



PROGRAM : NATIONAL DIPLOMA
ENGINEERING: CIVIL

SUBJECT : **DOCUMENTATION 3 : DIS3111**

CODE : SUMMER SUPPLEMENTARY EXAM

DATE : SUMMER SSA EXAMINATION 2017
12 JANUARY 2017

DURATION : (SESSION 2) 11:30 - 14:30

WEIGHT : 40 : 60

TOTAL MARKS : 90

ASSESSOR : MRS. N. REYNECKE

MODERATOR : MRS. S MANYUMWA

NUMBER OF PAGES : 3 PAGES AND 6 MEASURING SHEETS

INSTRUCTIONS : ONLY ONE POCKET CALCULATOR PER CANDIDATE
MAY BE USED.

REQUIREMENTS : NONE

2/...

INSTRUCTIONS TO STUDENTS

PLEASE ANSWER ALL QUESTIONS.

Question 1**[30]**

Use the following land surveying information and the graph paper provided to take off quantities for excavation, backfilling and pipe laying for the 500mm diameter storm water pipe.

Stake Value	0	150	220	380	490	650	850	1000
Ground level (G.L)	69.30	70.00	69.80	68.30	68.70	68.2	67.8	69.5
Invert level (I.L)	68.10	1 :500						

Note :

- Soft material
- Use class "B" pipe bedding.
- Supply and install a 1000 mm diameter precast concrete manhole at stake value 500 and stake value 1000 complete with type 4 cast iron cover and frame including G.I step irons
- Compact to 95% Mod. Aashto

Question 2**[30]**

Use the following table along with the quantities gathered in question 1 to estimate the cost for the laying of a 500mm storm water pipe.

Data sheet	
Labour rate	: R200/day
Drain layer	: R336/day
With a day being 8 hr long	
Overheads and profit should be 20%	
Pipe laying:	Material for Bedding cradle and blanket
Excavate, Lay and backfill	Bedding cradle
Soil type - Soft soil	R30/m ³ of material
Pipe length - 1000 m as determined from question 1	Waste on bedding cradle mat. : 2%
Cost per pipe - R232 per 6 m of pipe	Bedding blanket
Waste on pipe - 5%	R35/m ³ of material
Hand excavation: average width 1100mm average depth 2.0m	Waste on bedding blanket mat. : 3%
	(Remember that bedding blanket and cradle needs to be added as material coming on to site)

Question 3

[20]

- 3.1. The SAICE GCC 2015 state several role players who have to be taken into account – mention five. [5]
- 3.2. What are the three options to resolve differenced and/or disputes on a construction contract? [3]
- 3.3. What is the certificate of completion? [2]
- 3.4. What is the certificate of practical completion? [2]
- 3.5. What type of materials and things fall under clearance of site completion name four? [4]
- 3.6. Does the contractor require permission to remove construction equipment from site, and if so, under which clause does this fall? [2]
- 3.7. What are non-working times? [2]
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Initial & Surname: _____

Student number: _____

[illegible]

Initial & Surname: _____

Student number: _____

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Initial & Surname: _____

Student number: _____

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Initial & Surname: _____ Student number : _____

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Initial & Surname: _____ Student number : _____

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Initial & Surname: _____ Student number : _____

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