

FORMAT OF THE QUESTION PAPER

The question paper consisted of three questions. Candidates were required to answer two questions in Section A and 1 question in Section B. The time allocated was one hour and fifteen minutes.

Section A consisted of 2 parts. Parts 1 and 2 required the candidates to read and understand linear texts and transfer the relevant information into non-linear forms in the form of a graphic organiser and a table. In Part 1 the theme of the text was Human Body and Health while Part 2 was related to Technology.

Section B required the candidates to write a report based on information on acid rain and to provide relevant information on the topic. The theme was Nature and Environment.

The questions were relevant to the EST 6355 Curriculum Specifications.

OVERALL PERFORMANCE

Candidates showed an improved performance. A large number of candidates were able to answer Section A: Part 1. Most candidates attempted all questions. Only a small number failed to attempt any question in this section. In Section B, all candidates attempted the question. Candidates were able to show an understanding of what a report entails. They utilised all content points and the register used for report-writing was appropriate. A large number of candidates provided relevant additional information/elaborations according to the question requirements. However, some candidates did not integrate knowledge from their science and technical subjects when attempting the report. Some displayed poor reading and writing skills and failed to respond to the question in the required manner. Poor handwriting also impeded reading.

PERFORMANCE ACCORDING TO GROUPS

Good Candidates

Generally, a minority of candidates fell into this category. Candidates displayed a good understanding of the question requirements and were able to provide precise answers to questions in Section A. For Section B, candidates displayed maturity of thought and depth of understanding and were able to provide additional information and elaborate given points considerably well. Candidates were also able to use knowledge gained from science subjects or from extensive reading to answer the question. They also displayed good use of science and technology expressions.

Average Candidates

The majority of candidates fell into this category. Candidates showed some understanding of the question requirements and were able to provide answers to questions in Section A although some of the answers were not precise and accurate. Their performance in Section B was satisfactory. There was a lack of maturity and depth in their answers and they were unable to integrate knowledge from science subjects in their responses. They were also hampered by limited linguistic ability and thus were unable to convey ideas clearly. A large

number of candidates who displayed a good command of the English Language also fell into this category because they were unable to provide adequate additional information/elaborations.

Weak Candidates

Candidates who fell into this category showed poor understanding of the question requirements and were unable to provide correct answers to questions in Section A. In Section B, they merely copied the content points given. They were clearly hampered by poor linguistic ability. Some resorted to the use of Bahasa Melayu.

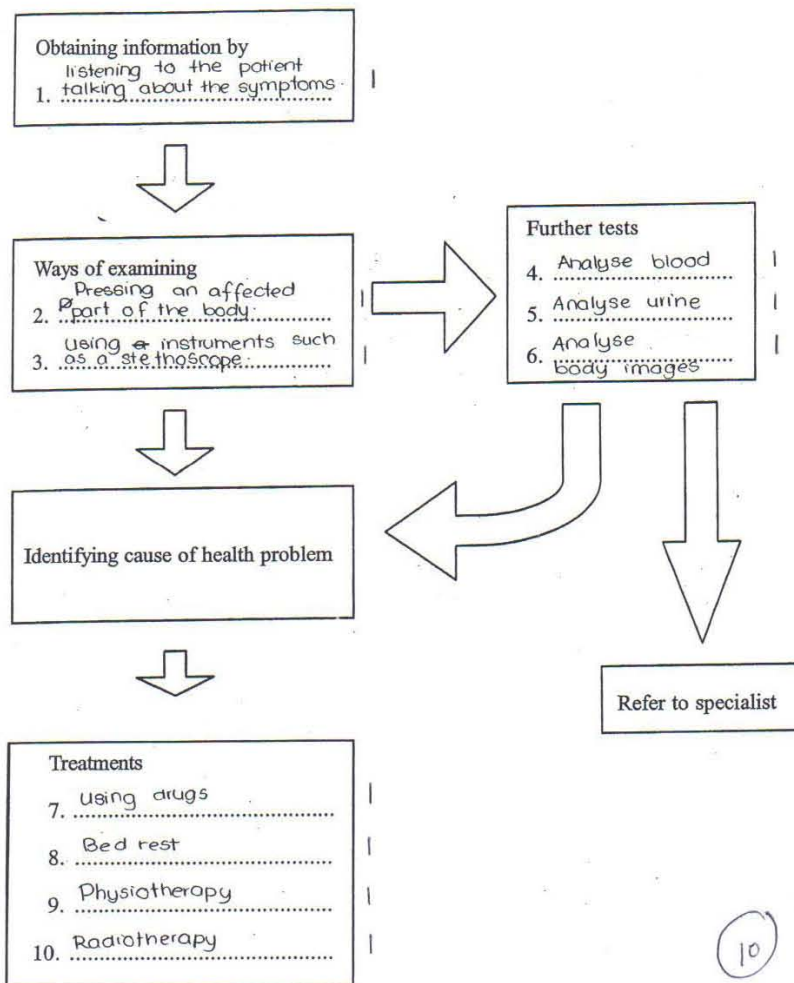
DETAILED PERFORMANCE

Section A: Part 1

Good candidates were able to provide clear, precise and concise answers to all the 10 questions in this section. There were no spelling errors.

