B1E-H-1

a i) Plates X : Eurasian Plate
Plates Y : Indo - Australian Plate.

ii) Region A is located at the boundary of the ~~plate~~ Indo - Australian Plate.
Region B is located at the centre of the Pacific Plate.

iii) ~~When~~ The occurrence of the tectonic hazard at region A is volcanic eruption. When the convection current converge ~~at~~ two ~~place~~ plate ~~~~ move toward each other. The Indo - Australian Plate collide with the Eurasian Plate by compressional ~~free~~ force ~~When~~ When two plate collide, the ~~the~~ more denser one will ~~subj~~ subduct into the ~~athenosphere~~ athenosphere When the crack extent to the magma, the magma rise along the ~~the~~ crack because it needs to ~~rea~~ release its pressure The magma will ~~g~~ run out to the ~~er~~ earth surface as lava. And it forms volcanic eruption.

~~Gd~~

iv) The volcanic eruption at region A is more violent. ~~Be~~ Because there are many ash and gases rush out from the volcanoes The gases will poison people, ~~and~~ and make people ~~to~~ ~~f~~ difficult to breath. ~~The ashes~~ It may also form acid rain. The ashes ~~will~~ will low the ~~visibility~~ visibility and affect ~~t~~ transport. If ~~it~~ it mix with rainwater, it will cause mudflow

The volcanic eruption at the region B is less violent. Lava ~~[illegible]~~ just filled out slowly. The Lava is extremely hot materials. It can burn everything on its path.

~~Therefore~~ The volcanic eruption at region A is more ~~harmful and vio~~ violent and harmful to the people than the volcanic eruption at region B. People in the region A needs to evacuate immedinatly by motor brike. But the people in the region B can stand along its path and take photo on it. The region B's people ~~[illegible]~~ is more safe than people in Region A

b). The tectonic hazard ~~[illegible]~~ can change with time and space. The plates ~~on~~ of the crust can move slowly ~~it is it is~~ ~~or moving plates~~. They are moving plates. Therefore, the volcanic eruption can also change with time and space by the movement of the plates.
Under Hawaii, there ~~is~~ is a ~~hot~~ hot spot. It ~~will~~ can ~~pt~~ form ~~volcan~~ ~~[illegible]~~ volcanoes on ~~[illegible]~~ top of its earth surface. ~~A~~ And it form a volcanic island. But the ~~p~~ Pacific Plate move to ~~the of direction~~ of north-west direction slowly. The ~~volcanoes~~ volcanic Island which is forms before will move to the north-west. in When the new crack extent to the hot spot. It will ~~[illegible]~~ also form new volcanoes and it is active on the top of hot spot. After a long time, the plate move to the ~~north east~~ north-west. It will also ~~move~~ move to the north-west, and it will ~~g~~ repeat and repeat again. The volcanoes which form long time before. It will become less violent and active. After a long period of time, it will form a ~~[illegible]~~ volcanic island arc.

Student demonstrates comprehensive knowledge of the curriculum, such as the occurrence of the tectonic hazard. Student uses a wide range of geographical data in answering the question, e.g. compare and contrast. Student correctly uses geographical terms and concepts, e.g. the location of volcanoes in relation to plate movement and time of their occurrence, to explain the temporal and spatial changes. (16 marks)

aii) Plate X is Eurasian Plate. And plate Y is Indo-Australian Plate.

aii) The location of the tectonic hazard at region B is located not along with the plate boundary. But region A is located along the plate boundary.

aiii) The formation of tectonic hazard at region A is happened when the Eurasian Plate and Indo-Australian Plate are moving toward each other. Therefore, as Eurasian plate is denser. It subduct into the megma. while Indo-Australian plate uplift. Also, because of Eurasian plate and Indo-Australian Plate is along the destructive plate boundary. The magma current is sinking and converage. Therefore, it lead to the plate movement. When two plate moving toward each other, the Eurasian subducts, it will form lots of cracks along the Indo-Australian Plate. When the cracks reach the megma. The megma pressure release. Then the magma will rise up through the crack. And it will form volcanicity. When lots of volcanos form, it will become volcanic islands. Therefore it is form the volcanic eruption.

iv) For the comparsion of the tectonic hazard at region A and B. The seriousness of impact of regions A is bigger than region B. Because region A is along the destructive plate boundary. But region B is located on a hot spot. which the formation of region A need two plates of subduction. Therefore, it will release greater pressure than region B. And region A will have earthquake and volcanic eruption. But region A doesn't involve any plate movement. Therefore, it should be have less impact and release lesser pressure than region A.

Besides, the death rate and the damage of building in region A will higher than region B. Because region A is less-developed country but region B is more-developed country. Therefore region B should have better warning system and nature hazard protection than region A. So region B has lesser damage than region A.

However, there is also have similar from both region A and B. Because their tectonic hazard is volcanic eruption. There also be form some minerals and energy after volcanic eruption in region A and B. Besides, both region A and region B become a

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tourist spots. Which there will be form some landforms after volcanic eruption. It can improve both region A and B's tourism.

Moreover, there maybe also form tsunami after volcanicity in region A and B. Because during volcanicity. It may have great pressure release underground. And it may form tsunami.

b) As because there is a hot spot under the Hawaii. therefore, it form the volcanicity under the hot spot. And because the plate movement will move to Northwest everytimes. Beause Hawaii is located in Pacific Plate. The Pacific plate will move northwest toward the Eurasian Plate. therefore when the hot spot form a volcanic island. The volcanic island will be move to northwest.

Therefore after a period of time, the oldest volcanic island will be the farest from the hot spot. From the map evident, Kauai had 4.7 million years old. And OAHu had 2.9 million years old. It showed that the oldest is the farest from the hot spot. But the youngest is located near the hot spot from the time past.

Student demonstrates knowledge of the curriculum but lack logical manner. The discussion on the formation and occurrence of the tectonic hazard is fragmented. Student demonstrates accurate use of geographical terms. However, the discussion on the spatial and temporal changes of the tectonic hazard lacks logical coherence. (13 marks)

a) i) plate X is Eurasian, plate Y is Phillipine Plate.

(i) The location of region B is far away from plate boundaries, it maybe hot spot. while A located along plate boundaries.

(ii) The two plate X and Y are move towards each other driven by convection current. They are continental plate and oceanic plate. The thinner, heavier plate subduct, which then molten by the magma. There are lines of weakness develop along the subduction zone and the two plate. The magma volume increase and thus increase the pressure of magma, magma under high temperature and high pressure will flow out through the lines of weakness. Volcanic eruption occur, lava flow to the earth surface, with volcanic ash and gas.

