Global College of Engineering and Technology

الكلية العالمية للهندسة والتكنولوجيا

Placement Test – Academic Year (2016-17)

ENGLISH

Name _____

Date: _____

READING PASSAGE 1

*You should spend about 20 minutes on **Questions 1 – 13**, which are based on Reading Passage 1 below.*

Questions 1 – 7

*The following reading passage has seven sections, **A – G**. Choose the correct heading for each section from the list of headings below. Write the correct number, **in – x**, on lines 1 – 7 on your answer sheet. There are more headings than sections, so you will not use them all.*

1 Section A

2 Section B

3 Section C

4 Section D

5 Section E

6 Section F

7 Section G

LIST OF HEADINGS

i. Scanning of the Brain and Chest
ii. The Role of Computers
iii. The CT Scan Is Invented
iv. The High Cost of CT Scan
v. Risks Associated with CT Scans
vi. Emergency Room Care
vii. Faster and More Comfortable
viii. How Doctors Use CT Scans
ix. The Patient Is Photographed
x. Enhancing Scan images with Dyes

The CT Scanner

A

The computed tomography scanner, better known as the CT scanner, was originally designed to provide cross-sectional images of the brain. The word tomography comes from the Greek word *tomos*, meaning "section," and *graphia*, meaning "picture." Godfrey Hounsfield developed the technique in 1972 and was later knighted and awarded the Nobel Peace Prize for his contribution to the medical field. Within four years of this development, CT scans, also called CAT scans (computed axial tomography), were restricted, allowing technicians to scan entire body of evidence of tumors, injuries, and other abnormalities. Rather than taking a single picture as in an X ray, a CT scanner sends several beams into an area and takes photographs from many different angles.

B

While the original CT scans took Hounsfield several hours to reconstruct into a useful image, today's machines can produce an in-depth image in a fraction of a second. Creating a scanner that could produce images at a faster rate was crucial in the development of tomography, as it

reduced the degree of distortion in an image caused when patients breathed and moved. As well as providing images with better resolution, today's scanners also provide more comfort for the patient.

C

During a CT scan, a patient must lie still on a special table while the radiology technician locates the specific area that needs to be photographed. The table slides into a round tunnel (gantry), where it can be rotated or moved forward and backward in order to obtain the necessary view. Inside the doughnut-shaped machine, a number of X rays are taken, each producing a small slice of the image that doctors require. When passing through dense tissue such as a bone, the X-ray beams are weak and appear white in the CT images. Tissues such as those found in the brain are less dense and appear gray. Images that appear black denote organs such as lungs or others that can fill with air.

D

The CT scanner is made up of several computer systems, including the host computer, which organises the entire process. One of the computers converts the raw data into an image, while another allows the technician to control the rotation of the gantry. After the information is processed, it is displayed on a monitor for radiologists and physicians to analyse. The information is also saved and printed to keep in a doctor's records and to share and discuss with patients and their family members.

E

Physicians order CT scans for a number of different reasons, including searching for and assessing tumors, cysts, kidney stones, and bone injuries. Without this technology, surgeons would have to perform many needless and costly operations. Brain, chest, and abdominal CT scans are the most common, though physicians also rely on the CT scanner to guide their needles while draining an abscess or performing a biopsy. Most emergency or shock-treatment centers contain a CT scanner in order to assess trauma victims. CT scans can pinpoint internal bleeding both in the brain and throughout the body.

F

In many cases, a patient must be given a contrast material before undergoing a CT scan. During "dynamic CT scanning," iodine dye is either injected into the blood or added to a drink that the patient must ingest approximately forty-five minutes before entering the scanner. The liquid X-ray dye makes it easier to see the organs and blood vessels when the pictures are developed. The intravenous contrast material is typically used for chest or pelvic scans, while oral-contrast material is used for abdominal scans. In some cases, physicians request that pictures be taken both before and after the contrast material enters the patient's body. Patients who receive contrast material in the arm often report feeling a warm sensation, and in rare cases an allergic reaction occurs. Contrast material causes water loss and is avoided when scanning patients who suffer from kidney failure.

