RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Sciences
B.Sc. (General) Degree in Health Promotion
B.Sc. (General) Degree in Information and Communication Technology
First Year - Semester I Examination: September/October 2019

FDN 1201 – ENGLISH

INDEX No: ---------- **Time: 3 hours**

Answer all questions on this paper itself.

SECTION 01 - STRUCTURE AND WRITTEN EXPRESSION

Part A: **(15 Marks)**

Directions:
A-1: Form QUESTIONS to get the underlined words as answers:

I. Alexander Graham Bell invented the telephone.

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II. Professor Nayagam has been working for the NASA for more than 20 years.

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III. The Ozone Layer protects the earth from harmful radiations.

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IV. Mars does not support life because there is no liquid water there.

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V. Human beings will make colonies on Mars in the near future.

.....

Directions:

A-2: Read the following passage and fill in the blanks with the CORRECT FORM of the verb given within brackets:

Samsung has entered the newly–emerging smart watch market by unveiling its multi-function timepiece, the Galaxy Gear. It is a digital watch with a difference. Wearers can make telephone calls, receive emails and take photographs. It can also run dozens of Android apps on its 1.6-inch screen. Users navigate through different screens. What's more, it 1)..... (come) in a range of vibrant colours that add a sci-fi feel to its stainless steel body. The device 2) ..... (be) on sale from December 25th and comes with a $299 price tag. Samsung 3)..... (beat) its main competitor Apple in the market. Industry insiders expect Apple to reveal details of its smart watch within a week or two. Analysts 4)..... (have) mixed reactions to the Galaxy Gear. Jack Gold of J. Gold Associates 5) ..... (suggest) the product is overpriced. He said Samsung 6) ..... (need) to price it at under $100 to get mass-market appeal. He added " at $300, that is probably as much as most people 7).....(pay) for a phone itself." Independent analyst Jeff Kagan said "the Gear is another step into the future, and that Samsung continues to push the innovation envelope". He 8)..... (predict) it would be as popular as Samsung's smart phones and tablets. A Samsung's spokesperson said "we 9)..... (create) something incredible. You 10)..... (not need) to get your phone out anymore. Gear takes the entirety of your digital world and places it right where you can see".

Part B: **[15 Marks]**

B-1.COMBINE each of the following sets of sentences using RELATIVE PRONOUNS to make them complex sentences. Always make the SECOND SENTENCE the relative clause.

I. Computers can be defined as devices. These devices accept information in the form of programs and data

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II. Michael Faraday has made a number of discoveries in chemistry as well. Michael Faraday made the world's first generator.

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III. In plane geometry, an angle is a figure. This figure is formed by two straight lines. These straight lines meet at a point.

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IV. Sir Humphry Davy was a great nineteenth century scientist. The miner's safety lamp is named after him.

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B-2: SPLIT the following complex sentences into their original simple sentences, and write them separately. Use only the referent NOUN to replace the relative pronoun.

I. An Application Software is a program which directly meets the needs of the computer user.

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II. Marie Curie, with whom Piere Curie shared the Nobel Prize for Physics in 1903, was awarded the Nobel Prize for Chemistry in 1911.

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III. Metabolism includes transformations by which energy is made available and processes by which living material is produced and maintained.

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IV. In artificial passive immunity, antibodies which have been formed in one individual are extracted and then injected into the blood of another individual which may or may not be of the same species.

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SECTION 02 – READING COMPREHENSION
Part A: **[25 Marks]**

Directions:
Read the following passage and answer all the questions that follow on the basis of what is stated or implied in the passage:

The Rocket – From East to West.

A. The concept of the rocket, or rather the mechanism behind the idea of propelling an object into the air, has been around for well over two thousand years. However, it wasn't until the discovery of the reaction principle, **which** was the key to space travel and so represents one of the great milestones in the history of scientific thought, that rocket technology was able to develop. Not only did it solve a problem that had intrigued man for ages, but, more importantly, it literally opened the door to exploration of the universe.

B. An intellectual breakthrough, brilliant though **it** may be, does not automatically ensure that the transition is made from theory to practice. Despite the fact that rockets had been used sporadically for several hundred years, they remained a relatively minor artifact of civilization until the twentieth century. Prodigious efforts, accelerated during two world wars, were required before the technology of primitive rocketry could be translated into the reality of sophisticated astronauts. It is strange that the rocket was generally ignored by writers of fiction to transport **their** heroes to mysterious realms beyond the Earth, even though it had been commonly used in fireworks displays in China since the thirteenth centaury. The reason is that nobody associated the reaction principle with the idea of traveling through space to a neighboring world.

