

INSTITUT PREPARATOIRE AUX ETUDES D'INGENIEUR DE SFAX		A.U. : 2023/2024 Niveau : 2ème année Epreuve : Anglais Durée : 02 heures Date : 03 janvier 2024
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DEVOIR DE FIN DE SEMESTRE N°1

1. All healthcare facilities in poorer countries could be electrified using solar energy within five years for less than \$5bn, putting an end to the risk of life from power outages, experts will argue at Cop28 in Dubai this month.
2. "I would like the international community to commit to a deadline and funding to electrify all healthcare facilities," said Salvatore Vinci, an adviser on sustainable energy at the World Health Organization (WHO) and a member of its Cop28 delegation. "We have solutions now that were not available 10 years ago – there is no reason why babies should be dying today because there is not electricity to power their incubators. **"It's a low-hanging fruit.** There is nothing stopping us," he said.
3. About 1 billion people around the world do not have access to a healthcare facility with a stable electricity connection, including 433 million in low-income countries who rely on facilities with no electricity at all, according to a WHO report. Electricity is the lifeblood of a functioning healthcare facility, not only powering devices such as ventilators and cardiac monitors, but providing basic amenities such as lighting. Without these basic facilities, even routine conditions can be deadly or lead to complications. Healthcare facilities in countries vulnerable to the impact of extreme weather events will often experience outages because of storms and flooding.
4. "We don't know how many people die each year because of power outages. Nobody puts 'power outage' as a cause of death on a death certificate," said Hippolite Amadi, bioengineering professor at Imperial College London. "As we speak, patients in low- and middle-income countries are dying due to power outages and poor lighting. They're dying because their life-support machines were switched off, or because they have been given the wrong medication by staff who cannot see what they are doing, or because the surgeon working in the dark made a mistake."
5. While lack of lighting puts maternal and surgery patients at the biggest immediate risk, an unreliable energy source makes long-term treatments, such as kidney dialysis, untenable. As the burden of chronic non-communicable diseases (NCDs) rises in the global south, the strain on poorly electrified facilities will increase. In Central African Republic – the African country whose citizens are most likely to die prematurely from an NCD – more than 60% of healthcare facilities report having no access to electricity.
6. "The best surgeon in the world cannot do good work if he cannot see what he is doing," said Emmanuel Makasa, an orthopaedic surgeon in Zambia, who at times has had to work using a torch or the light from his mobile phone. **"You would never ask a tailor to work in the dark,** why would you expect it from a doctor?" In Zambia, 60% of the rural population does not have access to a healthcare facility with electricity, and even in large hospitals connected to the national grid the electricity supply is temperamental, said Makasa. "Sometimes the lights in the operating theatre switch off without warning, and that means that ventilators and life-support machines switch off too," he said. Recently, he has purchased a surgical headlight produced by an international organisation, Lifebox. "It means we go into surgery less worried; there is nothing worse than losing a patient or getting a bad surgery outcome due to a power cut.

7. "In Africa, we're always looking for innovations. We wonder how we live in a land of sunlight, a potential energy source, and we still have these problems," Makasa said. **"We live in a land of plenty, but we are starving."** Amadi worked to electrify maternal healthcare centres in Nigeria's Niger state as early as 2009. In October, his solar-powered neonatal ventilator won a prestigious Nigerian award and earned praise from the president for "keeping Nigerian children alive". "Before we implemented the solar energy system the mortality rate in [one of our hospitals] was between 35 and 45 per 1,000 deliveries [of babies]," said Mohammed Gana of Niger state's health ministry, a former colleague of Amadi. "Now we're hovering between 10 and 15."

8. Niger state's health ministry is aiming to electrify all its healthcare facilities using solar energy within the next year. "In the last 10 years the cost of photovoltaic modules has decreased by 90%, and the cost of batteries has decreased by 60% on average," said Vinci. "We can go and deploy a cost-effective and reliable solar energy system at a facility in a matter of a few days. We don't need to wait any more."

Adapted from the Guardian, 17 November, 2023

PART ONE: READING COMPREHENSION (30 pts):

Question 1: These statements are true. Provide justifications from the text:

- a) Natural disasters are blamed for the recurrence of electricity failure in poor countries' health institutions.
- b) Power cuts have never been officially documented as death factors.
- c) Emmanuel Makasa claims the immediate consequences of unreliable electricity supply in healthcare settings lead to potential life-threatening situations.
- d) In Africa, the abundance of sunlight is highlighted as an important source of energy while the healthcare sector is still suffering.

Question 2: Fill in the blanks with words or phrases from the text:

Permanently electrified (a) ... are meant to end the risk of life brought about by power (b) ... as medical equipment like (c) ..., (d) ..., cardiac monitors and life-support machines will be functioning properly.

Question 3: How is an unreliable electrical power supply fatal for patients in poor countries?

Question 4: What solutions has surgeon Makasa resorted to in order to overcome the problem of poor lighting in the operating theatre?

Question 5: What is the photovoltaic breakthrough that has helped save children's lives in a Nigerian state?

Question 6: How would solar power installations' falling prices be beneficial in the short term?

Question 7: Choose the correct alternative:

- a) **"It's a low-hanging fruit" (§2) means:** *It is the easiest thing that can be most readily done to reach one's objective *It is recommended that international communities ensure regular fruit provision in hospitals *It is believed that such solutions are not only reliable but also cost-effective

Question 14: Find synonyms to the bracketed words. The first two letters the word begins with are provided to help you. The number of dots corresponds to the number of missing letters:

The death toll in Gaza is expected to (a) (in...= **rise**) dramatically as Israeli authorities cut off Palestinians from food, electricity, medical (b) (re... = **supplies**) and fuel. Israeli forces (c) (co... = **carry on**) direct attacks against residential buildings and civilian infrastructure. The healthcare system in Gaza has totally (d) (co... = **fallen down**) as Israeli forces besiege major hospitals.

