



RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Health Promotion
First Year - Semester I Examination: February-March 2021

FDN 1201 – ENGLISH

INDEX No: -----

Time: 3 hours

Answer all questions on this paper itself.

SECTION 01 - STRUCTURE AND WRITTEN EXPRESSION

Part A: [20 Marks]

Directions:

A-1: Use the APPROPRIATE FORM of the ADJECTIVE to fill in the blanks as in the example. The adjective is given within brackets.

E.g.: He is richer (rich) than his neighbors.

1. The brides were much (young) than the grooms.
2. The chemistry paper was the (difficult) one for me. Other subjects were not that much (difficult).
3. "He is (clever)", that is how everyone said. However, the teacher realized he is not (clever) than his brother.
4. When the old woman became (strong) than she was before, she began to move about.

5. He is much (good) now.
6. The Christmas offer was very (valuable).
7. The (bad) thing of all was that his son was rude to him. He did not expect such a (bad) thing in his life.

Directions:

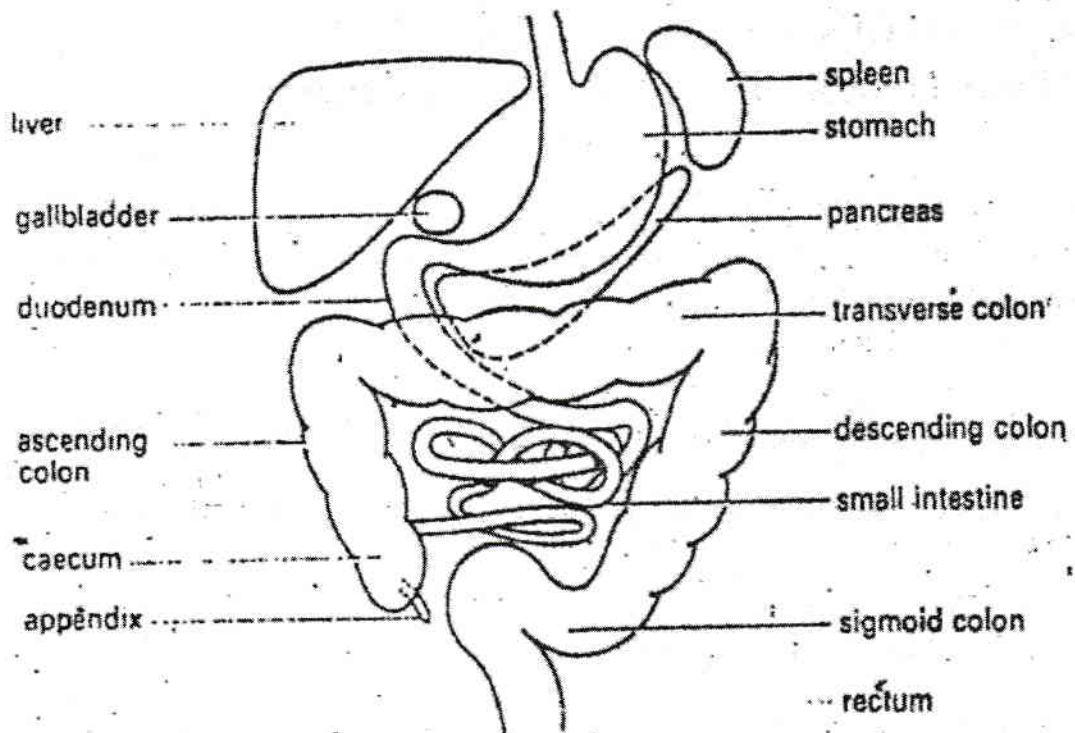
A-2: SPLIT the following complex sentences into their original simple sentences, and write them separately. Use only the referent NOUN to replace the relative pronoun.