G

The danger of radiation exposure caused by X-ray beams is generally considered minimal compared to the benefits that a CT scan can provide. In many cases, especially in the detection of tumors and internal bleeding, CT scans provide information that can save a person's life. Full-body scanning, which is saved for serious conditions such as coronary artery disease, remains a controversial procedure as prolonged exposure to radiation is linked to cancer. Pregnant women are excluded from receiving CT scans, as the X rays can be harmful to the fetus. When pregnant woman require an evaluation, most physicians favor using other procedures such as an ultrasound or an MRI.

Question 8 – 10

*Which of the following facts about the original CT scanner mentioned in the passage? Choose **THREE** answers from the list below and write the correct letters, **A – F**, on lines **8 – 10** on your answer sheet.*

A It made it difficult for patients to breathe.

B It was created to take pictures of the brain

C It was much bigger than current CT scanners

D It was developed in 1972

E It took several hours to produce a completed image.

F It produced images in colour.

Questions 11 – 13

*Which of the following are facts about contrast materials used for CT scans mentioned in the passage? Choose **THREE** answers from the list below and write the correct letters, **A – F**, on lines 11 – 13 on your answer sheet.*

A They are bright in colour.

B They can be given by injection.

C They have a bitter taste.

D They might cause a feeling of warmth in the arm.

E They are administered only by a specially trained technician.

F they may cause allergies in a few patients.

READING PASSAGE 2

*You should spend about 20 minutes on **Questions 14 – 27**, which are based on Reading Passage 2 below.*

Chocolate – Food of the Gods

The cacao plant is believed to have evolved at least 4,000 years ago. It is a small evergreen tree, 15—25 feet high, which grows in the tropical forest understory, where it is protected by the shade of larger trees. The scientific name for the cacao plant is Theobroma, which means "food of the gods." Native to the Amazon and Orinoco River basins, it requires a humid climate and regular rainfall. Small pink flowers grow directly on the trunk and older branches. The fruit, a cacao pod, is melon shaped and weighs roughly 1 pound when fully ripened. A mature tree may have as many as 6,000 flowers but will only produce about twenty pods. Each pod contains between twenty and sixty seeds, called beans. The beans have a 40-50 percent fat content, referred to as cocoa butter. (Cacao is the plant; cocoa is the edible derivative and the primary ingredient in chocolate.)

Chemical analysis of pottery vessels unearthed in Puerto Escondido, Honduras, and dating from around 3,100 years ago show traces of a compound that is found exclusively in the cacao plant. At that time, the plant was already being used as a beverage ingredient. However, it was not the cacao beans that were first used. Instead, the first cacao-based drink was probably produced by fermenting the pulp in the cacao pods to yield a beerlike beverage. Researchers speculate that the chocolate drink made from the cacao beans and known later throughout Mesoamerica may have arisen as an accidental by-product of the brewing process. In all, ten small, beautifully crafted drinking vessels were found at the Puerto Escondido site, suggesting that even then the cacao brew was not consumed on a frequent basis but was reserved for important feasts or ceremonial events.

The villagers of Puerto Escondido had likely been influenced by the great Olmec civilization which flourished for about 800 years beginning 3,200—2,400 years ago in the southern Gulf of Mexico region. Although centered in the modern Mexican states of Tabasco and Veracruz, Olmec influence reached as far south as El Salvador and Honduras. A majority of scholars concur that the Olmec people created the first civilization in the western hemisphere. They built large cities with significant architecture and established commerce extending over hundreds of miles. Relatively little is known about Olmec society because very little archaeological evidence has survived the damp climate of the Gulf of Mexico. What is known, however, is that the later Mayan peoples, who did leave behind a great deal of cultural evidence, based much of their high culture on earlier Olmec traditions.

Mayan civilization flourished in southern Mexico and Central America from around 500 B.C.E. to around 1500, and the word *cacao* comes from the Mayan word *Ka'kau* However, this is not a native Mayan word but is derived from the Olmec language. To the Mayans, the cacao pod symbolised life and fertility. Many of the bas-reliefs carved on their palaces and temples show cacao pods. It is believed that the Mayans took the cacao tree from its native rain forest and began to cultivate it in plantations. After harvesting the seed pods, they scooped out the contents—the cacao beans embedded in a sticky, white flesh—and allowed it all to ferment

until the seeds turned dark brown. The seeds were then roasted and ground into a thick chocolate paste.