(iv) Tectonic hazard at region A and B may cause a great of lives. However, that of region B can be used for scenary, so to attract tourist, the income in region B increase due to development of tourism. That of region A will destory farmland, buildings, roads etc, which cause

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a great loss of economy. Also, that of region A release poisonous gas which is toxic and harmful to humen, while that of region B will not.

IV) , There are frequent plate movements among these million year. The platesmay move towards, move apart, or slide past each other, so there are different combination or formation of land form or plate. In Figure 1a, Hawaii is located at B. Also with reference in Figure 1b, it shows the plate movement cause the dispersal of a plate, Kauai, Oahu, Molokai, Maui and Hawaii should be a part of that plate in the past. As the

Student cannot identify the geographical features (the naming of the plates) and cannot demonstrate an understanding of the concept of hot spot volcano. Answers are superficial and lack logical explanation. (6 marks)

Section B

2.a) In grid square 9974, it is a coastal area. There are few favourable factors for the development of heavy industry. First, it is in coastal area, the water supply can be used as raw material and cooling agent during the industrial ~~process~~ process. Also, there is ~~spaces~~ room for expansion which the industries want to enlarge their plants. They can reclamation have extend to the sea. Secondly, in grid square 9974, there are main roads such as Cheung Tsing Highway and there is roads to connect Tsing ~~Yi~~ Yi Road West. And it is in coastal area. Both water transports and ~~land~~ main road increase the accessibility to the industries. It greatly lower the transport cost. Thirdly, ~~& there~~ some cement works, ~~and~~ dockyard and oil depot is exist in grid squre 9974. This favour agglomeration economy. Heavy industries can make use the by-products or product from other factories to lower the transport cost by exporting raw material from other places. They can also exchange informations and share the ~~infrastructures~~ infrastructures.

b) i) In the 1980s, floors in the industrial building mainly occupied by light industries, such as textile, garment and dyeing factories. From the Floor Space diagram, we can see most of the floor are occupied to be factories and warehouse. In ~~200~~ 2011, most of the floor space turn to office and become vacant. Only eight factories left. It show the decline of secondary industries in ~~that~~ the Tsing Yi Island. And the ~~former~~ old industrial area is ocurring more tertiary industries such as offices and providing professional service.

b ii) The changes of economic activities, reduce of light industries. Is mainly due to the high wages in Hong Kong. And so as the high land rent. The company would like to reduce production cost, so most factories moved to the Mainland in the 1990s. Mainland have low land rent, low wages and great accessibility due to the improved transport network. From the map extract, we can see that there are road connect to the mainland area directly.

c) i) To developing the grid square 0274 into an IT industrial district, there are some advantages.

First, it is a coastal area, near the Rambler Channel. To ~~develo~~ develop IT industrial landscope, beautiful landscape is required the open sea view ~~p. pos~~. Also, it has ~~is~~ well-developed transport network, with Cheung Tsing ~~Brig~~ Bridge and main roads. The great accessibity and good landscope view provide incentive to scientist or qualifed labour to work there as IT industry greatly rely on scientific and high-qualification labour.

Also, the great accessibility is benefittal to input and export materials for developing new IT products. It lower the transport cost. ~~And it is near~~

ii) To developing the grid square 0274 into an IT industrial district, there are some ~~lia~~ limitations.

Firstly, most of the are is ~~to~~ occupied for residential use, such as Grand Horizon, Cheung Ching Estate etc. There are not enough space to develop a IT industry landscape. A spacious environment is require to build low, disperse and modern office-plant-laboratory ~~labrt~~ buildings.

Secondly, there are not any Universities or places when

innovative ideas emerge. Most of them are settlement and community facilities only. It does not favour a innovative climate to encoyge new ideas from IT industris.

Besides, most of the settlement ~~at~~ nearby are old. The IT industries developed in grid square 0274 cannot collect a latest market information easily, and the modern culture of IT industries is contrast to the ~~near~~ nearby old villages.

Student can analyse, synthesise and interpret logically the geographical data, such as map and floor plan. Student demonstrates a good use of map evidence in explaining different geographical concepts. Student can communicate his/her knowledge effectively by using geographical terms. (18 marks)

a. Ma Wan: Channel which is deep provides sufficient sea water for cooling as the areas are located ~~in~~ along the coast. There are well-developed infrastructure such as cement works and oil depot in 9974. Companies of Heavy industries can use the infrastructure there and lower production cost. Extensive flat land is abundant there, ~~it is~~ as it is coastal region, reclamation is available for firms of heavy industries to expand the production of scale. Oil depot ~~there~~ and cement works there may provide raw materials and energy source to operate. (The location there is access to energy and raw materials) This favour heavy industries which are power-oriented.

b i) Industries in Tsing Yi Island changes from manufacturing (textile, garment) light industries to service industries from 1980 to 2011. Most ~~fa~~ manufacturing factories moved to Mainland in the 1990s.

b ii) Land rent and labour wage in Hong Kong have high, these hinder the firms to expand their scale of production. Since major industries in Hong Kong is labour-intensive light industries, to reduce production costs, most factories moved to mainland where land rent and labour cost are much cheaper.

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(i) The area in 0274 is accessible as there are well-developed transport network such as Cheung Tsing Bridge and several main roads. Besides, residential estates, like Cheung Ching Estate, buildings are concentrated there, this provides local market and access to market information. Also, great population there provides sufficient labour in production.

(ii) As most of the area in 0274 are developed, there is limited space for construction of IT industrial district. In addition, there is a ferry pier, ferries cross along the channel, large-scale reclamation along Rambler channel is not possible since the channel is narrow. Limited extensive flat land hinder the development of IT industries. The density of buildings (built-up area) is too high, this unfavourable the construction of IT buildings which are mostly dispersed and in low density.

寫於邊界以外的答案，將不予評閱。
Answers written in the margins will not be marked.

Student demonstrates the use of map evidence in supporting the explanation and adequate knowledge of the curriculum, e.g. the change of the location of the economic activities from Hong Kong to mainland China. Student communicates his/her knowledge with proper geographical terms. (11 marks)

2 (a) In the grid sqare 9974, the location is near by the sea and have effient transport network by the Tsing Ma Bridge., cheung Tsing highway and transport in the sea. Besides, there are cement work, dockyard and oil depot. These all are heavy industry. As the location is near by the sea, it has abundant water to cooling down the plants when it has any accident. Also, the transport network can reduce the risk of accident by logisting the oil. Besides, it is far away from the resisdental and may not causes a huge damage for the humans' life and their properties. Moreover, near the seas is benifit for exporting the oil and cement to other places.