Based on the information from the text, complete the graphic organiser below.

DIAGNOSIS AND TREATMENT



[10 marks]

Average candidates were able to provide answers to the questions in Section A. However they made mistakes like:

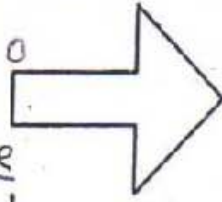
- i) providing incomplete answers

Obtaining information by
1. ~~the doctor~~ the patient 0

Further tests
blood or urine
4. ~~analyse blood~~ 0
5. X-rays 1
6. CT scans 1

- ii) distorting the meaning in their attempt to rephrase the answer

Ways of examining
2. pressing an affected part of disease 0
3. using instruments 1

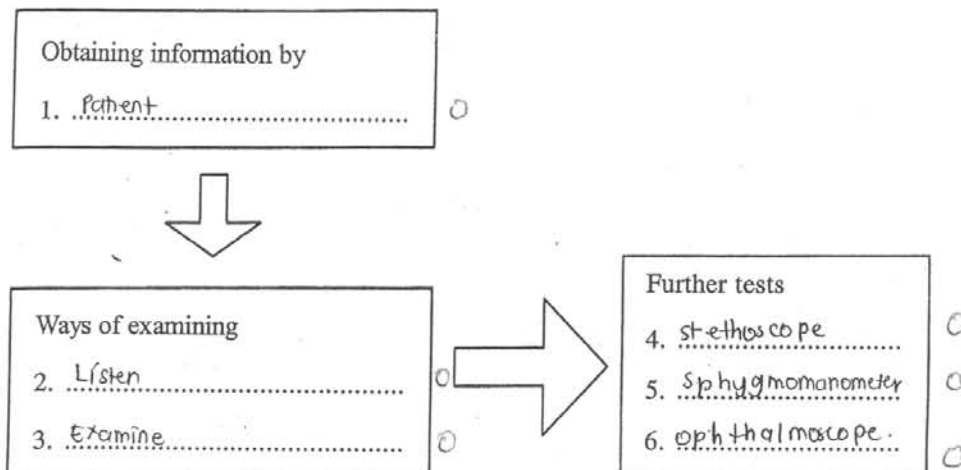


Further tests
blood analyse
4. ~~Analyse blood~~ 0
urine analyse
5. ~~Analyse urine~~ 0
Body images analyse
6. ~~Analyse body images~~ 0

Weak candidates were unable to answer most questions due to their poor comprehension abilities. Answers were incorrectly lifted/copied as shown in the sample below.

Based on the information from the text, complete the graphic organiser below.

DIAGNOSIS AND TREATMENT



Section A: Part 2

Good candidates were able to provide correct answers to the questions in this section. They were able to use contextual clues from the text to derive answers to questions.

Based on the information from the text, complete the table below.

Car Types	Advantages	Problems
Hybrid Cars	1. Two means of propulsion 2. No need for external recharging stations	None
Fuel-cell Powered Cars	3. no pollution 4. no combustion required 5. no moving parts	7. hydrogen is highly flammable 8. storing hydrogen is hazardous
Electric Cars	6. produce no harmful emissions	9. inefficient 10. need for heavy batteries

[10 marks]

10

Average candidates were only able to provide correct answers to questions where the answer could be lifted directly from the text. However, they made errors like

i) partial lifting

Car Types	Advantages	Problems
Hybrid Cars	1. high efficiency petrol engine 2. a generator that recharges battery	None

ii) giving similar answers

Similar answer Fuel-cell Powered Cars	3. Produce no emission of carbon dioxide 4. not use combustion to generate electricity 5. have no moving parts	7. storing it is hazardous 8. Highly flammable
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Weak candidates were unable to answer many questions due to poor understanding of the text, poor use of contextual clues and referencing skills. These candidates lifted words/phrases mindlessly from the text as shown in the samples below:

Car Types	Advantages	Problems
Hybrid Cars	1. High efficient 2. Flexible	None

Fuel-cell Powered Cars	3. Batteries 4. Mitanol 5. Carbon	7. Flammable 8. Waste
Electric Cars	6. Ideal	9. Inefficient 10. Range unimportant