From the paste, the Mayans made a hot chocolate drink. However, it was very different from contemporary hot chocolate. The basic drink was made by mixing the paste with water, chili powder, cornmeal, and other ingredients and heating it. Then the liquid was poured back and forth from one vessel held at arm's height to another resting on the ground. This created a chocolate drink with a thick head of dark foam—considered the best part of the drink. Among the Mayans, as the chocolate drink grew more popular and the ingredients more readily available, people from all levels of society enjoyed it at least on occasion.

The Maya preserved their knowledge of cacao use through stone carvings, some in jade and obsidian, pottery decorations, and written documents that detailed the use of cacao, described in Mayan as "food of the gods." Cacao was used in ceremonies, medical treatments, and daily life centuries before the discovery of the New World by Europeans. Certain recipes for cacao drinks included vanilla, nuts, honey from native bees, and various flowers.

Ek Chuah (meaning "black star" in Yucatec Maya) was the patron god of merchants and commerce. Because cacao seeds were light in weight, easily transported, and of great value, they were used as currency throughout Mesoamerica. Thus *Ek Chuah* also became the patron god of cacao. Each April, the Maya held a festival to honour this deity. The celebration included offerings of cacao, feathers, and incense, the sacrifice of a dog with cacao-coloured markings, other animal sacrifices, and an exchange of gifts. Given that the chocolate drink could be made only through the direct destruction of currency, one can understand why it was called the "food of gods." The immortals could easily afford it, while for humans it was a precious commodity indeed.

Questions 14—18

Do the following statements agree with the information in the passage? On lines 14—18 on your answer sheet, write:

TRUE	if the statement agrees with the information
FALSE	if the statement contradicts the information
NOT GIVEN	if there is no evidence on this

14 The cacao plant originated in the Gulf of Mexico region.

15 The cacao plant prefers wet weather.

16 Each flower on the cacao plant produces twenty pods.

17 Cacao drinks were originally made using the pulp from the pod.

18 In ancient Puerto Escondido, cacao drinks were served hot.

Questions 19-25

According to the information in Reading Passage 2, which ancient civilizations do the following phrases describe? On lines 19—25 on your answer sheet, write:

A	if the phrase describes the ancient Olmec civilization only
B	if the phrase describes the ancient Mayan civilization only
C	if the phrase both the Olmec and the Mayan civilizations

19 collapsed around 2,400 years ago

20 was located in Mexico

21 grew cacao on large farms

22 left behind little concrete evidence of their culture

23 influenced the ancient inhabitants of Puerto Escondido

24 carved images of cacao pods

25 made a drink by mixing cacao with chili powder and cornmeal

READING PASSAGE 3

*You should spend about 20 minutes on **Questions 28-40**, which are based on Reading Passage 3 below.*

The Braille System

A

About 200 years ago, a curious three-year-old boy playing in his father's shop had an accident that ended up changing the lives of hundreds of thousands of people. The little boy was Louis Braille, and his father was a harness maker in Coupvray, France, a small town near Paris. Louis poked his eye with one of the sharp tools on his father's workbench. The injury and the ensuing infection, which spread through both eyes, caused him to lose his vision. Only a dozen years later, at the age of fifteen, Braille developed a system of raised dots on paper that made it possible for blind people to read and write. While he was not the first person to toy with the idea of tactile reading—that is, reading by feeling shapes on a flat surface—his system surpassed others thanks to its simplicity, ease of use, and adaptability.

B

During the first few years after his accident, Braille attended a local school with sighted children, where he learned by the only means available to him—listening and memorising, He was a gifted student and at the age of ten earned a scholarship to attend the Royal Institution for Blind Youth in Paris. He later became a teacher at the Institution and remained there until his death in 1852 at the age of forty-three. The Institution relied largely on oral instruction, but pupils had access to a few books specially designed for blind students by Valentin Haüy, the

school's founder. Haüy had developed a method for pressing shapes of letters onto wet paper and then letting them dry, providing pages with raised characters that students could "read" by running their fingertips across the thick paper. The books were big and cumbersome and took a long time to produce— and to read. In addition, they addressed only part of the blind students' communication dilemma—the ability to read. For full literacy, students also needed to be able to write.