C. A simple analogy can help us to understand how a rocket operates. It is much like a machine gun mounted on the rear of a boat. In reaction to the backward discharge of bullets, the gun, and hence the boat, moves forward. A rocket motor's 'bullets' are minute, high-speed particles produced by burning propellants in a suitable chamber. The reaction to the ejection of these small particles causes the rocket to move forwards. There is evidence that the reaction principle was applied

practically well before the rocket was invented. In **his** Noctes Atticae or Greek Nights, Aulus Gellius describes 'the pigeon of Archytas', an invention dating back to about 360 BC. Cylindrical in shape, made of wood, and hanging from string, it was moved to and fro by steam blowing out from small exhaust ports at either end. The reaction to the discharging steam provided the bird with motive power.

D. The invention of rockets is linked inextricably with the invention of "black powder." Most historians of technology credit the Chinese with **its** discovery. They base their belief on studies of Chinese writings or on the note books of early Europeans who settled in or made long visits to China to study its history and civilization. It is probable that, sometime in the tenth century, black powder was first compounded form its basic ingredients of saltpeter, charcoal and sulphur. But this does not mean that it was immediately used to propel rockets. By the thirteenth century, powder propelled fire arrows had become rather common. The Chinese relied on this type of technological development to produce incendiary projectiles of many sorts, explosive grenades and possibly cannons to repel their enemies. One such weapon was the 'basket of fire' or, as directly translated from Chinese, the 'arrows like flying leopards'. The 0.7-metre-long arrows, **each** with a long tube of gunpowder attached near the point of each arrow, could be fired from a long, octagonal-shaped basket at the same time and had a range of 400 paces. Another weapon was the 'arrow as a flying sabre', **which** could be fired from crossbows. The rocket, placed in a similar position to other rocket-propelled arrows, was designed to increase the range. A small iron weight was attached to the 1.5m bamboo shaft, just below the feathers, to increase the arrow's stability by moving the centre of gravity to a position below the rocket. At a similar time, the Arabs had developed the 'egg which moves and burns'. This 'egg' was apparently full of gunpowder and stabilized by a 1.5m tail. It was fired using two rockets attached to either side of this tail.

E. It was not until the eighteenth century that Europe became seriously interested in the possibilities of using the rocket itself as a weapon of war and not just to propel other weapons. Prior to this, rockets were used only in pyrotechnic displays. The incentive for the more aggressive use of rockets came not from within the European continent but from far – away India, **whose** leaders had built up a corps of rockets successfully against the British in the late eighteenth century. The Indian rockets used against the British were described by a British Captain serving in India as 'an iron envelop about 200 millimeters long and 40 millimeters in diameter with sharp points at the top and a 3m –long bamboo guiding stick'. In the early nineteenth century the British began to experiment with incendiary barrage rockets. The British rocket differed from the Indian version in that **it** was completely encased in a stout, iron cylinder, terminating in a conical head, measuring one meter in diameter and having a stick almost five meters long and constructed in

such a way that it could be firmly attached to the body of the rocket. The Americans developed a rocket, complete with its own launcher, to use against the Mexicans in the mid-nineteenth century. A long cylindrical tube was propped up by two sticks and fastened to the top of the launcher, thereby allowing the rockets to be inserted and lit from the other end. However, the results were sometimes not that impressive as the behavior of the rockets in flight was less than predictable.

F. Since then, there have been huge developments in rocket technology, often with devastating results in the forum of war. Nevertheless, the modern-day space programs owe their success to the humble beginning of **those** in previous centuries who developed the foundations of the reaction principal. Who knows what it will be like in the future?

I. State the ANTECEDENT of the following pronouns as they are used in the passage:

1. **Which**: paragraph A line 03 .....
2. **It:** paragraph B line 01 .....
3. **Their:** paragraph B line 06 .....
4. **His**: paragraph C line 06 .....
5. **Its**: paragraph D line 02 .....
6. **Each**: paragraph D line 11 .....
7. **Which**: paragraph D line 13 .....
8. **Whose**: paragraph E line 04 .....
9. **It:** paragraph E line 10 .....
10. **Those**: paragraph F line 03 .....

II. From the information in the text, indicate who **FIRST** invented or used the items in the list below. Write the appropriate letters **A-E** against each invention below. **NB:** You may use any letter MORE THAN ONCE.

Example	Answer
rockets for displays	**A**

1 black powder .....

2 rocket-propelled arrows for fighting .....

3 rockets as war weapons .....

4 the rocket launcher .....

