[1] Arthur Zang, a 24-year-old Cameroonian computer engineer, invented the CardioPad. The idea for this invention came to his mind while he was watching a television program about electrocardiographs during a visit to a hospital in 2007.

[2] The CardioPad is a tablet computer. It diagnoses patients with heart diseases in remote areas where access to medical services is very restricted. When a medical examination is performed on a patient in a remote village, the results are transmitted from the nurse's tablet to that of the doctor who then interprets **them**. The device is believed to be Africa's first medical tablet that can send the results of cardiac tests to a cardiologist via internet connection. The heart specialist makes a diagnosis and sends it back with a prescription to the nurse treating the patient.

[3] "When I decided to design the tablet, I didn't have the knowledge because I'm basically a computer science engineer. I learned a lot from an online free program on electronics provided by the Indian Institute of Technology. The funding of my project was difficult. I went to the banks, but they wanted all sorts of guarantees. So I posted a video about my project on Facebook to raise funds." This led to a$20,000 grant from the Cameroonian government, which Zang used to produce 20 tablets, two of **which** are being tested in hospitals in Cameroon.

[4] The Cameroonian scientific community has recognized the CardioPad as extremely effective. Thanks to this device, many patients living in remote areas do not have to travel to urban centers to seek medical examinations. Zang believes that his invention could save numerous human lives.

[5] Mafo Abeni, a 55-year-old heart patient in a rural area of Cameroon, said "I've had cardiovascular disease for about a year now. It is too costly and difficult for me to see a heart specialist in the city; the CardioPad saves me time and money."

[6] Mr. Zang says he has been contacted by private investors. But he is more interested in investors who share his vision, which is not of money, but of better ways to help improve people's lives.

I. COMPREHENSION (15 POINTS)

BASE ALL YOUR ANSWERS ON THE TEXT.

A. CHOOSE THE BEST TITLE FOR THE TEXT. (2 pts)

1. A new medicine for heart diseases
2. A new way to manage hospitals
3. A new medical invention

The best title is: . . . . . .

B. ARE THESE STATEMENTS TRUE OR FALSE? JUSTIFY. (3 pts)

1. Zang got knowledge of electronics online.

. . . . . .

. . . . . .

2. The banks wanted to finance Zang's project without conditions.

. . . . . .

. . . . . .

3. Mafo Abeni is positive about the CardioPad.

. . . . . .

. . . . . .

C. ANSWER THESE QUESTIONS. (3 pts)

1. How did Zang get the idea of the CardioPad?

. . . . . .

. . . . . .

2. What does the heart specialist do with the information he/she receives from the nurse?

. . . . . .

. . . . . .

3. How did Zang collect money for his project?

. . . . . .

. . . . . .

D. COMPLETE THE FOLLOWING SENTENCES. (2 pts)

1. With the CardioPad, heart patients in distant areas no longer need to . . . . . .

. . . . . .

2. Zang is not interested in making money, but . . . . . .

. . . . . .

E. FIND IN THE TEXT WORDS OR PHRASES THAT MEAN THE SAME AS (3 pts)

1. limited (paragraph 2): . . . . . .

2. look for (paragraph 4): . . . . . .

3. expert (paragraph 5): . . . . . .

F. WHAT DO THE UNDERLINED WORDS IN THE TEXT REFER TO? (2 pts)

1. them (paragraph 2) : . . . . . .

2. which (paragraph 3) : . . . . . .

A. GIVE THE CORRECT FORM OF THE WORDS IN BRACKETS. (2 pts)

1. Morocco was the first country in the world to recognize the (independent)…….…… of the USA.

2. Developing (renew)……. energy is among the priorities of the Moroccan government.

B. FILL IN THE GAPS WITH APPROPRIATE WORDS OR PHRASES FROM THE LIST. (2 pts)

1. Many …….in the United States have been struck by the hurricane this year.

problems - disasters - areas

2. MSF……. Médecins Sans Frontières.

makes up - stands for – calls for

C. FILL IN THE GAPS WITH APPROPRIATE WORDS OR PHRASES FROM THE LIST. (2 pts)

1. Moha Oulhoucine, ……. everyone calls "The Maestro", died in February 2016.

whose - whom – which

2. Many people today can't imagine…… without their mobile phones.

to live - living - will live

D. PUT THE VERBS IN BRACKETS IN THE CORRECT TENSE. (2 pts)

1. By June 2018, the workers (complete)…… the high-speed rail line between Tangier and Casablanca.

2. Leila first (meet)……. her husband when she was at university in 1996.

E. REWRITE THE SENTENCES BEGINNING WITH THE WORDS GIVEN. (3 pts)

1. Ahmed Sefrioui wrote La Boîte a Merveilles in 1954.

La Boite a Merveilles……..