- I. An Application Software is a program which directly meets the needs of the computer user.
.....
.....
- II. Marie Curie, with whom Piere Curie shared the Nobel Prize for Physics in 1903, was awarded the Nobel Prize for Chemistry in 1911.
.....
.....
- III. Metabolism includes transformations by which energy is made available and processes by which living material is produced and maintained.
.....
.....
.....
- 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.
.....
.....
.....

Directions:

A-3: Complete the following sentences which give the location of some organs of the abdomen by studying the diagram below: The first one has been done.

- a) The stomach lies between the liver and the spleen.
- b) is situated above the descending colon.
- c) The small intestine is located between and the descending colon.
- d) is to the right of the spleen.
- e) The transverse colon lies the stomach.
- f) The stomach is the liver.
- g) The liver is the ascending colon.
- h) The pancreas is located to the left of
- i) is situated below the small intestine.
- j) The gallbladder lies below and the duodenum.



N.B. RIGHT (of the body) LEFT

Some organs of the abdomen

Part B: [15 Marks]

B-1. Form QUESTIONS to get the underlined words as answers

1) Samsung has introduced a new smart watch to the market.

..... ?

2) I have been trying on this experiment for three hours.

..... ?

3) Chinese invented black powder.

..... ?

4) My sister is working hard these days because of her final examination.

..... ?

5) Mrs. Silva works in a laboratory.

..... ?

6) People in the past believed that the earth was the centre of the universe.

..... ?

7) Scientists will seek a permanent solution to this problem in the near future.

..... ?

8) Mr. & Mrs. Perera earn their living by selling sweets

..... ?

9) My parents usually buy groceries from this super market.

..... ?

10) I have read five books on this theory.

..... ?

Directions:

B-2: FILL IN the blanks of the following passage using the CORRECT WORD from those given within the brackets:

Discovered in the early 1800s and named nicotine, the 1)..... (oil, oily, oiled) essence now called nicotine is the main active ingredient 2)..... (of, from, to) tobacco. Nicotine, however, is only a small component of cigarette smoke, which contains more than 4700 chemical compounds, including 43 cancer-causing substances. In recent times, scientific research has been providing 3)..... (evident, evidently, evidence) that years of cigarette smoking vastly increases the risk of 4)..... (developing, development, develop) fatal medical conditions.

In addition to 5)..... (be, been, being) responsible for more than 85 percent of lung cancers, smoking is associated with cancers of, amongst others, the mouth, stomach, and kidneys, and is thought to cause about 14 percent of leukemia and cervical cancers. In 1990, smoking caused more than 84000 deaths, mainly 6)..... (resulting, result, resulted) from such problems as pneumonia, bronchitis and influenza. Smoking, it is believed, is responsible for 30 percent of all deaths from cancer and clearly 7)..... (represented, representing, represents) the most important preventable cause of cancer in countries like the United States today.

Passive smoking, the breathing in of the side-stream smoke 8)..... (by, from, of) the burning of tobacco between puffs or of the side-stream smoke exhaled by a smoker, also causes a serious health risk. A report published in 1992 by the US Environmental Protection Agency emphasized the health dangers, especially from the side-stream smoke. This type of smoke contains more smaller particles and therefore more likely to be deposited 9)..... (deep, deepen, depth) in the lungs. On the basis of this report, the Agency has classified environmental tobacco in the 10)..... (high, higher, highest) risk category for causing cancer.

SECTION 02 – COMPREHENSION AND ACADEMIC EXPRESSION

Part A: [20 Marks]

Directions:

Read the passage and answer the questions that follow:

Soils

01. Soils are very complex natural formations which make up the surface of the earth. They provide a suitable environment in which plants may obtain water, nutrients and oxygen for root respiration, and firm anchorage. Soil is formed by the weathering of rocks, followed by the growth and decay of the plants, animals and soil micro-organisms. If a farmer is to provide the best possible conditions for crop growth, it is desirable that he should understand what soils are, how they were formed and how they should be managed.
02. The topsoil or surface soil is a layer about 8 – 45 cm deep which¹ may be taken as the greatest depth which² a farmer would plough or cultivate and in which³ most of the plant roots are found.
03. Loose, cultivated, topsoil is sometimes called mould.
The subsoil, which lies underneath, is an intermediate stage in the formation of soil from the rock below.
04. A soil profile is a section taken through the soil down to the parent rock. In some cases, this may consist of only a shallow surface soil 10 – 15 cm on top of a rock such as chalk or limestones. In other well-developed soils (about a metre deep), there are usually three or more definite layers (or horizon) which vary in colour, texture and compaction.
05. The soil profile can be examined by digging a trench or by taking out cores of soil from various depths with a soil auger.
06. A careful examination of the layers (horizons) can be useful in forming an opinion as to how the soil was formed, its natural drainage and how it might be farmed. Some detailed soil classifications are based on soil profile.

Soil formation

07. There are many different types of soils and sub soils. The differences are mainly due to the variety of rocks from which they are formed. However, other factors such as climate, topography, plant and animal life, the age of the developing soil material and farming operations also affect the type of soil which develops.

The most important rock formations

08. Igneous or primary rocks, e.g. granite (coarse crystals) and basalt (fine crystals): These rocks were formed from the very hot molten material which made up the earth, millions of years ago. The minerals (chemical compounds) in these rocks are mostly in the form of crystals and are the primary source of the minerals found in all our soils. Igneous rocks are very hard and weather very slowly. Clay and sand are break-down products.

09. Sedimentary or transported rocks. These have been formed from weathered material (e.g. clay, silt and sand) carried and deposited by water and wind. The sediments later became compressed by more material on top and cemented to form new rocks such as sand stones, clays and shales.
10. The chalks and limestone were formed from the shells and skeletons of sea animals of various sizes. These rocks are mainly calcium carbonate, but in some cases are magnesium carbonate. The calcareous soils are formed from them.
11. Metamorphic rocks e.g. marble (from lime-stone) and slate (from shale): These are rocks which have been changed in various ways.

1. According to the passage,

a. What conditions should the farmer understand about soil when farming?

.....

.....

b. How do you test a soil sample?

.....

.....

.....

c. What can a soil sample tell you?

.....

.....

.....

d. How is sand formed?

.....

.....

.....

e. Mention two properties of igneous rocks.

.....

.....

.....

2. Find the words of opposite meaning for the following from paragraph 01:
- Simple -
 - Loose -
 - Not wanted -
 - Macro -
3. What do the following words in paragraph 02 refer to:
- Which¹ -
 - Which² -
 - Which³ -
4. Find the words from the text which correspond to the following definitions.
- How particles are arranged in a substance -
 - The process of pressing particles closely together -
 - A ditch dug in the ground -
 - The middle, or most important part of anything -
 - A system for taking away water -
 - A group into which something is put -
5. Refer back to paragraph 09, 10 and 11 and find the words which are similar in meaning to.
- Put down -
 - Pressed together -
 - Of different kinds -
6. Match the clauses in box A with those in box B in order to make meaningful sentences by writing the relevant letters 'a' to 'j' of the clauses in box B in the spaces provided in box A.

A

1. If you don't understand the soil,.....
2. If a soil is badly drained,.....
3. Crops are often lost,.....
4. If you don't take notes,.....
5. If agriculture fails,.....
6. If cows are not fed properly,.....
7. You get better crops,.....
8. Most plants die,.....
9. People get sick,.....
10. A tractor can be dangerous,.....

B

- a. you won't remember the lectures.
- b. if the soil is fertile.
- c. the world will starve.
- d. if they don't eat proper food.
- e. it can become waterlogged.
- f. if the farmer does not look after them.
- g. if you don't know how to drive it.
- h. you'll never be a good farmer.
- i. if they don't get enough water
- j. their milk yield will fail.

Part B: [20 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:

- 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 century. 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 from 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. 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

- II. 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?

