study all drawings and documents before attempting to answer the questions
3. You may make any reasonable assumptions regarding any missing details or ambiguous items and make a note of the assumptions in your answer booklet
4. Answer all questions
QUESTION 1 [20 marks]
Measure and bill for bulk excavations for the attached basement drawing. The ground is to be reduced to levels shown on the relevant drawing.

QUESTION 2 [30 marks]
Build up a unit rate for the BoQ item “Sand, seal and apply one coat undercoat and two coats exterior quality PVA emulsion paint on plastered walls externally” and include 8% for overheads and 20% for risk and profit given the following information:

Constants:
- 1 coat Undercoat on plaster – 7.2 litres per 100m$^2$
- 1 coat PVA emulsion paint on plaster – 8.3 litres per 100m$^2$
- Wall sealer – 25 litres per 100m$^2$
- Sand paper – 8 sheets per 100m$^2$

Labour
- Painter - R 19.80
- General Workers – R 23.47
- 1 coat undercoat on plaster – 5.8 man hours per 100m$^2$
- 1 coat PVA emulsion paint on plaster – 5.8 man hours per 100m$^2$
- Sand and seal – 5.0 man hours per 100m$^2$

Prices:
- Undercoat = R320.00 per 5 litres
- Exterior quality PVA emulsion paint = R280.00 per 5 litres
- Wall sealer = R450.00 per 5 litres
- Sand paper = R8.50 per sheet

QUESTION 3 [50 marks]
Measure and bill all quantities for concrete and formwork only for the attached framed structure.
Notes:
1. All concrete to be 30Mpa except for blinding which is 15Mpa
2. Blinding concrete is 75mm thick
3. Smooth formwork to all concrete
4. No formwork required for the bases
5. Concrete bases are 2000mm x 2000mm
6. Circular columns are 500mm diameter
7. The slab is 200mm thick