higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T370**(E)**(A7)T

NATIONAL CERTIFICATE

COMMUNICATION N4

(5140004)

6 August 2019 (X-Paper)
09:00–12:00

This question paper consists of 9 pages, an addendum of 2 pages and 1 answer sheet.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
COMMUNICATION N4
TIME: 3 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
2. Read ALL the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Read and interpret the questions against the given background and apply ALL the available information.
5. Information not provided, has to be created by the candidate.
6. Leave a line between questions.
7. Start every question in SECTION B on a NEW page, e.g. QUESTION 3, 4, etc.
8. Use the ADDENDUM (attached) when answering QUESTION 6.
9. Answer QUESTION 7 on the ANSWER SHEET (attached).
10. Write neatly and legibly.

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SECTION A: BASIC COMMUNICATION PRINCIPLES

There are many career choices in engineering, ranging from civil engineering to aerospace engineering. Many companies are looking for engineers and there are increasing possibilities within this field. A segment of engineering that is receiving special attention is environmental and green engineering. Many companies are trying to reduce their carbon footprint by changing the way they are doing business.

BACKGROUND

You are Kabelo Segwaba, an environmental engineer with a Civil Engineering degree. You work for Enviro SA (Enviro Water Technologies South Africa), a company dedicated to helping cities and industries manage, optimise and make the most of their resources. Enviro SA provides an array of solutions relating to water, energy and materials. They focus on waste recovery, mainly from the mining industries.

Your address is 50 Columbine Road, Pinetown, Kwa-Zulu Natal, 4051. Telephone and fax numbers are 031 525 6644 and 031 441 7771 respectively.

QUESTION 1

The transmission of messages is an important element in the field of communication. Read the following telephone conversation that Kabelo had with a mining engineer from Durban and answer the following questions:

TELEPHONE CONVERSATION

Kabelo: Good morning Craig, I am glad you have taken the time to speak to me.

Craig: No problem Kabelo, Enviro SA is always on top of their game! So any news or information that you have for me is really very welcome!

Kabelo: Thanks Craig. Yes, we do have some new developments that I would like to share with you.

Craig: Awesome! Shoot my man.

Kabelo: Well, I would like to visit your department and give a presentation on the latest applications for both water treatment and waste-water treatment. I thought it would be better to speak to you so that you can perhaps get the wheels in motion, so to speak.

Craig: Geez, things are getting sticky here. We have to go through a new procurement department for absolutely everything! You won't believe it Kabs, the other day I had to put in a requisition for toilet paper! I mean really!

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Kabelo: (Laughs to himself, Craig is such a character) I get what you're saying, but I would really appreciate it and you will find that this is absolutely necessary for your industry. Can I e-mail you the information Craig?

Craig: What's that? You're breaking up Kabelo ... are you there? … Look, send me the info and I will see what I can do, bru. You're breaking up, it must be the tunnel I am in.

1.1 Draw a communication model, using the above scenario to guide you. You should include the following information in your diagram:

- The source of the message
- The code of the message
- The message
- The channel or medium of communication
- The receiver
- The response
- Barriers (8)

1.2 The conversation is informal.

Give TWO reasons why informal communication can be useful in an organisation. (2 × 1) (2)

1.3 Explain the difference between *informal communication* and the *grapevine*. (2 × 1) (2)

1.4 Quote THREE examples from the dialogue of the slang that Craig used.(3 × 1) (3)

1.5 Give THREE advantages of direct or face-to-face communication. (3)

1.6 What is the difference between *intrapersonal communication* and *interpersonal communication*? (2 × 2) (4)

1.7 Kabelo wants to e-mail information to Craig.

State THREE advantages of electronic communication. (3)
[25]

QUESTION 2

Match a conversation barrier in COLUMN B with a statement in COLUMN A. Write only the letter (A–E) next to the question number (2.1–2.5) in the ANSWER BOOK.

COLUMN A		COLUMN B	
2.1	Joyce could not understand the instructions from the focus group leader as he was speaking with a strong accent.	A	physical barrier
2.2	Michael's presentation was interrupted by unhappy, striking staff.	B	perceptual barrier
2.3	Mary could not concentrate during the meeting as she was very upset about the argument she had with a colleague.	C	semantic barrier
2.4	John felt angry that his qualifications and education was overlooked and a woman was employed instead.	D	physiological barrier
2.5	Lucas could not see the presentation screen as he had forgotten his glasses at home.	E	psychological barrier

(5 × 1) **[5]**

TOTAL SECTION A: 30

SECTION B: CONCISE CORRESPONDENCE AND COMMUNICATION IN MEETINGS

QUESTION 3: EXPANSION FROM NOTES

On 20 July you will offer a presentation at Pinelands Mining. Use the following core notes and expand them into a coherent paragraph that will be shared at the company monthly general meeting.

