EXAMINATION PAPER CONTROL SHEET

To be completed by the EXAMINER (not the admin person) and attached to the OUTSIDE of the exam envelope.

TO BE CHECKED BY EXAMS OFFICE AGAINST FINAL TIME-TABLE

DATE: .....................  TIME: ..................  VENUE: ..................
NO. OF COPIES TO PRINT: ..................  DATE RECEIVED AT EXAMS OFFICE: ..................
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MONTH AND YEAR OF EXAMINATION: ...May / June 2012 (Main Exams) .............................
SCHOOL : .......Engineering........................................
MODULE CODE: ...ENPD30A......  MODULE NAME: Design Appraisal & Measurement 3A ......
PAPER NO.: .............  DESCRIPTION: ........................................
DURATION OF EXAM: .......... HOURS .......  NO. OF PAGES SUBMITTED FOR PRINTING: ..........
ANTICIPATED NO. OF STUDENTS WRITING THIS PAPER: ........................................

- PRINT DOUBLE-SIDED (Tick choice)  [YES]  [NO]
- OPEN BOOK ALLOWED (Tick choice)  [YES]  [NO]
- REFERENCE SHEET ALLOWED? (Tick choice)  [YES]  [NO]
- DOUBLE DESKS REQUIRED? (Tick choice)  [YES]  [NO]
- SCIENTIFIC CALCULATORS ALLOWED? (Tick choice)  [YES]  [NO]
- "PROGRAMMABLE CALCULATORS ALLOWED? (Tick choice)  [YES]  [NO]

* Exams Office staff cannot be responsible for checking or clearing the memory of programmable calculators.

INDICATE NUMBER OF BOOKS/SHEETS TO BE SUPPLIED TO EACH STUDENT:

[ ] 3-PAGE EXAM BOOK (turquoise)  [ ] MGQ ELECTRONIC ANSWER SHEET
[ ] 7-PAGE EXAM BOOK (royal blue)  [ ] GRAPH PAPER
[ ] 15-PAGE EXAM BOOK (green)  [ ] STATISTICS TABLES / STEAM TABLES

OTHER (PLEASE SPECIFY): ..........................................................

Can this paper be retained by the students after the exam? (Tick choice)
if NO, front page must be of coloured paper, to assist security in ensuring this.

[ ] YES  [ ] NO

Name of Internal Examiner(s): 1. Mr. R. Peer  2.  Signature(s): 1.  2.  
Email address of Internal Examiner(s): 1.  2.  
Contact numbers during exam:
Office Ext.:  Coll:  Home:  
Name of External Examiner(s): 1. Mr. J. Richards  2.  Signature(s): 1.  2.  
Name of Head of School/Programme:  Signature: ........................................
Master copy checked by (PRINT NAME):  N. HAIRWA  
Date: 7 May 2012  Signature: ........................................

2011
UNIVERSITY OF KWAZULU - NATAL

SCHOOL OF CIVIL ENGINEERING, SURVEYING & CONSTRUCTION

PROPERTY DEVELOPMENT PROGRAMME

EXAMINATIONS: JUNE 2012

ENPD3DA – DESIGN APPRAISAL & MEASUREMENT 3A

TOTAL MARKS: 200  DURATION: 4 HOURS

INTERNAL EXAMINER: MR. A R PEER
EXTERNAL EXAMINER: MR. JOHAN RICHARDS

NOTES TO CANDIDATES:

This is not an open book examination. Only the following reference material will be permitted in the venue:


All work is to be measured in accordance with the latest edition of the Standard System of Measuring Building Work

NO class notes, drawings, or take-offs will be permitted in the venue.

Calculators will be permitted except programmable calculators.

Students are to answer ALL questions. (In any order of preference)

Mark allocations are indicated adjacent to each question.

This question paper may not be retained by the candidates and must be returned with the scripts.

All drawings must be returned with the scripts.

GENERAL INSTRUCTIONS

1. All queries, assumptions and notes are to be recorded in query sheets.
2. Where information is not provided or where the drawings are silent, you are to make reasonable assumptions.
3. Dimensions check and squaring of dimensions are required.
4. No drawing register is required.
5. A measuring list is required
6. All dimensions must be referenced
7. SEVEN (7) drawings (all size A4) are attached to this question paper

June 2012  ENPD3DA
QUESTION 1

REINFORCED CONCRETE

Measure ALL the reinforced concrete (slabs, beams and columns) above Level +0.200 from the following drawings:

1. PLAN – GROUND FLOOR
2. PLAN – FIRST FLOOR
3. PLAN – ROOF LEVEL
4. SECTION A – A
5. DETAILS R02, F02, M02
6. DETAILS R01, F01, M01
7. DETAILS R03, F03, F04

Do not measure the staircase and lift shaft. No deduction must be made for these elements. I.e. measure over these elements without making any deductions.

Marking criteria: Measuring List (15) Taking off (160)

Overall presentation: order, referencing, neatness, etc (25) Total 200 Marks

NOTES

Concrete Strengths
Slabs and beams 25Mpa/19mm stone
Columns 30Mpa/19mm stone

Structural concrete sizes
Slabs and beams as shown on drawings
Size of coffers 700 x 700mm at bottom and 600 x 600mm at top x 425mm deep
And 20 No. per bay (i.e. 5 No. x 4 No.)
Coffer slab 500mm thick overall (425mm deep coffer + 75mm topping)
Reference 245 mesh reinforcement in topping
Columns 230 x 460mm – centralized on grid lines

Formwork
Smooth formwork Class F2

Reinforcement
Allow the provisional tonnage of 30 tonnes of reinforcement for all structural reinforced concrete n the proportions of 25% for mild steel and 75% for high tensile bars

Staircase Size as shown on plan x 1000mm wide

Lift size 2030 x 2000mm internally

General There are no beams along grid lines 2, 3, and 4
RC beams along grid lines 1 and 5 are: as detail F01 from B to E at Lvl +7.105
RC perimeter beams at Lvl +10.505 are 230 x 840mm as shown on detail R01
PLAN - ROOF LEVEL

DRAWING NO. 3
230 x 500mm upstand beam

+11.005

170mm rc slab

+10.505

230 x 170mm downstand beam

DETAIL R02

D

+7.105

170mm rc slab

230 x 255mm downstand beam

DETAIL F02

D

+3.455

255mm rc slab

DETAIL M02

DETAILS R02 F02 & M02

DRAWING NO. 5

115 115

DESIGN APPRAISAL AND MEASUREMENT 3A
EXAMINATION JUNE 2012
DETAIL R01

DETAIL F01

DETAIL M01

DETAILS R01 F01 & M01

DRAWING NO. 6

DESIGN APPRAISAL AND MEASUREMENT 3A
EXAMINATION JUNE 2012
DETAIL F04

DETAILS R03 F03 & F04

DRAWING NO. 7

DESIGN APPRAISAL AND MEASUREMENT 3A
EXAMINATION IIUNF 2012