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INTERNATIONAL COLLEGE PENANG (507232-U)
LAUREATE INTERNATIONAL UNIVERSITIES

FINAL
Examination Paper

(COVER PAGE)

Session	:	AUGUST 2016
Programme	:	DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING
Course	:	ENL1102 – TECHNICAL ENGLISH
Date of Examination	:	9 December 2016 (Friday)
Time	:	5:00pm – 7:00pm Reading Time : Nil
Duration	:	2 Hours
Special Instructions	:	

Answer **ALL** questions in **Section A, B, C & D** in the **answer booklet provided.**

Materials permitted :

NIL

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NIL

Examiner(s) : **Subarshini Ramakrishnan**

Moderator : **Dr. Ting Su Hie**

This paper consists of 9 printed pages, including the cover page.

INTI INTERNATIONAL COLLEGE PENANG

DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING PROGRAMME (DEEI)
ENL1102 – TECHNICAL ENGLISH
FINAL EXAMINATIONS: AUGUST 2016 SESSION

SECTION A (20 marks)

READING COMPREHENSION

Read the passage below and answer the questions that follow using your own words.

An Introduction to Digital Signals.

1	Signals of any kind are a way to deliver a message to a destination. When digital signals transmit information, they do so by turning signals into code. This is binary code, which is very specific and easily quantified. When that code is sent via wave pulses, the transmission of the signal is very reliable. What makes this so reliable is the fact that digital signals are actually quite resistant to outside noise disturbances. While other kinds of communication will almost always be transmitted along with some kind of undesirable noise, digital signals can be encoded and sent without too much outside interference. One of today's commonly used devices made the switch from analog to digital signaling within the last 20 years. You might know it as the black box.
2	Many have heard of "the black box," a device used for recording what happens during an airplane's flight. What most people do not know is that the black box is really a common term for two pieces of recording equipment that are on board every commercial and corporate airplane. The first is called a cockpit voice recorder, or CVR. The CVR is attached to multiple microphones located in the cockpit and it records any communication and all the sounds in the cockpit. In the case of an accident, the investigators who listen to a CVR recording can actually hear two things: first, what was said by the pilots and/or crew right before the incident; and second, the sounds in the background. Well-trained investigators can detect unusual engine noise, strange pops and other signals that help alert them to figure out what went wrong with the flight.
3	The second part of the so-called black box is the flight data recorder, or FDR. This piece of equipment does not record the people onboard, but all technical aspects of a flight. Sensors all over the plane detect and send information to a flight data acquisition unit which, in turn, is hooked up to the FDR. The FDR is usually attached to the plane's tail, where it is least likely to be damaged in case of an accident. In the U.S., the Federal Aviation Administration requires FDRs to record at least 88 parameters, or aspects, of a commercial flight. As a few examples, these parameters can include the time, altitude, airspeed, direction, movement of the flaps on the wings,

	the flow of fuel, and use of autopilot. Then, in case something happens, investigators can use this information to recreate a simulation of the entire flight, from takeoff to the incident. In conjunction with the information from the cockpit voice recorder, they can get a picture of what happened.
4	Making a recording of some aspect of a flight began with the beginning of flight itself. The Wright brothers, who created the first airplane, actually used a device to record their propeller rotations Some basic recording devices were invented and used during the 1930s and during World War II, but they were not commonplace. It was two decades later that aviation recorders began to become more widespread. The modern day black box is credited as an invention by an Australian scientist, Dr. David Warren.
5	Warren came up with the idea that multiple aspects of all flights should be recorded while he was working at the Aeronautical Research Laboratory in Melbourne. He was helping investigate an accident by the world's first jet-powered commercial aircraft, the Comet. Without any kind of recording, the crash was a total mystery to him and his co-investigators. He demonstrated the first basic flight data recorder in 1957. It was called a "red egg" for its shape and color. The red egg was fireproof and shockproof. It could reliably record both a plane's instrument readers and the pilots' voices, using only one wire. It also included a device to then decode all this information back on the ground. The red egg was not put into widespread use immediately. In 1960, however, there was another unexplained plane crash in Australia; this time in Queensland. After that, Australia became the first country in the world to mandate that the device be used on all commercial aircraft. The black box is now used on all commercial aircraft and corporate jets. It is unclear exactly where the term came from, but it's possible it came from something a journalist told Dr. Warren about his red egg. Supposedly, he said, "this is a wonderful black box." At any rate, the phrase does not refer to the black box's color—the equipment is actually painted bright orange, in order to make it easier to find. The modern device is used around the world and is highly regulated. International standards mandate that it be able to withstand high acceleration and deceleration, high and low temperature fires, deep sea pressure, submersion in seawater or other liquids, and high impact and being crushed.
6	Beginning in the 1990s, the technology employed by the black box was greatly improved. Newer black boxes were being built with solid state memory boards, which use memory chips to record and store information. This digital system is an improvement over the original system, magnetic tape technology, for several reasons. First off, magnetic tape needs to be pulled across an electromagnetic head. Solid state technology, however, has no moving parts making it both more reliable as an encoder of information and less likely to break. Second, the original cockpit voice recorder could only hold about a half-hour of information. It would record in a loop, recording over every half-hour, so the last half-hour of a flight was all investigators could hear. With solid state technology, the CVR can record up to two hours, which provides much more information. Furthermore, the flight data recorder can hold up to 25 hours using solid state technology.