(b)(i) The econonic activities change from light industrial to IT industrial district in the past 30 years.

The industrial building in the 1980 mainly occupied by textil, garment and dyeing factories. However, the utilisation of the industrial building has many changes. These are the use of office and vacant has increased, factory and ware house decreased and the are new profressional service in it between 1981 and 2011.

2 (b)(ii) The changes is caused by the mainland China government has published the 'open door' policy in 1978. It affect some factories owners relocated their ~~firm~~ manufacturing firms to the mainland. Since the land price ___, wages and rent is lower. And has the ~~flat and~~ extensive flat land in there. These all reduce the production cost. Therefore, many factories had moved to the mainland China and the ligh Industrial in Hong Kong is reducing.

(c)(i) One of the advantages to developing into an IT industrial district ~~are~~ is the landscape there will be improved and the infrasture may be more in that area. That are ~~bef~~ benefit for the people living there. Also, for the Hong Kong, that will improve the ~~liv~~ living standard since there will produce some new ~~high~~ high-tech product. Apart from, it also helping the profressional to exchange ideas and produce better and greater products.

(ii) There may be some aguement by the local in that area. Since there are many people living there. If there ~~are~~ is able to develop into an IT industrial district. The sound and air pollution will destrube the people caused by the near distant. Moveover, the land is not enough, if there are industrial district, it may changes the land use and landscape. And will ~~have~~ grumbled by the people living there for a long period of time.

Student demonstrates elementary knowledge of the curriculum. He/she is unable to use correct map evidence in supporting the explanation and cannot extract information from the information provided, e.g. the floor space plan. Student describes what he/she knows in a simple and straightforward manner. (5 marks)

3 (a) (i) Shown in the graph paper attached.

(ii) Firstly, there is scanty of rainfall. The annual rainfall is just 509.8 mm, water is critical in farming (crops, soil all need water). Low amount of rainfall leads to lack of soil moisture, the soil will be prone to have erosion and depletion, productivity decreases.

Besides, the rainfall is also unevenly distributed with more in summer and no in winter (Nov – May). It shortens (Apr – Oct) the growing season of crops. Seasonal variation of rainfall is a constraint.

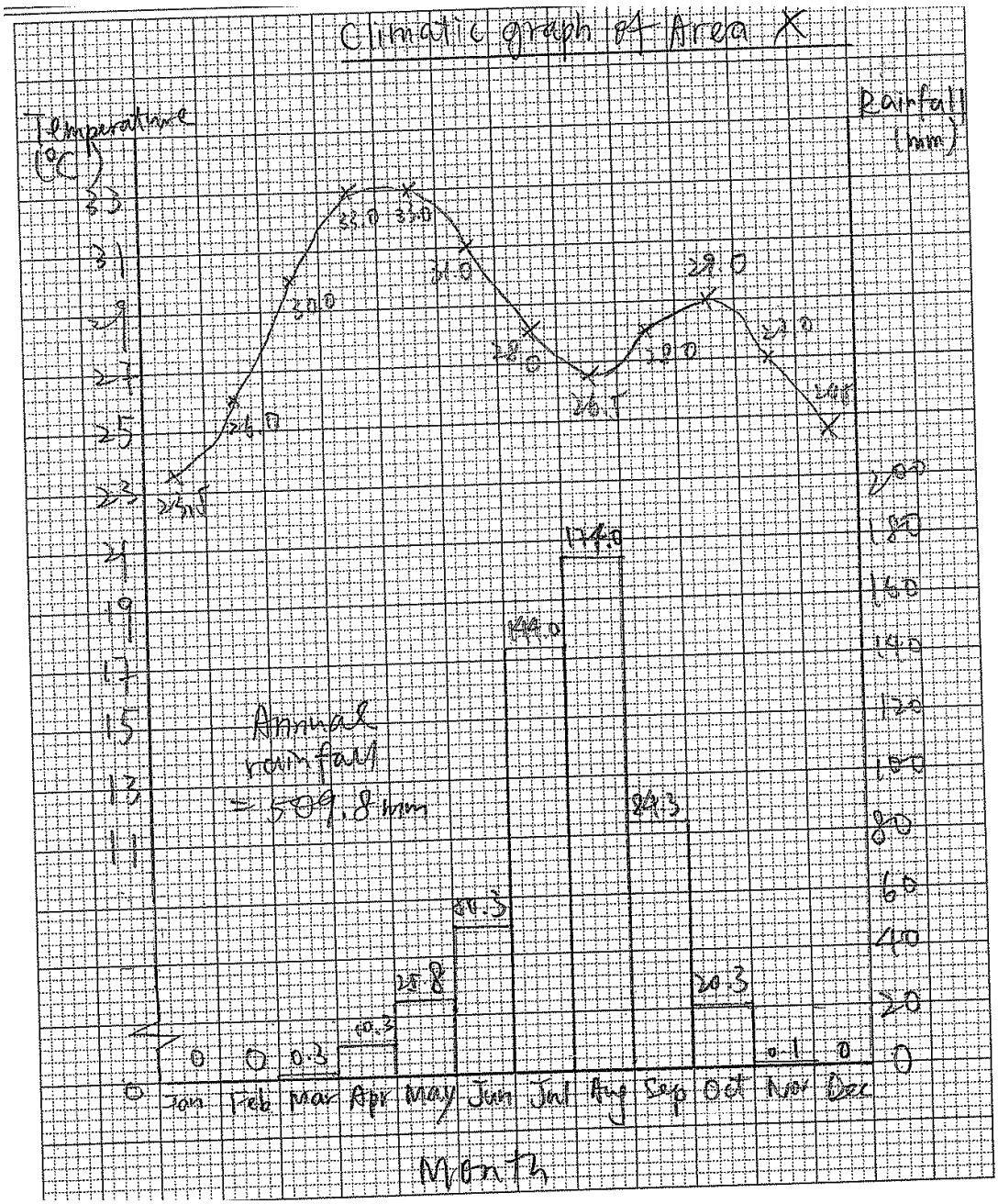
Furthermore, the annual mean of temperature is high and > 23.8°C through out the whole year. It causes (>0.1°C) high evapotranspiration (evaporation) rate and even intensifies the water shortage problem. Soil become dry, or even alkaline due to capillary action bring up salt to the soil surface. salinization occurs.

(b) (i) Farming technology shown in 3b is sprinkler system which is an extensive irrigation system.

Firstly, it taps water from underground, it helps increase water for irrigation and overcome "the lack of water" constraint in X in dry season.

Besides, it spins in a circular way, it (while sprinklers are the radius

B3E-H-2



B3E-H-3

ensures the plants are all irrigated effectively with water. The amount of water can also be controlled in different seasons to make sure there is an effective use of water.