For the answer make sure that:

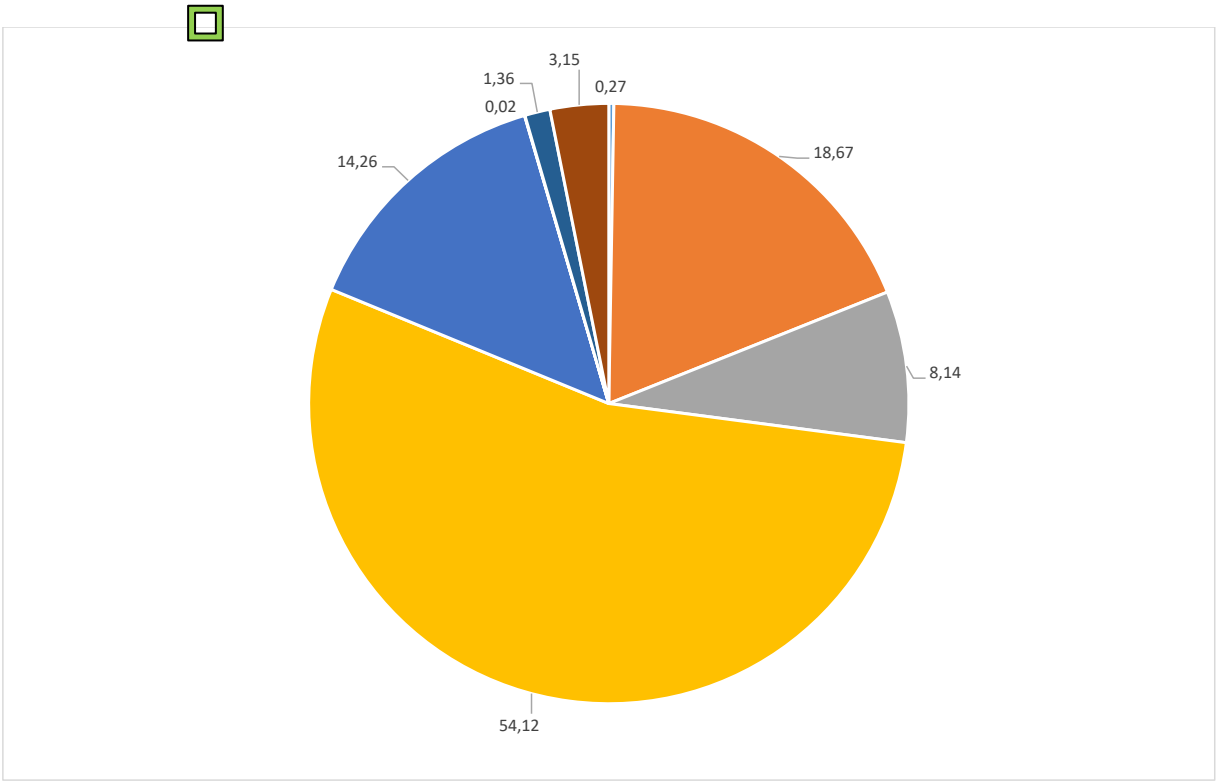
1. You supply a new heading
2. You write one complete paragraph
3. Your language and punctuation is correct

Seawater desalination: Looking to the future

- Waste-water technologies
- Encompasses several treatment processes – mainly mining
- Enviro SA builds and commissions world-class water management solutions
- Helps others to manage own treatment technology effectively
- Plant supplied directly by open seawater intake
- 600 m from shore
- Water pumped, at station, holding tank via drum screens
- Help to remove impurities
- Water passes six filters
- Treated water fed to split tanks – 5 megalitres – supplies clients
- All water treated chemically
- Stabilised pH balance **[20]**

QUESTION 4: GRAPHIC PRESENTATIONS

Study the graph that Kabelo presented on 20 July 2019 at a presentation about Water Management Plans In Mining at Pinelands Mining and answer the questions that follow:



Chlorination	0,27%
Seawater desalination	18,67%
Tailings	8,14%
Aeration	54,12%
Waste-water pumping	14,26%
Screens	0,02%
Grit	1,36%
Clarifiers	3,15%

4.1 What is the least represented on the graph? (1)

4.2 What is the total combined percentage of seawater desalination and waste-water pumping? (2)

4.3 Which areas make up less than one percent? (2)

4.4 Which area makes up more than fifty percent? (1)

4.5 Add up the THREE highest percentages on the graph. (4)

4.6 Give TWO reasons why using a pie chart could be beneficial during a presentation. (2 × 1) (2)

4.7 Name THREE other visual methods that Kabelo could use during his presentation. (3 × 1) (3)

[15]

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QUESTION 5: LETTER OF COMPLAINT

Enviro SA has awarded contract work to a local company, Piping and Co., who claimed to be experts in piping and geotechnics (a branch of civil engineering concerned with the study of soil and rocks). They supply products and services above and below ground for water and waste management to the mining industry as well as to the domestic sector. You, as Kabelo Segwaba, the environmental engineer of Enviro SA, are handeling the orders.

