

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF QUANTITY SURVEYING

PART II SECOND SEMESTER EXAMINATIONS MAY 2013

COMPUTER APPLICATIONS IN QUANTITY SURVEYING - AQS2207

Time: 4 Hours

Total Marks: 100

Instruction to Candidates

Answer **ALL** Questions

Question One

You are employed by a firm of Registered Surveyors Brintol Consult. The senior quantity surveyor has tasked you to prepare the Programme of Works for the reinforced concrete structure using the information below. The project starts on the 6th of May 2013 **(25marks)**

| Description | Duration of the Activity |
|-------------------------------|---------------------------------|
| 1. Topsoil Excavation | 2days |
| 2. Topsoil Disposal | 1days |
| 3. Pit Excavation | 5days |
| 4. Disposal of Soil | 3days |
| 5. Earth Support | 2days |
| 6. Surface treatment | 1day |
| 7. Blinding Concrete | 3days |
| 8. Concrete Bases | 10days |
| 9. Reinforcement | 7days |
| 10. Concrete Columns | 15days |
| 11. Formwork to columns | 19days |
| 12. Concrete Bed | 15days |
| 13. Thickening to bed | 4days |
| 14. Formwork to edge of bed | 8days |
| 15. Concrete wall | 21days |
| 16. Attached columns | 10days |
| 17. Formwork to wall | 25 days |
| 18. Formwork to attached wall | 14days |
| 19. Concrete slabs | 9days |
| 20. Surface treatment | 4days |
| 21. Attached concrete beams | 8days |
| 22. Beam Formwork | 12days |
| 23. Concrete upstand | 5days |
| 24. Formwork to upstand | 9days |

Question Two

Prepare valuation certificate no. 5 for submission to the Architect for the month ending 25 August 2011.

The total of Certificates 1–4 inclusive was \$269,826.

- A. Measured Works 324,987.00
- B. Labour Escalations and Material Escalations- Calculate using Appendix A
- C. Preliminaries and Generals-45,400.00
- D. Material on Site
 - 1. Sand 20 tonnes @ \$116.50 per tonne
 - 2. Aggregate 30 tonnes @\$222.00 per tonne
 - 3. Cement 115bags \$10.00 per bag
 - 4. Partition blocks 90 blocks @\$191.00 per block
 - 5. Damp proof course 20 m @ \$1.20 per m
 - 6. Wall ties – stainless steel 400 no @0.20 each
- E. Nominated Subcontractors
 - Betrac Electrical (Electrical Installation)- \$25,000.00
- F. Retention 5% **(25 marks)**

Question Three

Using an attached Take – off prepare part of the measured works section of the Bills of Quantities.

- a. Foundations
- b. Superstructure Brickwork
- c. Joinery and Ironmongery
- d. Metal work
- e. Glazing
- f. Final Summary **(50marks)**

END OF EXAMINATION

Appendix A

Material increased cost schedules as at 1 August 2011

Price List

| | Description | Unit | Quantity | Basic Price | New Price |
|----|---------------------------|----------------|----------|-------------|-----------|
| 1 | Cement | kgs | 50 | 8.00 | 12 |
| 2 | Common Bricks | No | 1000 | 0.2 | 0.2 |
| 3 | 19mm stone | m3 | 10 | 40 | 47 |
| 4 | 5m ³ Riversand | m ³ | 5 | 38 | 30 |
| 5 | 5m ³ Pitsand | m ³ | 5 | 36 | 32 |
| 6 | 115mm Brickforce | Roll | 5 | 20 | 20 |
| 7 | 230mm Brickforce | Roll | 10 | 18 | 25 |
| 8 | 115 Damp Proof Course | Roll | 2 | 21 | 23 |
| 9 | Damp Proof Membrane | Roll | 4 | 24 | 26 |
| 10 | Mesh reinforcement | kgs | 250 | 15 | 5 |
| 11 | 115mm door frame | No. | 6 | 60 | 67 |
| 12 | 230mm door frame | No. | 12 | 75 | 85 |

Timesheet-

| Name | Grade | M | T | W | T | F | S | S | M | T | W | T | F | S |
|-----------|-------|---|---|----|----|---|---|---|---|----|---|----|---|---|
| S Nyathi | WG1 | 9 | 9 | 9 | 10 | 8 | - | - | 9 | 9 | 9 | 9 | 8 | - |
| Q Ncube | WG1 | 9 | 9 | 9 | 9 | 8 | - | - | 9 | 9 | 9 | 9 | 8 | - |
| D Ndebele | WG1 | 9 | 9 | 11 | 9 | 8 | - | - | 9 | 10 | 9 | 11 | 8 | - |
| X Dlodlo | WG1 | 9 | 9 | 9 | 9 | 8 | - | - | 9 | 9 | 9 | 9 | 8 | - |
| S Siziba | WG4 | 9 | 9 | 9 | 9 | 8 | - | - | 9 | 9 | 9 | 9 | 8 | - |
| O Masina | WG4 | 9 | 9 | 9 | 9 | 8 | - | - | 9 | 9 | 9 | 9 | 8 | - |
| H Hadebe | SW1 | 9 | 9 | 9 | 10 | 8 | - | - | 9 | 9 | 9 | 9 | 8 | - |
| O Moyo | SW1 | 9 | 9 | 11 | 9 | 8 | - | - | 9 | 10 | 9 | 11 | 8 | - |

Minimum Wages to be paid to skilled workers, approved classes of workers and worker grades

| | Wages as at 1 January 2011 | Wages as at 1 August 2011 |
|------------------|----------------------------|---------------------------|
| Skilled Worker 1 | 9.66 | 10.56 |
| Skilled Worker 2 | 8.33 | 8.64 |
| Skilled Worker 3 | 7.47 | 7.74 |
| Skilled Worker 4 | 5.81 | 6.04 |
| Worker Grade 1 | 4.01 | 4.26 |
| Worker Grade 2 | 4.25 | 4.42 |
| Worker Grade 3 | 4.87 | 4.97 |
| Worker Grade 4 | 5.61 | 5.84 |