Besides, the system tap water directly from underground, it ensures no water is evaporated before it irrigates to the plant. It reduces the constraint of high temp. and Evaporation rate.

(b) (ii) Positively, it firstly increases the crop yield as the irrigation is more effective. People can earn more to make a living and living standard, i.e economy depending on primary industry can be raised.

Besides, it also lengthen the growing period, as it also taps underground water for irrigation in dry season. People can have double or triple cropping (size increased), they can thus sell their crop after subsistence use. The profit can increase.

The food shortage problem, ~~or~~ thus famine can be alleviated by having more crops.

Negatively, this technology is expensive, running cost is high and operation requires high

technology (cost). It adds burden to farmers and the food price in the society may rise due to the increased cost.

Also, constructing this kind of technology (sprinkler) may be due to the investment of translational corporation or more developed countries (MDC). The farming practiced may be controlled by others and affect society.

Also, sprinkler would increase the salinization. The soil ~~productivity~~ productivity in long run may be lowered affecting the agriculture industry in the society. it may be adversed affected.

(c) GM technology may ~~must~~ provide GM crops which is drought-resistant. So they can grow plant even in dry seasons, and it overcomes the water problem in X. (requires less water)

Also GM technology help improve the original species of crop, so it may grow better and can earn more money with less cost.

It also requires less fertilizers or pesticide, which may pollute the water and lower the water available, helping to conserve water resources.

The original land can also used to plant GM crops, it is effective

Yet, it is expensive, the farmer cannot

buy or add burden on them, it may affect its effectiveness and feasibility).

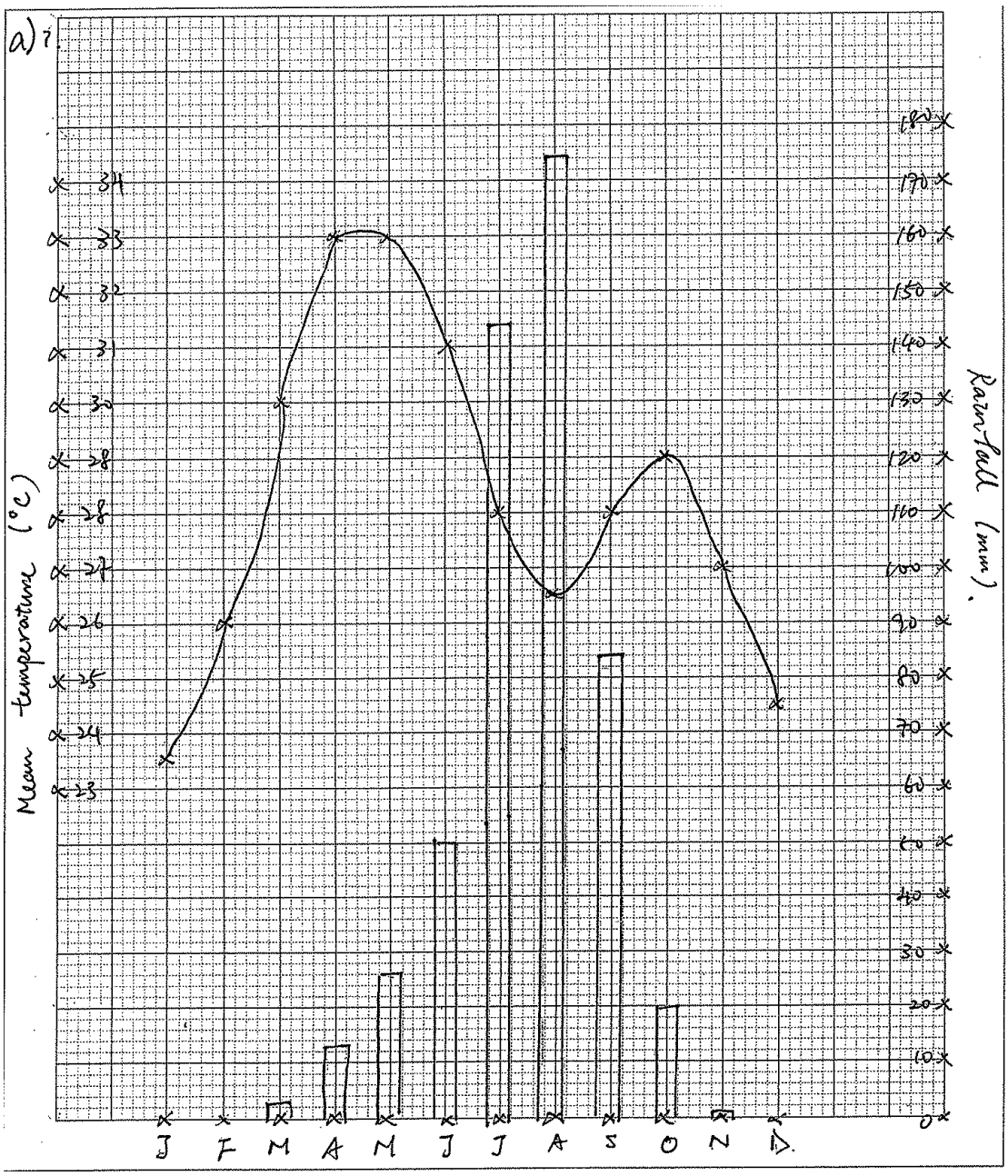
Also, GM crops are not all drought resistance. Some may lead more water or they can't grow in high temperature.

The climate didn't change, though GM crops help the farmer practise there, but still the constraints exist as the climate didn't change. Once the supply of GM crop stop due to different reasons, the constraints are still there.

The GM crop may alter the ecosystem, and may even worsen the situation of water.

Student demonstrates evaluative, inferential and problem solving skill, such as good use of climatic data and information from the photograph. He/she demonstrates adequate knowledge in the geographical skill of drawing climatic graph. Student can explain complex relationship, e.g. the relation of using irrigation in solving the climatic constraint, the impact of the technology and the use of genetic modification technology in alleviate the climatic constraint. (16 marks)

B3E-M-1



22. The annual mean temperature is high. The evaporation rate of X is high (in August). Scanty rainfall. Those strong and heavy rain may cause leaching of soil, soil fertility is then decreased. Strong insolation may intensify salinization of water which also decrease soil fertility.

b) 2. The farming technology is irrigation system. This can evenly distribute the water to the farmland with little water loss. Therefore water storage will not be wasted and thus can provide stable water source to farmland. Also, strong insolation cause high evaporation rate, this technology can reduce the evaporation rate of water by only applying little amount (only enough or more than enough a little bit) water to vegetation, thus reduce the problem of salinization. After strong, heavy rain, the rainwater is stored at water table under ground, reduce the problem of too much water on vegetation surface.