Section B

Good Candidates

Good candidates showed excellent understanding of the task. They were able to write comprehensive reports which demonstrated maturity of thought, depth of understanding and integration of knowledge from different disciplines. These candidates were able to communicate ideas clearly and showed excellent ability to analyse the problem of acid rain. There were numerous and detailed additional information/elaborations for each of the given points. In addition, they also provided relevant and logical suggestions to overcome the problems of acid rain. Candidates were able to write good sentences of various types. They were able to use the right register in conveying their ideas. Candidates in this category also showed a good grasp of the subject by being able to use appropriate and precise scientific expressions. Ideas were also well-organised and easy to comprehend. However some candidates made some minor spelling and linguistic errors.

i)

While some might say acid rain is merely a marginal problem, we cannot deny how much damage it has caused. Therefore, it is vital to know the causes of such acid rain. Nitrogen oxides and sulphur oxides released as waste from traffic, factories and power stations rise into the air. Usually, these oxides are emitted by factories working on plastic, rubber or chemical products. For example, sulphur dioxide is caused by the manufacturing of synthetic rubber through vulcanation. On the other hand, nitrogen oxides are often emitted as a by-product from the extraction of metals from its nitrate substances.

So, nitrogen oxides and sulphur oxides combine with water in the air and they dissolve into nitric acid and sulphuric acid. Both of these acids are concentrated and strong acid compared to organic acids such as ethanoic acid and citric acid. As nitrogen oxides and sulphur oxides are highly water-soluble, the vast amount of water in the air will be acidic, thus contributes to the term acid rain.

ii)

As mentioned above, acid rain has been proven to be the ~~most~~ strongest factor that contributes to ^{the} declining quality of our ecosystem. Combustion of fossil fuels, such as natural gas, petrol, diesel and even coals produce unwanted by-products, that is emission of nitrogen oxides and sulphur oxides. These fossil fuels are not purely ~~made~~ constituted of hydrocarbons but contains foreign matters such as sulphur and nitrates as well. These harmful substances in the form of oxide gases would rise into the atmosphere, hence reacting ~~to~~ with ~~waters~~ in the air. They would then

Average Candidates

Average candidates displayed a satisfactory understanding of the task by meeting most of the requirements. These candidates did not analyse the problem of acid rain in depth. They merely used the content points and were unable to provide detailed additional information/elaborations for some of the points. Some candidates also left out or distorted some of the content points in their attempt to paraphrase. They were able to provide some relevant suggestions to overcome the problems of acid rain. However some of them included irrelevant information in their answers. The answers also contained factual inaccuracies. For instance, instead of discussing acid rain, they discussed pollution in general. A large number of candidates in this group are linguistically competent but lack the knowledge required to tackle the task. They were able to use sufficiently accurate language to convey ideas. Generally most of them were aware of the conventions of report-writing by using the right format and appropriate register. Some however, were unable to use appropriate scientific expressions. Some candidates used inappropriate expressions in their answers.

i)

When nitrogen oxides and sulphur oxides ^{rise into the air} ~~combined~~ it caused acid rain.
Nitrogen oxides and sulphur ~~ox~~ oxides released as a waste from traffic factories and power stations. These gases combine with water in the air and they dissolve into nitric acid and sulphuric acid. Then, acid rain fall to Earth in clouds. Acid rain affects the substances on which it falls. Acid rain

effects water. When acid rain falls into the water, the water becomes more acidic.

Fish depend upon plankton for food. ~~But~~ If acidic water kill plankton, the total of sea creatures may be reduced too.

Besides that, acid rain also affects the surfaces of sculptures and buildings. Even hard building materials such as marble can be seriously damaged. Thus, acid rain affects the world's eco-system. Our eco-system was unstable and living creatures may be extinct too. Plants are damaged ~~and~~ and caused air pollution. As a conclusion, acid rain is very dangerous. ~~and~~ ~~the~~ humans are ~~too~~ terrific ^{because} and of acid rain. So, we must reduce the numbers of transports ~~and~~ try to use solar energy, and reduce the needs of factories to avoid acid rain happen.

ii)

Acid Rain

Acid Rain is caused by air pollution. Nitrogen oxides and sulphur oxides released as waste from traffic, factories, and power stations rise into the air. Upon reaching the skies, nitrogen oxides and sulphur oxides combine with water in the air and they dissolve into nitric acid and sulphuric acid.

When the clouds in the air are dense enough, acids in clouds fall to Earth as acid rain. Because of its corrosive effect, acid rain affects the substances on which it falls. This causes many environmental ecological and environmental problems.