7	Solid state memory boards are also better than magnetic tape technology concerning what the flight data recorder can record. While the old technology was able to record up to 100 different aspects or parameters of a flight, solid state technology records up to 700. What has remained the same, from one technology to the next, is the way the black box is powered. Both types draw energy from two generators which are powered by the plane's engines. The black box records and provides a huge amount of information. However, its technology helps determine how quickly investigators can analyze and use that information. In the case of an investigation, it can take weeks, even months, for investigators to download all the information from black boxes still using magnetic tape technology. And that is before they can even start studying and processing what happened! Using digitally equipped black boxes, however, they are able to download all the information from a flight in a matter of minutes. What a vast improvement! Black box manufacturers have made a complete switch to digital signaling from the old analog ways, and no longer make the magnetic tape recorders.

Answer the questions

1. What is the difference between digital signals and other kinds of communication? (2 marks)

2. Explain the function of a cockpit voice recorder? (2 marks)

3. Why is it important to have sensors all over the plane? (2 marks)

4. What motivated Dr David Warren to create an effective recording device? (3 marks)

5. How did the black box get its name? (3 marks)

6. Despite advancement in technology, what is maintained in the black box? (3 marks)

7. Find the meaning of words from the passage. (5 marks)

a. precise – *para 1*

b. broad in usage – *para 4*

c. authorize – *para 5*

d. furnishes – *para 6*

e. acquire - *para 7*

SECTION B: GRAMMAR (40 marks)

I. Write the correct verb tense for this session in the Answer Script (10 marks)

1. Tim and Caro ..... (be) late yesterday.

2. When he..... (arrive), we..... (have) dinner.

3. The Prime Minister .....(visit) the orphanage before he .....(address) the crowd.

4. The headmistress ..... (inspect) the school before recess tomorrow.

5. I..... (never be) to India.

6. I'm not sure if we..... (visit) her tomorrow.

7. No, I don't want to eat anything because I..... (just have) lunch.

8. She..... (sleep) well last night.

9. When he..... (walk) down the street, he..... (see) Jill.

10. She always..... (take) a shower in the morning.

II. Rewrite the following sentences so that the verbs will be in the active voice. (5 marks)

11. We are taught grammar by Ms Sullivan.

12. He was praised by the teacher.

13. The injured were taken to the hospital by the firemen.

14. The student has been warned not to smoke by the teacher.

15. We will be shown the way by her.

III. Rewrite the following sentences so that the verbs will be in the passive voice. (5 marks)

16. Janet's husband has paid a lot of money to her.

17. The traffic keeps David awake every night.

18. My father took me to the commuter station.

19. The children are doing their work in the study room.

20. The President paid money to help the poor.

IV.Complete the following sentences using the appropriate form of the word given in the brackets. (10 marks)

21. She was a kind and ..... woman. (cheer)

22. The rich man was not very ..... (mercy)

23. I want to visit all ..... places in India. (interest)

24. Several important ..... concepts originated in India. (mathematics)

25. The big home was not ..... to us. (afford)

26. The leaves on the ivy branch were very ..... (notice)

27. The soldiers fought ..... (courage)

28. The sweeper found him lying ..... in his room in wet clothes and shoes. (help)

29. We are ..... with your work. (impression)

30. Everybody seeks attention and ..... (appreciate)

V. Fill in the blanks with appropriate forms of verb. Choose the answers from the options given in the brackets. (10 marks)

31. One of my friends ..... gone to France. (has / have)

32. Each of the boys ..... given a present. (was / were)

33. Neither of the contestants ..... able to win a decisive victory. (was / were)

34. Oil and water ..... not mix. (do / does)

35. He and I ..... at Oxford together. (was / were)

36. Either the father or the children ..... the verandah every day. (sweep/sweeps)

37. Neither Peter nor James ..... any right to the property. (has / have)

38. No prize or medal ..... given to the boy, though he stood first in the examination. (was / were)

39. Most of the time ..... taken for paperwork. (is / are)

40. Neither the Minister nor his colleagues ..... given any explanation for this. (have / has)

SECTION C (10 marks):

Choose the correct answers from the box and write in the Answer Script.

packaged	**enjoy**	**purity**	**forming**	**calf**
desired	**through**	**pressed**	**determine**	**pasteurized**

Once a cow has a ….1…., she is ready to provide milk. Our farmers' cows are milked two to three times a day. Each cow, at each milking, can give up to four gallons of milk. The milk travels right from the cow ……..2 ……..a stainless steel pipe into a cooler where it is kept clean and cold. Milk truck drivers visit our area farms and haul their milk back to our cheese plant.

Before the cheesemaking process begins, incoming milk is first tested for quality and……3…… . It takes approximately 10 pounds of milk to make one pound of cheese. Next, the milk is …..4……to ensure product safety and uniformity. Starter cultures, or good bacteria, are added to start the cheesemaking process. They help ….5…… the ultimate flavor and texture of the cheese. Next, a milk-clotting enzyme called rennet is added to coagulate the milk, ….6…….. a custard-like mass.

For cheddar products, it is then cut into small pieces to begin the process of separating the liquid (whey) from the milk solids (curds). Cheesemakers cook and stir the curds and whey until the ……7…….temperature and firmness of the curd is achieved. The whey is then drained off, leaving a tightly formed curd. The curd is then……8……. into blocks.

As the final step, our cheese is .....9..... and sold to retail and foodservice markets across the United States. Foodies, chefs, and families ....10.... our cheeses for everyday use and for entertaining.

SECTION D – WRITING (30 marks)

I. Create a pair of sentences using the transition signals indicated - 10 marks (2 marks each)

1. for example
2. furthermore
3. nevertheless
4. in contrast
5. likewise

II. Choose any ONE (1) of the following topics and write a five (5) paragraphed essay of 350 words – 20 marks

1. Technology is a necessity in today's life. Write the advantages OR disadvantages of technology to mankind. Choose only ONE stand.

2. Video games are the common indulgence of young people. What are the causes of video games addiction.