22. This technology is expensive therefore not every farmers can afford it, causing the problem of unfair to those poor local farmers. Then the economy of area X is negatively affected since those local farmers cannot compete with those farmers with more capital. Unemployment may occur as the advanced

technology reduce the requirement of labour force. Positively, this may brought job opportunities. At the season of harvest, large amount of labours are required since the size of farmland is very large.

B3E-M-3

c) Applying GM technology is effective ~~if not concerning the social problems~~. Since GM technology can generally increase the ability of crops to grow under poor physical condition, including climatic constraints such as high temperature and strong rainfall. Even the temperature is high, the crops can still grow normally. Also, GM technology shorten the growth period of crops. As a result, farm yield of farmland is increased under same period of growing season.

Student demonstrates sound knowledge of the curriculum – the climatic constraint. He/she can use geographical terms in explaining the problems but lacks in-depth explanation. Student cannot give a clear explanation of the effect of genetic modification technology in tackling the climatic constraint. (11 marks)

(Q3aii) Firstly, there is high temperature. The high temperature lead to high evaporation rate. The high evaporation rate is not good for farming. at the mean temperature around 28°C Secondly, there is unreliable rainfall it can have no rain at some months and a lot of rain in some other months. Thirdly, the annual rainfall there is 509.8mm which is low and not favourable for farming.

bi.) The farming technology can alleviates the climatatic constraints in area X. It carrys out the irrigation. Firstly, it can help to provide enough water to the crops. Since there is low rainfall, irrigation can provide enoung water for the crops Also, it can prevent the affect by the unpeliable rainfall.

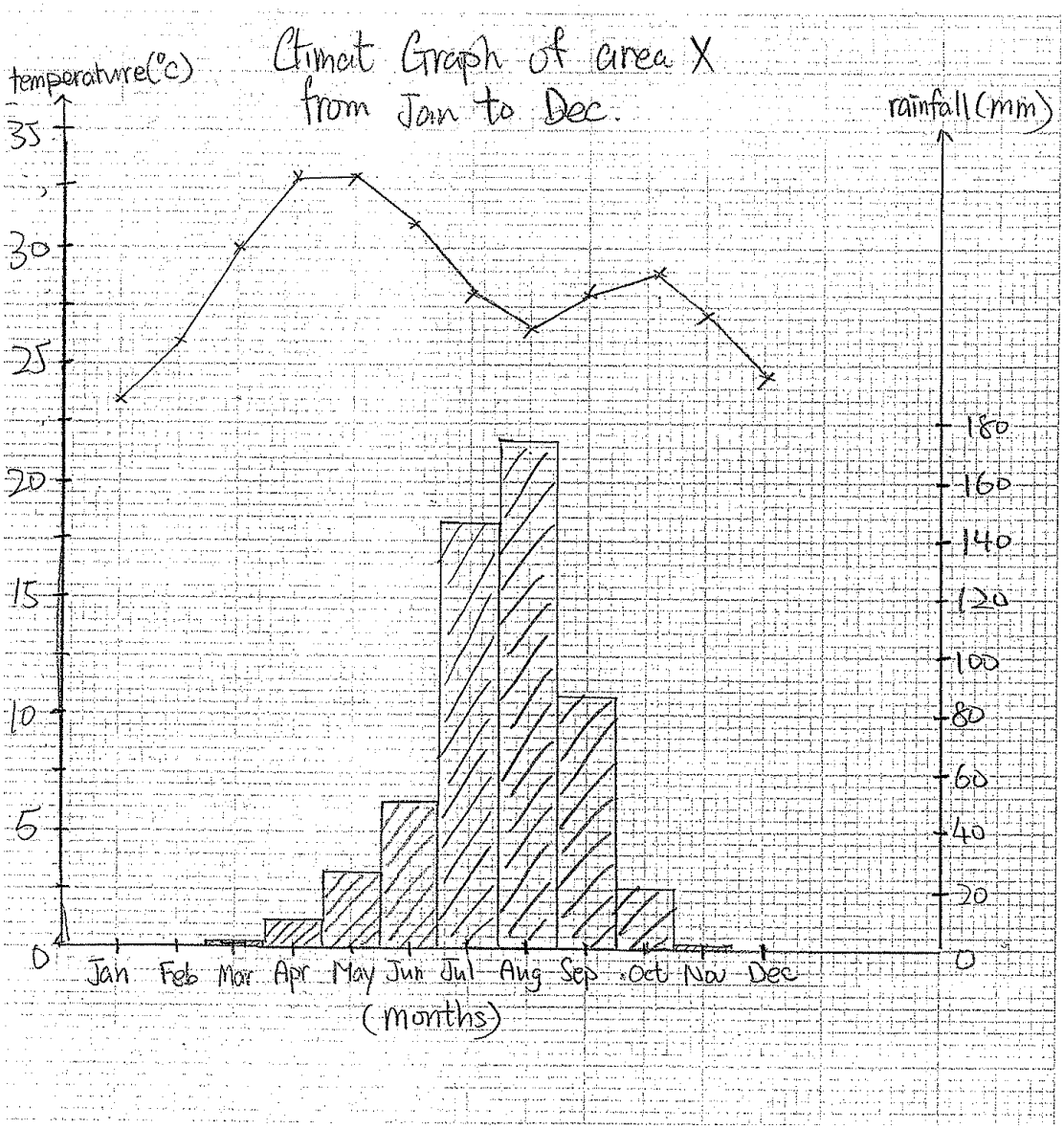
bii) For the positive impact, firstly, it can raise the crop yields. Because of the increasing crop yields, the farmer there can have higher income by selling the crop. It can increase their living standard. Secondly, it can increase the crop yield, they can

solve the famine problem in the area. For the negative impact, firstly, the technology may lead to salinization. which is not favourable for the crop growing. The crop yields will be lowered. The income of farmers decrease. This affect their life. Secondly, since the land may not be suitable for farming anymore, it brings farmers long-term loss and lead to famine.

c.) It is effectiveness of adopting genetic modification technology to alleviate the climitic contraints of farming. Firstly, the genetic modification crops can live under the extreme with less water. Under area X, there is low rainfall. If the GM crop are grown there, the farmer can have a wider crop selection. It can increasing the farming output and the farmer income. Secondly, the GM crops have more nutrients. For this, the framer can grow less to fifill there nutrients needs. It can increase their living standard. Although there is climatic constraints, the people

there can still grow plant. To conclude, it is effective ~~the~~ ~~a~~ to adopt the GM technology.