When acid rain falls into the water, the water becomes more acidic. Acidic water can kill plankton which ^{fish} depend on as food. With less plankton in water, there will be less fish. When acid rain falls onto soil, soil undergoes corrosion by the acid. This can cause disasters like landslides.

Some candidates used inappropriate transitional markers to link ideas.

i)

The effects of acid rain can clearly be seen by accounting the damages to the buildings and other health related problems caused by them. ~~The~~ The main ~~identifiable~~ identified cause of it is due to the pollutants emitted by factories and cars. As a result stern action must be taken to overcome this problem to bring its effects to a lower level.

ii)

~~face~~ and difficulties ^{in respiration} to respire. (Fishes ^{which} ~~where~~ they are dependent upon the plankton) for food) (may die) due to the acidity of the ^{surfs} plankton. Subsequently Subsequently (acid rain also affects the surfaces of sculptures and building.) This is because (acid is very reactive) and whenever it ~~is~~ reacts with (calcium

Weak Candidates

Weak candidates demonstrated a poor understanding of the task requirements. Their responses were minimal as they had merely lifted the content points given. There was little or no attempt to elaborate the points given or to provide any additional information as required by the task. Those who tried to provide additional information/elaborations were clearly hampered by poor linguistic ability. Some produced responses which were incoherent. Repetition of ideas was also noticeable. There was little or no attempt to organize their ideas and spelling and punctuation were obvious impediments in their writing.

i)

Subject : To People.

title : Formation about acid rain.

For your information, the causes of acid rain are nitrogen oxides and sulphur oxides. Nitrogen oxides and sulphur oxides released as waste from traffic, factories, and power stations rise into the air. Then, both of the gas combine with water in the air and they dissolve into nitric acid and sulphuric acid. Acids in clouds fall to Earth as acid rain.

The acid rain affects the substances on which it falls. When the acid rain falls into the water, the water becomes more acidic and this can kill plankton. As well as you know, fish depend upon the plankton for food. Acid rain also affects the surfaces of sculpture and buildings. It also can be seriously damaged even hard building materials, such as marble.

Then if people who involved in acid rains, they also can get pain like fever and this may be along time to get back the health. From this, we know that all about acid rain and || the effects of the acid rain. We should try to get the acid rain || and more carefully about it. We must think long the future and the Earth.

ii)

In Malaysian country the nitrogen oxides and sulphur oxides most important. Nitrogen and sulphur can be released as waste from traffic, factories and many power stations rise into the air.

Beside that, when the nitrogen oxides and sulphur oxides together or combine with water in the air and they dissolve can have into the nitric acid and sulphuric acid. ~~The acid~~

The acids in clouds fall to the Earth as acid rain because when the nitrogen and sulphur oxides combine with the water in the air. After that, they call acid rain. The effects of acids rain is the substances on which it falls. Nobody know about it, when the acid rain falls into the water, and then the water becomes more acidic. Then the acidic water can kill plankton.

After that, one problem will happened is a fish. We all know the fish can get a depend upon the plankton for food. When the

SUGGESTIONS TO STUDENTS

Section A

1. Read and understand the task and questions.
2. Study the graphic organizers to determine the kind of information required.
3. Study the text carefully and select only the required information.

Section B

1. Read a variety of texts (notes, reports, newspaper articles, internet articles, encyclopedia entries etc.) related to the themes specified in the syllabus.
2. Read extensively to enrich vocabulary pertaining to science and technology expressions.
3. Be alert to the conventions used in scientific texts.
4. Plan and organize ideas before writing out.

SUGGESTIONS TO TEACHERS

Section A

1. Provide ample practice on information transfer.
2. Help students improve reading skills such as identifying main and supporting ideas, identifying contextual clues, making inferences, making associations and connections etc.
3. Expose students to a variety of graphic organizers.
4. Make extensive use of scientific dictionaries.

Section B

1. Expose students to a variety of texts related to the themes specified in the syllabus.
2. Teach students the correct terminology.
3. Keep abreast of knowledge in science and technology.
4. Adapt materials to suit students' ability.
5. Cover all themes in the syllabus.
6. Encourage student presentations and projects.
7. Teach students how to write a variety of sentences.
8. Create a network with JU for English and Science Technology.
9. Focus on the mechanics of writing e.g.s punctuation, spelling.
10. Give students adequate practice on expansion of ideas.
11. Teach students to organize ideas in a coherent manner.
12. Teach students appropriate phrases/sentence structures in relation to task.
13. Provide students with ample writing practice.
14. Expose students to the text structure in scientific texts e.g.s cause-effect, problem-solution.
15. Teach students the differences between formal and informal writing.
16. Teach students the correct cohesive devices such as as a result, therefore, besides, in addition, moreover etc.