C

A man named Charles Barbier, who had invented a system known as night writing for soldiers to send messages in the dark, provided the inspiration Braille needed for his reading method. Barbier visited the Royal Institution for Blind Youth in 1821 to demonstrate his technique, which used rectangular cells with raised dots. The cells, thirty-six in all, represented sounds rather than individual letters of the alphabet and consisted of a template of twelve dots in six rows of two. Braille saw the system's benefits right away and then zeroed in on its drawbacks. He thought it should be based on the alphabet—the way sighted people read—and not on phonetics. It also needed a way to designate punctuation marks, accents, numbers, and other symbols; and, for the user to be able to read with ease, a cell had to be small enough to fit beneath one's fingertip.

D

For the next three years, Braille fine-tuned his system and in 1824 came up with a version that worked to his satisfaction: a six-dot cell (three rows of two) that allowed for sixty-three possible combinations of dots, enough for all twenty-six letters of the Roman alphabet plus accents, capital letters, punctuation marks, and numbers. For example, a cell with one dot at the top left (position one) represents the letter *a,* whereas a cell with one dot at the bottom right (position six) means the next symbol is a capital letter. The numbers zero to nine are coded the same as the letters *a* to *j,* except they are preceded by a cell with dots in positions three through six (bottom left dot and all three dots in the right column). Users could read an individual cell with a single touch of the fingertip, and they scanned dots from left to right as in normal reading. What's more, the Braille system made it possible to write by punching dots into paper (from right to left because the reverse side is read).

E

Originally, Braille symbols were written with a slate and stylus—the equivalent of paper-and-pencil writing, using the slate to hold the paper and the stylus to prick holes in it. In 1892, a Braille writing machine was invented; used like a typewriter, it has six keys and a space bar. Today, writing Braille is no more difficult or time-consuming than producing a printed document. You need only to hook up a standard computer to a machine that will emboss the text in Braille. Braille's fellow students quickly learned his system; for the first time, they could take notes in class and write papers, not to mention pass notes back and forth to one another. Yet the system was not widely used in Braille's lifetime. It did not become the official communication system for blind people in France until 1854, two years after he died.

F

The system remains in use today, only slightly altered from the original version. It has incorporated symbols for math, science, and music and has been adapted to dozens of languages, including many with non-Roman alphabets, such as Chinese and Japanese. Braille symbols often show up in public places, such as on elevator buttons, and their helpfulness in labeling household items like canned goods is undisputed. Nevertheless, knowledge of Braille has declined in recent years as technology has provided innovations, such as recorded books

and computers with synthetic speech, that make it less necessary to read the old-fashioned way. Many now deem Braille an obsolete system, but its devotees still consider it a form of literacy as basic as the three R's.

Questions 28 – 36

*Reading Passage 3 has six paragraphs, **A – F**. Which paragraph contains the following information? Write the correct letter **A – F**, on lines **28 – 36** on your answer sheet. You may use any letter more than once.*

28 a description of the Braille system of representing letters and numbers

29 Louis Braille's early education

30 how people write in Braille

31 when Louis Braille first developed his system

32 when the Braille system was officially accepted in France

33 a reading system for the blind used when Louis Braille was a child

34 how Braille is read

35 the reason why Louis Braille was blind

36 a description of the method on which Louis Braille based his system

Questions 37—40

Do the following statements agree with the information given in the passage? On lines 37—40 on your answer sheet, write:

TRUE	if the statement agrees with the information
FALSE	if the statement contradicts the information
NOT GIVEN	if there is no information on this

37 Braille symbols represent letters and numbers only.

38 Braille is used in a variety of languages.

39 Braille readers can read faster than sighted readers.

40 Modern technology has made Braille less important.

LISTENING

SECTION 1 *QUESTIONS 1 – 10*

Questions 1—4

Complete the schedule below.
*Write **NO MORE THAN THREE WORDS** for each answer.*

Example
Globetrotters Language School
Class Schedule

Chinese
Level: Advanced
Days: **1** _____evenings

Japanese
Level: **2** _____
Days: Tuesday and Thursday mornings

Level: **3** _____
Days: Monday, Wednesday, and Friday mornings

French
Level: Intermediate
Days: Friday **4** _____

Questions 5—8

Complete the information below.
*Write **NO MORE THAN ONE NUMBER** for each answer.*

Tuition Information

One week	**5** $ _____
Four weeks	**6** $ _____
Six weeks	**7** $ _____
Twelve weeks	**8** $ _____

Questions 9 and 10

Complete the sentences below.
*Write **NO MORE THAN THREE WORDS** for each answer.*