B3E-L-4



Student demonstrates basic knowledge of the curriculum only and the answers are fragmented. Student is unable to give appropriate answers, e.g. the use of genetic modification technology in tackling the climatic constraint. (5 marks)

(a)(i) There is a ice cap melt & the natural environment and the retreat of ice from 1948 to 2006. ~~The~~ The ice melt and turn into river.

a(ii) There are short-term benefits ~~on~~ to the farming community. As the ice melt and turn into a river, the farming community has more irrigation water than before. This can benefit to the farmer to have higher crop yield. The river can support for ~~transportation~~ transportation. The farmers have more resource of freshwater for daily uses such as draking.

There are long-term impacts. There are some negative impacts. ~~There is~~ The farming community nearby may face freshwater shortage in the long term because the source of freshwater become less as the glaciers are all melted in the long term. ~~The~~ Then, affecting ~~their daily~~ the daily life of the farmer and ~~the farm~~ affect ~~their~~ farming activity badly as the irrigation water become less.

(b)(i) The trend of the energy consumption in China since 1990 is increased. The consuption of coal has the most vapid increasing trend since 2002. The consumption of oil is increasing in a steady rate. The consumtion of HEP, nuclear and wind and the natural gas increase from 0, million tonnes.

(ii) The consumption of coal cause the emission of carbon droxide (CO_2) which is a greenhouse gases that trap heat in the atmosphere. The trend of the consumption of energy which such as CO_2 means more and more greenhouses, are ~~emit~~ emitted to the atmosphere.
There are more and more reflected longwave radiation in the atmosphere, then will increase the global temperature.
The global temperature increase, the ice and glaciers ~~will~~ melt in Switzerland. The atmospheric energy budget is a global budget. The reradiation is increase and lead to the earth become warmer and warmer, The imbalance of the atmospheric energy budget in the short term.

B4E-H-3

(b)(iii). In order to slow down the changes described in (a)(i), the Chinese government should encourage the renewable resource development such as the development of wind and HEP. These resources are unexhaustible and do not produce greenhouses gases. Then, the government can reduce the emission of the greenhouses ~~hose~~ gases such as carbon dioxide, methane and nitrous oxide.

In addition, the Chinese government could encourage the environmental transport that the transport cause less carbon dioxide such as use hydrogen as the fuel instead of the fossil fuel which cause greenhouse gase when burning.

The above measure can reduce the emission of the greenhouse gases. Then, ~~it~~ can slow down the melt of ice and glaciers. As less greenhouse gas trap ~~more~~ heat in the atmosphere. That the global temperature will not increase ~~rapid~~ cause the global warming and the melt of ice and glaciers

Student demonstrates a good interpretation of the photograph and data. He/she can explain the causal relationship between various geographical phenomena, e.g. the long-term and short-term consequences of glacial melting. Student demonstrates constant and correct use of geographical terminology, such as emission of greenhouse gases and energy budget. (15 marks)

4(a)(i) In 1948, there ~~ice have~~ are ice in the Switzerland. However, due to the increase in temperature, there ~~ice~~ are melting of glacier. The some of the ice melted in 2002. The ~~provable~~ problem become more serious, ~~does~~ as more glacier is melted. A lake is formed by the melting of glacier. The area of ice sheet decreased.

4 a (ii) Due to the changes in the natural environment. The melting of glacier bring fresh water. In short-term, it can help to bring moisture and water for farming activities. The fresh water can help to irrigation and increase the soil fertilities. The changes in the natural environment, i.e the melting of glacier will also bring more rainfall to the area due to evaporation. However, in long-term, if the glacier continouse to melt, the water level will increase and it may cause flooding to the Switzerland. It may affect the farming ~~activ~~ community nearby. Flooding may bring crop failure to them, as it damage the crop. Also, some crop can't be grow in that area any as it can't grow up in area with too much water. The farmer may need to change its farming habit and change the type of crop they grow. Also, due to the increase in temperature and melting of glacier. The

evaporation rate increase, it cause frequent rainfall and even abnormal climate to the area. It hinder the development of farming.

4b)ii) Since 1990, the energy consumption in China is increasing, in the use of different kinds of energy. Especially for the consumption of coal and Oil. The use of Natural gas and HEP, nuclear & wind also is in an increasing trend.

4b)iii) Due to the increasing consumption of energy. More and more greenhouse gas is emitted. Especially when burning coal, it release carbon dioxide, which is a kind of greehouse gas. The greehouse gas, such as carbon dioxide will trap heat and long wave radiation from leaving the earth. The heat and long wave radiation is trapped in the atmospere. It ~~ease~~ lead to greenhouse ~~effect~~. The global room temperature will increase due to the trapping of heat and long wave radiation. Global warming is then occurs. The atmospheric energy is in surplus due to the more emittion of greenhouse gases. ~~The carbon dioxide, hea~~ Since more heat and long wave ~~radit~~ radiation is trapped and can't leave the earth.

, The increase in temperature will lead to melting of glacier and increase in water level ~~and water sto~~ and sea level. It cause the natural environmental changes in Switzerland.

~~3(b)~~
4(b)(iii) ~~The~~ Under the Twelve five Years Plan, the China aims to be a ~~'Go~~ 'Green Cat'. ~~It target~~ The target is to reduce carbon emission by lower the GDP growth and reduce the use of fossil fuel. It is now trying to use more ~~rental~~ renewable energy to replace ~~fos~~ non-renewable energy. China is now using more solar energy, wind energy and nuclear energy. ~~T~~ All these is cleaner than using coal and oil. Also, the government have implement campign to reduce the energy consumption, if the citizen use electricity in non-peak hours, ~~it~~ they can pay less ~~more~~ fee. Also, the government have ~~implem~~ set law to control the over usage of energy and increase the electricity fee. The government is also encourage people to develop high-end product instead of low-end project and high tech industry.

Student can only give brief and superficial terminology in describing geographical issues, e.g. the short-term and long-term consequences of glacial melting. His/her knowledge on the relationship between emission of greenhouse gases and radiation balance is limited. Student communicates the knowledge by using everyday language, e.g. the strategies adopted by Chinese government in slowing down climatic change. (11 marks)

4ai. The changes of the natural environment is the ice melting in the Switzerland that cause by the Global ~~warm~~ warming and the ~~o~~ over human activities.