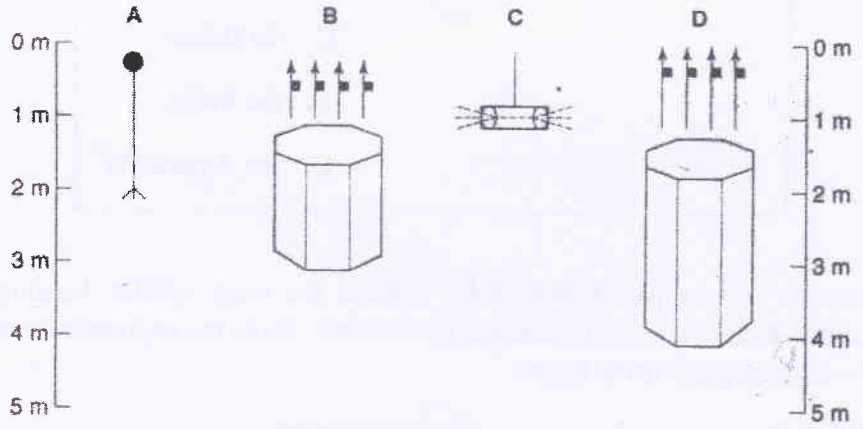
FIRST invented or used by:
A the Chinese
B the Indians
C the British
D the Arabs
E the Americans

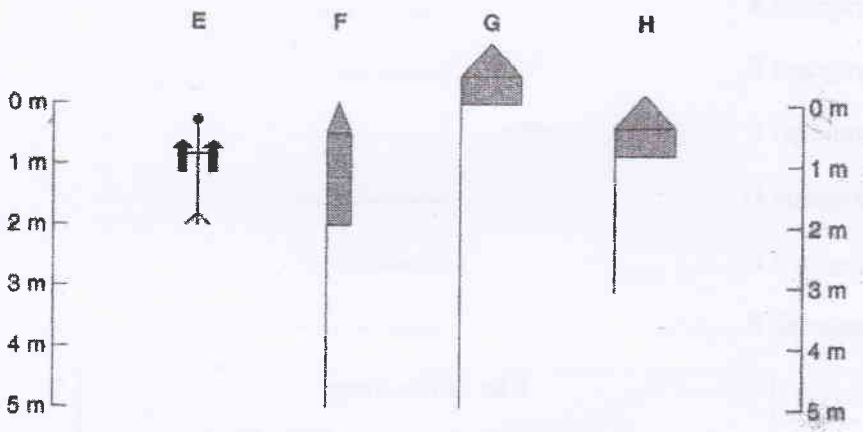
III. The passage has six paragraphs (**A-F**). Choose the most suitable heading for each paragraph **A-F** from the list of headings (**i-ix**) below. Write the appropriate numbers **i -ix** against each paragraph name below.

Paragraph	Heading number
1. Paragraph **A**	.....
2. Paragraph **B**	.....
3. Paragraph **C**	.....
4. Paragraph **D**	.....
5. Paragraph **E**	.....
6. Paragraph **F**	.....

List of Headings	
i.	How the reaction principle works
ii.	The impact of the reaction principle
iii.	Writers' theories of the reaction principle
iv.	Undeveloped for centuries
v.	The first rockets
vi.	The first use of steam
vii.	Rockets for military use
viii.	Developments of fire
ix.	What's next?

IV. Study the drawings of different PROJECTILES below and the names of the types of projectiles given in the passage, and match each name with the appropriate drawing and write the appropriate letter of the **drawing A -H** against each name:





Name of the projectile	Drawing (A-H)
The Greek 'pigeon of Archytas	
The Chinese ' basket of fire'	
The Arab ' egg which moves and burns'	
The Indian rocket	
The British barrage rocket	

Part B: [15 Marks]

Directions:
Read the passage and answer the questions that follow:

Computer Viruses

The Maltese Amoeba may sound like a cartoon character, but if it attacked your computer, you wouldn't be laughing. The Maltese Amoeba is a computer virus. It is a form of software which can 'infect' your system and destroy your data. Making computer viruses is only one type of computer crime. Others include hacking (changing data in a computer without permission) and pirating (illegally copying software programs.)

Viruses are programs which are written deliberately to damage data. Viruses can hide themselves in a computer system. Some viruses are fairly harmless. They may **flash** a message on screen, such as 'Gotcha! Bet you don't know how I crept in'. The Yankee Doodle virus plays this American tune on the computer's small internal speaker every eight days at 5 p.m. Others have serious effects. They attach themselves to the operating system and can wipe out all your data or turn it into **gobbledegook**. When the cascade virus attacks, all the letters in a file fall into a heap at the bottom of the screen. This looks spectacular but it's hard to see the funny side when it's your document.

Most viruses remain **dormant** until activated by something. For example, the Jerusalem B virus is activated every Friday the 13th and erases any file you try to load from your disk. The Michelangelo virus was programmed to become active on March 6th 1992, the 517th birthday of Michelangelo. It attacked computer systems throughout the world, turning data on hard disks into nonsense.