9 Students can register for a class by visiting _____.

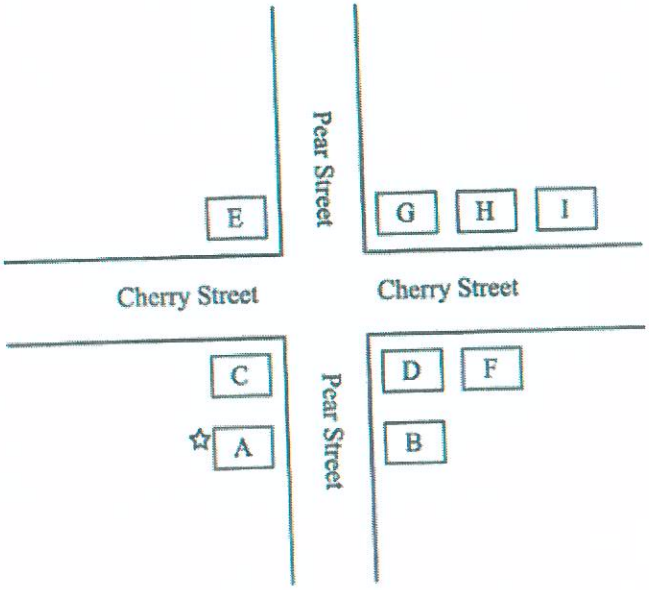
10 _____ is in charge of student registration.

SECTION 2 *QUESTIONS 11 – 20*

Questions 11 – 15

Label the map below.
*Write the correct, **A – I**, next to questions 11—15.*

City Shopping District



11 Harbour View Bookstore

12 Pear Cafe

13 Souvenir Store

14 Art Gallery

15 Harbour Park

Questions 16 – 20

Complete the sentences below.
*Write **NO MORE THAN ONE WORD OR A NUMBER** for each answer.*

Harbour Park

16 The park was built in _____.

17 A _____ stands in the centre of the park.

18 Take the path through the _____.

19 In the middle of the garden is a _____.

20 A _____ takes you down to the harbour and a view of the boats.

SECTION 3 QUESTION 21 – 30

Questions 21 – 24

Complete the information about the archives.

*Write **NO MORE THAN THREE WORDS AND/OR A NUMBER** for each answer.*

Welcome to City Archives

The following people may use the archives:

- University students with a valid **21** _____
- City residents with payment of **22** _____
- All others: Special permission from the director is required.

Hours:

Days: **23** _____ through _____

Hours: **24** 9:30 A.M. until _____ P.M.

Questions 25—30

What can be found on each floor of the archives building?
*Write the correct letter, **A—G** next to questions 25—30.*

CITY ARCHIVES

A	nineteenth-century documents
B	maps
C	personal papers
D	photographs
E	books about the city
F	newspapers
G	information about the woollen mill

Floor of the building

25 basement _____

26 ground floor _____

27 second floor _____

28 third floor _____

29 fourth floor _____

30 fifth floor _____

SECTION 4 *QUESTIONS 31 – 40*

Questions 31-33

Complete the notes below.
*Write **NO MORE THAN TWO WORDS** for each answer.*

Historical Uses of Wind Power

Ancient China	Windmills were used to **31** _____
Ancient Persia	Farmers used wind power to **32** _____
The Netherlands	People used windmills to **33** _____

Complete the chart 1 below.

*Write **NO MORE THAN TWO WORDS** for each answer.*

Wind Power	
Advantages	Disadvantages
Unlike oil and coal, wind power does not cause **34** _____	The cost of the initial investment is high.
There are limited supplies of oil and coal, but wind is a **35** _____	The **37** _____ of the wind is not constant.
It **36** _____ to generate electricity with the wind.	Wind turbines are usually located far from **38** _____
Wind turbines do not take up much land.	Wind turbines may spoil **39** _____
	Wind turbines are as **40** _____ as a high-speed car.