4aii. As we can ~~n~~ know that the changes in the natural environment is caused by the ~~natural~~ Global warming, for the short-term ~~impact~~ impact on the farming community nearby can enjoy a ~~alluvia~~ aluvial ~~a~~ and rich soil the carry out farming activities as the ice melt become the water, the crops need the water to grow ~~and the~~, they can earn more income ~~in~~ by the crop, and the short term impact is the water flow still can enrich the soil and ~~a~~ ~~cause the~~ the temperature ~~can~~ are also suitable for farming. For the long-term impact, if the ~~na~~ natural environment keep continues, it ~~is~~ may melt more ice ~~to be~~ to become the water ~~a~~ and it may cause flooding to the soil and so that the farm can't carry out the farming project anymore. And also, the temperature will keep increasing, and the water will dissolve by sun faster and cause the soil become ~~to~~ depletion as it can't hold the water, and the farming community may need to move to the other place ~~and it can't~~ ~~the~~ as

the water level ~~is~~ became higher, they can't live in there anymore.

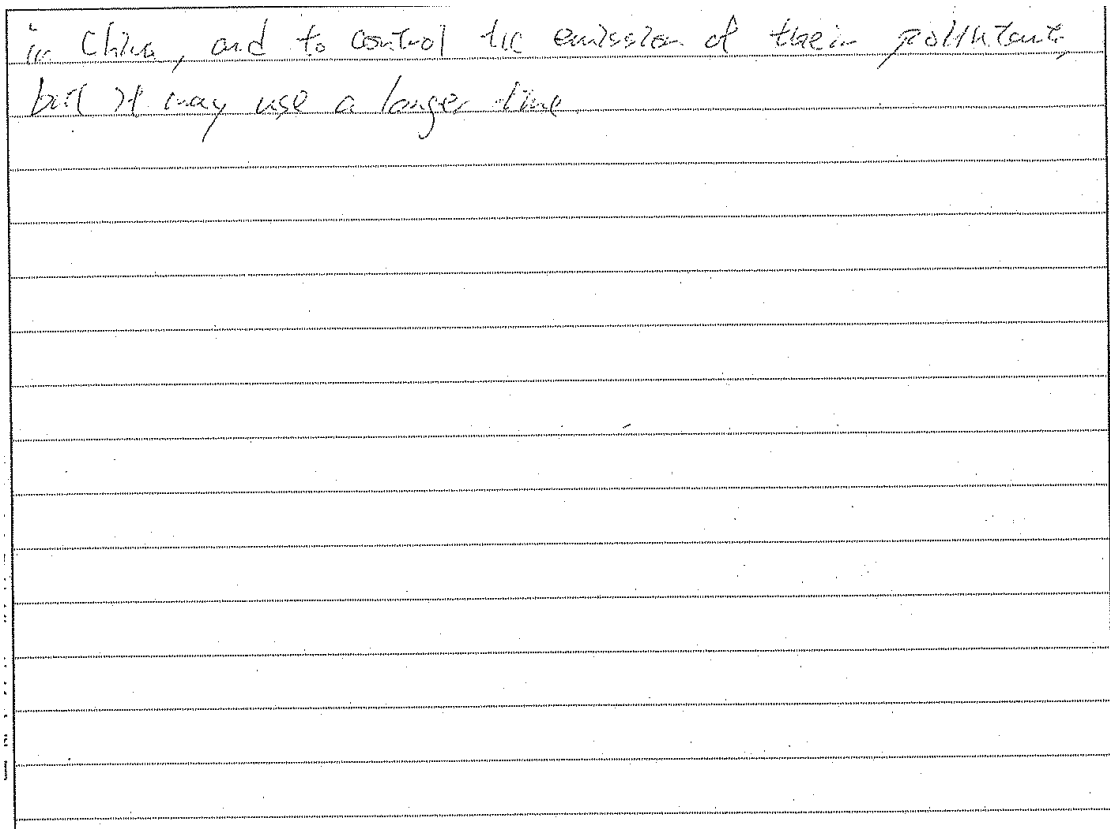
4bi. The trend of the energy consumption in China since 1980 is keep increasing and there is a rapid increase from 2002 to 2007, the energy consumption in China is highest in the 2007, as it is about 2100 millions tones.

4bii. As the trend of energy consumption in China is keep increasing since 1980, the burning greenhouse of coal will give out huge amount of the ~~global~~ gas and they are sulphur dioxide, which may lead to increase the temperature in the world and cause the ice melt in Switzerland and rise to sea level, it is mostly cause by the over human activity in China, as in China, after the open door policy in 1978, it is result that more and more coal or other can generate the power are burn, so that the greenhouse gases amount are increase and cause more serious in the global warming. And we can see that in Figure 6, China use a lot of energy that will greatly affect the environment, they just

Only use a few of the energy that will not release large amount of ~~st~~ greenhouse gases such as the natural gas, HEP ~~...~~, nuclear power that can renewable ~~to~~ for the energy and cause ~~...~~ more ~~...~~ serious in Switzerland, it melt more faster than before

4b(ii). The over human activities such as building ~~...~~ industries in China, ~~...~~ the Chinese government could ~~adopt it~~ control the ~~...~~ industry emission in the greenhouse gases and ~~too~~ also the Chinese government it can also make good use of the place ~~...~~ in China, it can adopt more renewable energy such as the wind power, ~~the~~ and the Chinese government ~~...~~ can encourage the industries not to produce large amount of pollutant and encourage them to use ~~...~~ more which is low sulphur content energy such as natural gases rather than the coal, as we can see in Figure 4b, the coal use in China is the most common and also the most serious in China, but the low ~~sul~~ sulphur contents energy remain low use of them. All these both can slow down the changes described in (a)(i) It may be effective that if ~~...~~ the chinese government can carry out a ~~...~~ checking to all the ~~...~~ industries

B4E-L-4



Student demonstrates limited knowledge on global warming, e.g. quoting sulphur dioxide as greenhouse gas that is responsible for global warming. Student demonstrates elementary knowledge of the curriculum, e.g. the short-term and long-term consequences of glacial melting. His/her knowledge on the understanding of strategies adopted by the Chinese government in slowing down climatic changes is limited. (7 marks)

C5E-H-1

Coastal locations are always attacked by sea waves and tide which will erode the coastal areas seriously. In order to protect the coast from being eroded by strong swash, both hard strategies and soft strategies can be implemented.

There are several hard measures to prevent the coastal erosion. First, groynes which is perpendicular to the coast line can reduce the swash. Also, it can trap the sand and sediments carried by longshore drift. Hence, the sediments in the coast will be not be carried out by longshore drift. The coast is being protected.

Second, sea breakwater which is parallel to the coastline are used. Since it is parallel to the coastline, when the waves carry out strong energy, such as the plunging waves, the erosive power can concentrate on attacking the sea breakwater and enhance it helps to dissipate the energy reaching to the coast. Waves carrying less energy have a weak swash and strong backwash. Hence, the coast will not be eroded.