Viruses are most commonly passed via disks but they can also spread through bulletin boards, local area networks, and email attachments. The best form of treatment is prevention: Use an antivirus program to check a disk before using it. Always download email attachments onto a disk and check for viruses. If you do catch a virus, there are antivirus programs to hunt down and **eradicate** the virus. The problem is that around 150 new viruses appear every month and you must constantly update your antivirus package to deal with these new forms.

I. What do you think the given words mean as used in the passage? Select the best option and UNDERLINE it:

1) **Flash** – (line 07)
   a) shine brightly
   b) appear on screen
   c) come suddenly into the mind
   d) send instantly
2) **Gobbledegook** (line 11)
   a) a recycle bin
   b) a very useful program
   c) complicated language difficult to understand
   d) a noise made by ducks
3) **Dormant** (line 14)
   a) asleep
   b) harmful
   c) active
   d) inactive
4) **Eradicate** (line 23)
   a) educate
   b) lesson
   c) wipe out
   d) check

II. Use the information given in the text to answer the following questions.

1). What are computer viruses? (definition)

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2). How are viruses spread?

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3). How can you deal with viruses ?

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4). Why is it difficult to remove all viruses?

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III. State the EFFECTS of the following computer viruses:

1) Yankee Doodle

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2) Cascade

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3) Michelangelo

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4) Jerusalem B

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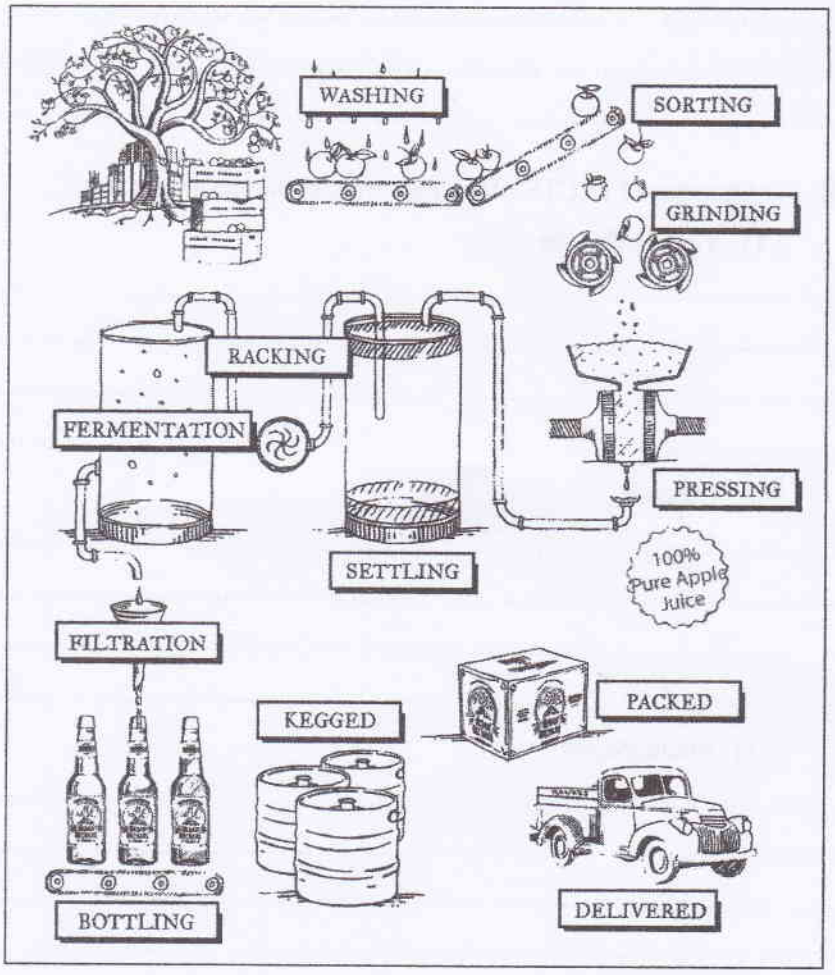
SECTION 03: WRITING

Part A: **[15 Marks]**

Directions:
Using the information in the following diagram, which shows the process of making apple juice, write a DESCRIPTION OF THE PROCESS using **at least 150 words.** Pay attention to **punctuation, paragraphing, cohesion and coherence.**



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Part B: [15 marks]

Directions:
Write AN ESSAY of about 200 words on **one** of the following topics: Pay attention to **punctuation, paragraphing, cohesion and coherence**.

i. In general, people live longer at present than they did in the past.

ii. Effects of social media on the world.

iii. Greenhouse effect, global warming and climate change.

iv. Long term effects of depletion of the ozone layer.

v. The issue of garbage in the urban areas of Sri Lanka.

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