WRITING TASK 1

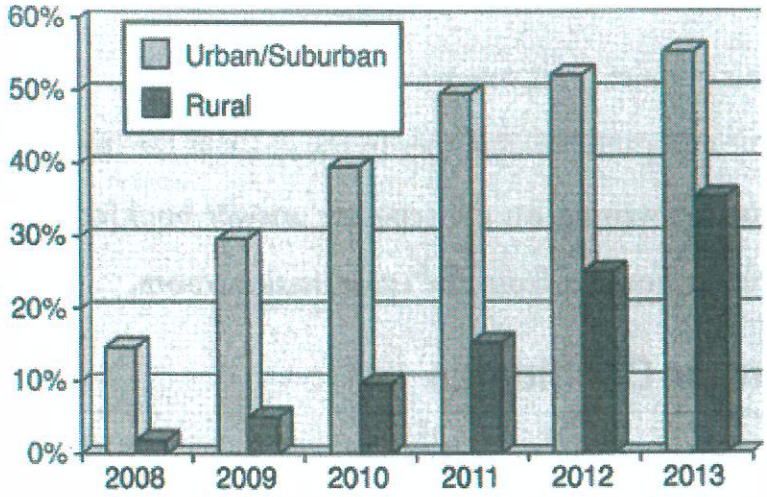
You should spend 20 minutes on this task.

Write at least 150 words.

The graph below shows the percentage of urban/suburban and rural households in a European country that had Internet access between 2008 and 2013.

Summarise the information by selecting and reporting the main features, and make comparisons where relevant.

Household Internet Access

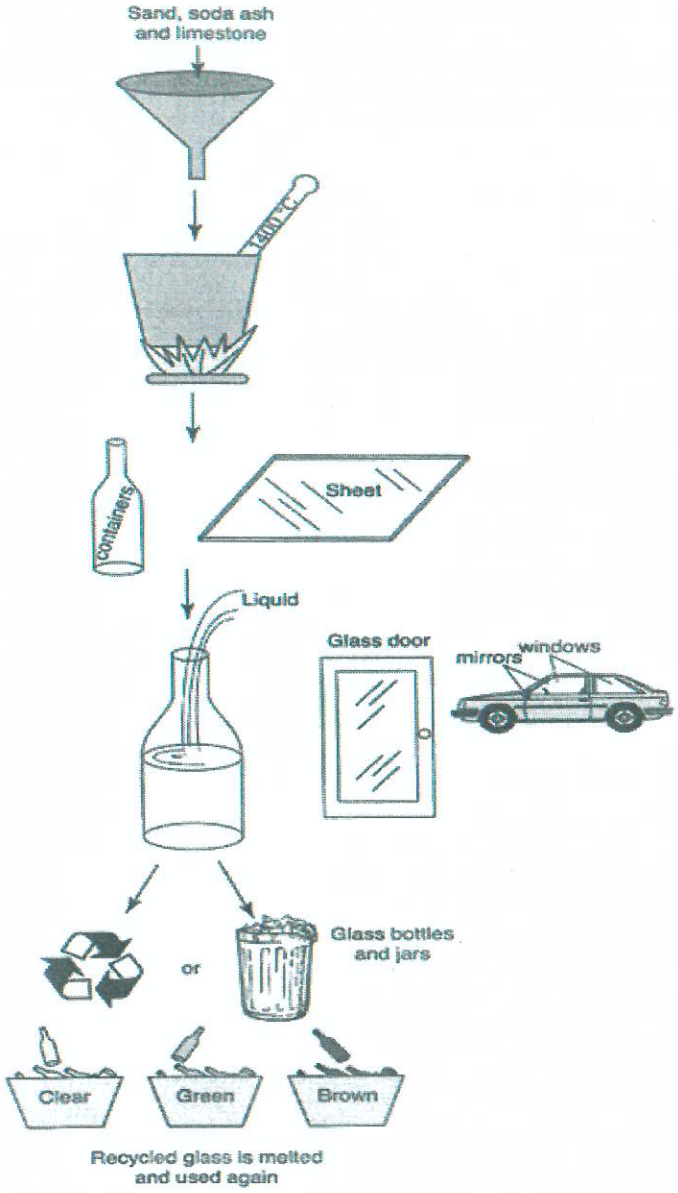


OR

WRITING TASK 1

You should spend about 20 minutes on this task.

Write at least 150 words.



WRITING TASK 2

Write an essay of at least 250 words on the following topic.

"Explain the causes and effects of a low income on a family"

or

WRITING TASK 2

Write an essay of at least 250 words on the following topic.

- **After secondary school, some students continue their education in college and universities in their own country. Others prefer to study abroad. In your own opinion, which is better choice?**

Explain your answers giving suitable reasons and examples.