Question 15: Find antonyms to the bracketed words. The first two letters the word begins with are provided to help you. The number of dots corresponds to the number of missing letters:

Under international law, genocide is (a) (pr...≠ **allowed**) and constitutes the deliberate killing of a (b) (la...≠ **small**) number of people from a particular nation or ethnic group with the aim of (c) (de...≠ **building**) that nation in a whole or in part. Genocide can result from killing or by creating conditions of life that are so (d) (un...≠ **pleasant**) that it brings about the group's destruction.

Question 16: Put the bracketed words in the correct tense:

In an open letter published on Tuesday to support UN call for action to avert famine, hundreds of aid organisations warned that up to 270 million people (a) (**not / have**) enough food or were at risk of going hungry. "If no action is taken, most of them (b) (**perish**). The responsibility (c) (**lie**) with the states," the organisations said. They also claimed that the world (d) (**move / steadily**) towards a disastrous outcome.

Question 17: Put the bracketed words in the correct form:

Two hundred days into the war in Sudan, the Sudanese people remain (a) (**catch**) in a conflict not of their own making. More than 9000 civilians have been killed and 5.6 million forced (b) (**flee**) their homes, while the capital Khartoum, continues to be ravaged by (c) (**devastate**) bloody warfare. Meanwhile, the world's attention is (d) (**gradual**) shifting elsewhere.

Question 18: Use the appropriate conditional type in the following sentences:

- (a) We are not likely to buy a bigger house because we are strapped for cash.
- (b) The salary was low so he didn't accept the job offer.

PART THREE: WRITING TASKS: (20pts)

Question 19: Find the 4 mistakes in the following paragraph and correct them on the answer sheet:

The Arctic is warming four times faster than the rest of the world, scientists have founded. Rising temperatures are melting ice sea, thawing permafrost and igniting fires in what should be one of the coldest regions in Earth.

Question 20: Essay: (15 lines)

Natural disasters such as earthquakes, storms and fires often cause loss of lives and property damage. In your opinion, what can be done to limit the impacts of such catastrophes especially in poor countries?

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DEVOIR DE FIN DE SEMESTRE N°1

ANSWER SHEET

PART ONE: READING COMPREHENSION (30mks):

Question 1: The statements are true. Provide justifications from the text:

- a)
- b)
- c)
- d)

Question 2: Fill in the blanks with words or phrases from the text:

Permanently electrified (a) ----- are meant to end the risk of life brought about by power (b)-----as medical equipment like (c)-----, (d) -----, cardiac monitors and life-support machines will be functioning properly.

Question 3: How is an unreliable electrical power supply fatal for patients in poor countries?

- a)
- b)
- c)

Question 4: What solutions has surgeon Makasa resorted to in order to overcome the problem of poor lighting in the operating theatre?

- a)
- b)

Question 5: What is the photovoltaic breakthrough that has helped save children’s lives in a Nigerian state?

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Question 6: How would solar power installations' falling prices be beneficial in the short term?

Question 7: Choose the correct alternative:

- a) "It's a low-hanging fruit" (§2) means: *-----
- b) "You would never ask a tailor to work in the dark" (§6) means: *-----
- c) "We live in a land of plenty" (§7) means: *We live in a place that -----

Question 8: Find in the text words having approximately the same meaning as the following:

- a) a source of money (§2): -----
- b) that which is indispensable and vital (§3): -----
- c) cannot be supported or defended (§5): -----
- d) put into practice (§7): -----

Question 9: What do the underlined items in the text refer to?

- a) this month (§1): -----
- b) 1 billion (§3): -----
- c) whose (§5): -----
- d) its (§8): -----

Question 10: Choose the two sentences that best relate to the text:

- *-----
- *-----

PART TWO: LANGUAGE TASKS: (30pts)

Question 11: Put the paragraph into the passive:

- a) -----
- b) -----
- c) -----
- d) -----



Question 12: Express differently using compound adjectives:

- a) He is a ----- boy.
- b) It will be a ----- test.
- c) Tunisia is an ----- country.
- d) They like ----- vegetables.

Question 13: Express differently using modal verbs:

- a) They -----
- b) She -----
- c) You -----
- d) I -----

Question 14: Find synonyms to the bracketed words. The first two letters the word begins with are provided to help you. The number of dots corresponds to the number of missing letters:

a) in - - - - -	c) co - - - - -
b) re - - - - -	d) co - - - - -

Question 15: Find antonyms to the bracketed words. The first two letters the word begins with are provided to help you. The number of dots corresponds to the number of missing letters:

a) pr - - - - -	c) de - - - - -
b) la - - -	d) un - - - - -

Question 16: Put the bracketed words in the correct tense:

a)	c)
b)	d)

Question 17: Put the bracketed words in the correct form:

a)	c)
b)	d)

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Question 18: Use the appropriate conditional type in the following sentences:

- a) If -----
- b) Had -----

PART THREE: WRITING TASKS: (20mks)

Question 19: Find the 4 mistakes in the paragraph and correct them:

Mistake		Correction	
1		1	
2		2	
3		3	
4		4	

Question 20:Essay:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper. A large, faint watermark is visible diagonally across the center of the page, consisting of the letters "B B".