2. Despite being an expert, Jim couldn't recover his files from his hard disk.

Although Jim……

3. We lost the game because our goalkeeper was not in good physical condition

If……..

F. MATCH EACH EXPRESSION WITH ITS APPROPRIATE FUNCTION. (2 pts)

Expressions	Functions
1. Karim will definitely join us this evening. 2. "I shouldn't have tried to fix the computer myself.	a. expressing regret b. expressing apology c. expressing certainty d. expressing opinion

1. ……. 2. ……

G. WRITE APPROPRIATE RESPONSES TO THE FOLLOWING SITUATIONS. (2 pts)

1. Reading books is better than watching movies.

You (express your opinion): ……

2. Your friend can't decide whether to buy a tablet or a laptop.

You (give advice): ……

TASK 1: (4 pts) Complete the following paragraph.

My favorite sport is……. I prefer this sport for the following reasons. First,

……

……

……

……

……

……

……

……

TASK 2: (6 pts)

Respond to this email.

Hello everyone,

My two sons spend too much time chatting and playing video games. I'm really worried about their studies and social life. What should I do? Please, help.

Worried father

Dear worried father,

……

……

……

……

……

……

……

……

……

……

……

……

KEY AND MARKING SCALE

Accept any appropriate answer not mentioned in this key.

I. COMPREHENSION (15 POINTS)

Testees should not be penalised for spelling or grammar mistakes in the comprehension section.

CHOOSE THE BEST TITLE: (2 pts) 3. A new medical invention

TRUE / FALSE: (3 pts)

1. **True.** "I learned a lot from an online free program on electronics provided by the Indian Institute of Technology." (paragraph 3)
2. **False.** "I went to the banks, but they wanted all sorts of guarantees." (paragraph 3)
3. **True.** "...the CardioPad saves me time and money." (paragraph 5)

WH QUESTIONS: (3 pts)

1. The idea came to his mind while he was watching a television program about electrocardiographs during a visit to a hospital in 2007.
2. He/she makes a diagnosis and sends it back with a prescription to the nurse treating the patient.
3. He posted a video about his project on Facebook to raise funds.

SENTENCE COMPLETION: (2 pts)

1. ...travel to urban centers to seek medical examinations.
2. ...in better ways to help improve people's lives (he looks for investors who share his vision).

RIGHT WORD MEANING: (3 pts) 1. restricted 2. seek 3. specialist

WORD REFERENCE: (2 pts) 1. the results (of the medical examination) 2. the $20,000 grant

II. LANGUAGE (15 POINTS)

WORD FORMATION: (2 pts) 1. independence 2. renewable

GAP FILLING: (2 pts) 1. areas 2. stands for

GAP FILLING: (2 pts) 1. whom 2. living

VERB TENSES: (2 pts) 1. will have completed 2. met

REWRITING SENTENCES: (3 pts)

1. La Boîte à Merveilles **was written by Ahmed Sefrioui in 1954**.
2. Although Jim **was an expert, he couldn't recover his files from his hard disk**.
3. If **our goalkeeper had been in good physical condition, we wouldn't have lost the game**.

MATCHING: (2 pts) 1. c. expressing certainty 2. a. expressing regret

SITUATIONS: (2 pts)

1. In my opinion, that is true because books develop imagination. / I don't agree; some films teach us a lot.
2. If I were you, I would buy a laptop because it is better for studying. / You should compare the prices first.

III. WRITING (10 POINTS; task 1: 4 pts; task 2: 6 pts)

The following criteria should be respected while scoring the writing tasks.

Scoring criteria	Task 1	Task 2
Relevance of content to the task	2 pts	3 pts
Appropriateness and variety of vocabulary	1 pt	2 pts
Grammar and mechanics	1 pt	1 pt

Model answers (any appropriate answer is accepted)

Task 1: My favorite sport is football. I prefer this sport for the following reasons. First, it is a team sport, so I learn to cooperate and to respect others. Second, it keeps me fit and healthy because I run a lot. Third, it is cheap and easy to play because we need only a ball and a small field. Finally, I enjoy it very much because I can play with my friends after school and watch matches with my family.

Task 2: Dear worried father, I am sorry to hear about your problem, but I am sure there are solutions. First of all, you should talk calmly with your sons and explain how too much chatting and gaming can affect their studies. Moreover, you can set a clear timetable: for example, one hour of games after they finish their homework. You could also encourage them to join a sports club or a youth association so that they meet friends in real life. Finally, spend more time with them, for instance by playing a game together or going out at the weekend. I hope my advice will help you. Best wishes