On 30 July 2019 you received a consignment of piping. However, on closer inspection the pipes were of substandard quality and not what you had ordered. You were very disappointed and decided to write a letter of complaint to the manager of Piping and Co.

In your letter state that you had ordered MEGATUFF HDPE 100 as this is the preferred choice, especially in the mining industry. These pipes are known for their 100-year life span as they can withstand chemicals and have abrasion-proof properties. They can weather the African environment and harsh conditions very well and it is for this quality that you ordered the piping and paid a huge sum of money. The consignment that you received was delivered on time but is for domestic use. This problem has set your company back and your delivery times will now not be met.

In your letter you should mention the quote number X50909 as well as your requisition form number MM 4443 from Piping and Co.

Write the letter of complaint that you sent to Piping and Co. **[35]**

QUESTION 6: MINUTES OF A MEETING

On 31 July 2019, Enviro SA held a monthly general meeting in their conference centre at 8:30. Feedback was given by Mr Bruce on the water-filtration system at Osmosis Mining in Saldanha Bay and by Mr Segwaba about the presentation he made at Pinelands Mining (See graphic presentation in QUESTION 4).

Matters discussed for the first time were:

- Seawater desalination (Mr Arnolds)
- New procedures within the industry (Mr Segwaba)

Write the minutes of the monthly general meeting mentioned above and read the article, WATER TECHNOLOGIES: LOOKING TO THE FUTURE on the ADDENDUM (attached) to assist you with more detail. Information not provided, should be created by the candidate. **[35]**

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QUESTION 7: E-MAIL

On 4 August 2019 you received correspondence from Jenny Bilo from Pinelands Mining. They were very impressed with the presentation that you offered on 20 July 2019 on Water Management Plans In Mining and would like to offer you a contract for 2020. They requested a meeting where the contract can be discussed. They also would like more information on '*Tailings Pond Management Technology*'. They would also like you to attach an electronic catalogue with all other information regarding waste recovery.

Respond to the correspondence via e-mail. Their e-mail address is pinelandsmine@mail.com. Also CC your project manager. (You only have to refer to the electronic catalogue.)

Answer this question on the ANSWER SHEET (attached). Write your EXAMINATION NUMBER in the space provided, detach it from the question paper and hand it in with your ANSWER BOOK. **[15]**

TOTAL SECTION B: 120
GRAND TOTAL: 150

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ADDENDUM (QUESTION 6)

WATER TECHNOLOGIES: LOOKING TO THE FUTURE



Water technology is changing our mining landscape

In order to comply with regulations and ensure that the quality of water leaving mine sites is not adversely affecting water users downstream, mining companies are developing water management plans to minimise the potential of water contamination and to prevent the release of polluted water into the environment.

Awareness of the environmental impact and concern for the environment has increased in recent decades, resulting in more stringent environmental regulations worldwide. An example is that if a stakeholder believes that a mine is using too much water or is polluting the water, he/she can cause social conflict and discontent.

Water management strategies are very important and are now at the heart of mining developments, operations and restoration activities. Many mines are outsourcing this responsibility to other companies to help them in this endeavour.

Part of the solution is the use of *water-filtration systems* and many mines are resorting to the following filtration systems:

Well-water filtration, water reuse, drip-emitter protection, leaching pads, source water screening, straining and filtering. Water filtration is an economical solution for the clean-up of overflows contaminated with inorganic particulates, including metals and salts such as nickel, copper, zinc, cobalt, tin, etc.

Many of the water control techniques used are put in place to prevent the release of contaminants into the environment. Most often companies try to intercept and divert the surface water. They can also recycle water used for processing ore or even capture drainage water. Installing liners and covers on waste rock and ore piles are also popular. The methods chosen are dependent on the site. In environments that have a higher rainfall, for example, the focus would be on water interception, whereas in dry environments the focus would be on recycling water.

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Seawater desalination is another option that mines are leaning towards. Seawater contains large quantities of valuable minerals. Some are very scarce and expensive in their land-based form. Due to the recent problems associated with land-based mining, seawater mining has become an attractive option. Rapid population growth and industrialisation have drastically increased the demand for fresh water. The salt content is too high for drinking, industry and agriculture and for this reason the water needs to be desalinised. If minerals found in seawater are properly extracted, water production costs of the mines can be lowered. This is a viable option for many mining industries and should definitely be looked into.