- III. Find examples of the following constructions from the passage and write them in the spaces given:

a.) A defining relative clause

.....

.....

b.) A non-defining relative clause

.....

.....

c.) A noun phrase in apposition

.....

.....

d.) A contracted form of a non-defining relative clause

.....

.....

e.) TWO contracted forms of defining relative clauses

.....

.....

.....

.....

f.) TWO contracted forms of passive voice relative clauses

.....

.....

.....

.....

g.) TWO contracted forms of active voice relative clauses

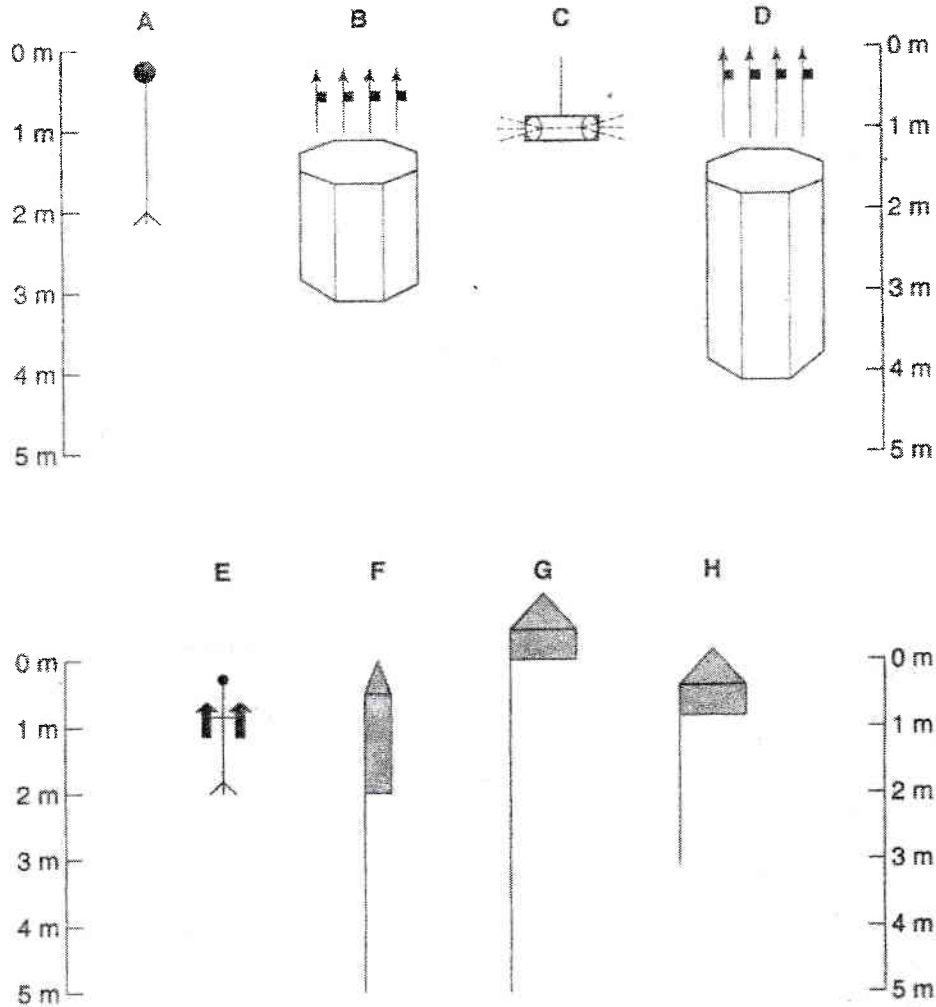
.....

.....

.....

.....

- 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	

Imagine that you are the Vice President of the Science Association of your University. You hope to organize a workshop with three other committee members. Write **the conversation** that would take place between you and these members regarding the organizing procedure. Each speaker should at least talk five times. Use the space provided.

[illegible]

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