Tailings pond management refers to mine dumps, slimes, refuse or leach residue. These are the materials that are left over after the process of separating the valuable fraction from the ore. Tailings are the waste rock or other material that overlie an ore or mineral and that are displaced during mining without being processed. Mines often employ outside companies to manage their tailings for them. The processes that they follow include dewatering and drying, water recovery and reuse.

With the focus squarely on Africa, engineered water treatment plants are a must. Knowledge in this area will not only benefit the mining industry but also the community surrounding it.

Source: Various internet sites

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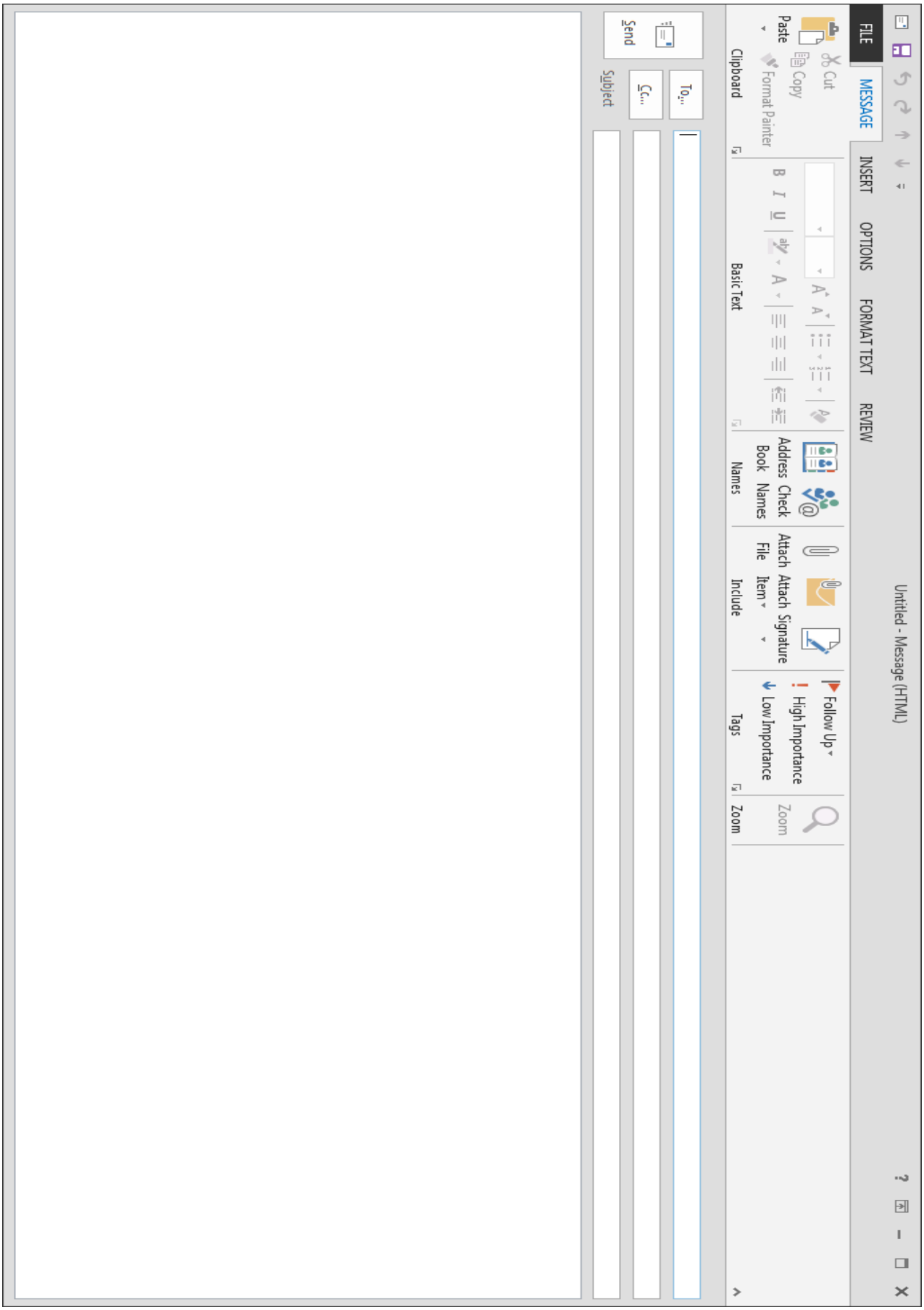
ANSWER SHEET (QUESTION 7)

EXAMINATION NUMBER:



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