Third, sea walls which is aligned with coastline are also used. It can dissipate the energy by the waves and tides as it is built near to the coast. The waves' energy also concentrate on the sea wall and thus carrying less energy to coast and erode the coastal areas.

Fourth, rock armours which is made by concrete are used.

C5E-H-2

The rock armours placed near the coast can protect the coastal areas from being attacked by waves and tides. Hence, the hydraulic action is not strong since energy is lost by the use of rock armour. Hence, the coast is being protected.

Fifth, Gabion wall is used to protect the landslide near the coast. Hence, there will ~~not be~~ not have large amount of sediment flowing into the sea, causing a rise of ~~the~~ sea level. ~~Thus~~ the higher water sea level will ~~cause~~ be more destructive to the coast as more area of the coast ~~is also~~ is with contact with water, which hydraulic action will erode the coast. Hence, the coast is being protected.

Although hard measures are effective in coastal prevent, the cost and technological level is high and these need frequent replacement. Therefore, soft measures are prefered, eg. beach nourishment.

Beach nourishment is the process by which sands ~~are~~ dreged from sea bed and ~~the Delta~~ Pearl River Delta are placed to the coastal areas. Therefore, ~~the land~~ the sediments washed away from the beach can be replaced by the sand dredged and so the beach can be stabilized.

~~Although~~ Sands are frequently washed away by strong swash and tides, so there is a need for frequent replacement and add sands to the beach frequently. Therefore, it may not be cost-effective in protecting the coast.

However, soft measures are more effective than the hard measures. ~~Since~~ First, hard mersures requires technologies, such as the building the

C5E-H-3

sea wall in the ~~middle of the sea~~ foreshore, it will be difficult to do this and hence the countries with ~~less~~ lower technological level can't prevent the coast. However, by using beach nourishment, it can be easily implemented since the technology required is simple by putting sands to the beach. Hence, more countries can do this and thus help protecting the coast.

Second, hard strategies is just for short term effects as the set-ups have to be replaced frequently. For examples the sea breakwater in the foreshore attacked by strong energy frequently and thus it will be not effective when the sea breakwater is damaged. However, by using beach nourishment, sands can be placed frequently ~~east~~ and easily. Hence, it is more effective.

Third, the cost of the setting up hard measures ~~are very high~~ and maintenance is very high. When the government can not support the high expenditure to maintain the structure and function, the coast can not be protected. In constrast, the cost of ~~setting~~ buying sand and maintenance is lower and hence the coast can be protected when there is serious erosion.

To conclude, hard measures is effective in protection of coast. However, it requires frequent maintenance which may be not ~~convient~~ convenient to use. Therefore, overall speaking, the soft measures are more effective than the hard measures.

Student demonstrates comprehensive knowledge of the curriculum, e.g. different hard strategies in protecting the coast. Student can communicate his/her knowledge and understanding in a coherent and logical manner by making use of geographical terminology, e.g. the merit of beach nourishment over hard strategies. (10 marks)

C5E-M-1

Erosion often occurs in coastal areas. Serious erosion brings negative effects to the coast. Therefore, we have to adopt different measures to protect our coast. Those protective strategies can be divided into hard approaches and soft approaches.

Hard approaches mean that we build something in order to protect our coast. Measures include groynes, breakwater, sea wall and rock armor. Groynes are blocks built perpendicular to the shore line. It prevents longshore drift from an open sea. Longshore drift usually carries away sediments and erode the coast. By doing so, sediments can be trapped and erosion is prevented. Breakwater and seawall are usually built parallel to the shoreline. They prevent waves from attacking the coast. Waves can be classified into destructive and constructive. Destructive waves bring away material while constructive waves build up material. Breakwaters and sea walls mainly avoid ~~the~~ both kind of waves that erode the coastline. They reflect the prevailing waves and keep the coast "safe". Rock armor is a measure that place rocks along the coastline. The rocks also protect waves attacks.

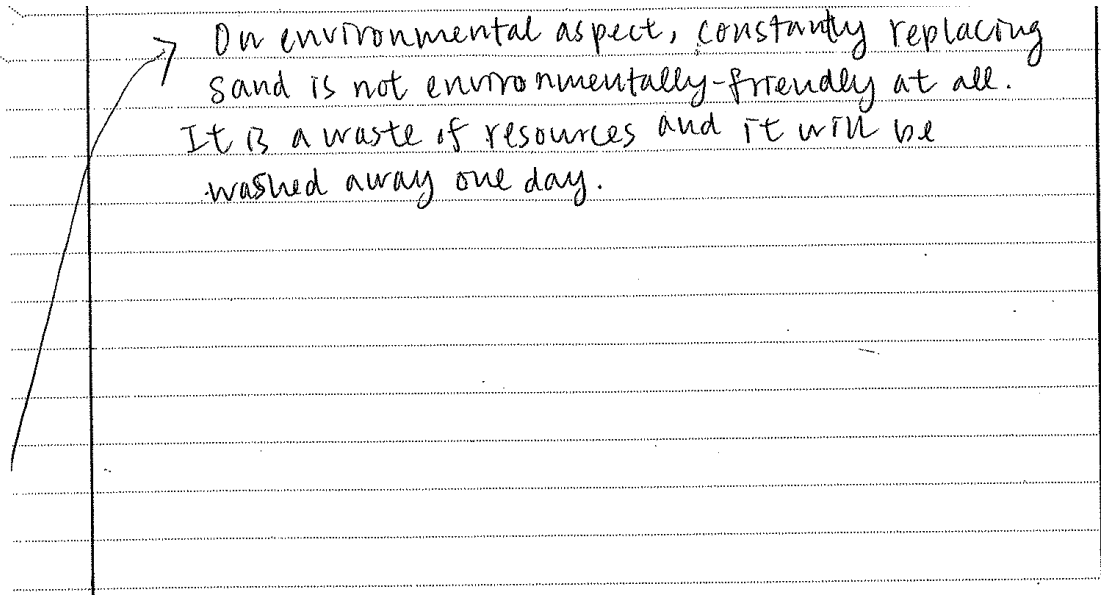
Apart from hard approaches, soft approaches are also done to protect the coast. They include ~~the~~ beach nourishment, coral reef growing, vegetation planting, land use zoning etc. Beach nourishment is commonly practiced. It means that sands are

regularly put onto the beaches in order to replace the washed away sand by coastal erosion. This measure seems to be effective, but in long term, it is not effective at all. Beach nourishment requires a huge amount of money. The Hong Kong Government has practiced beach nourishment on economic aspect, Repulse Bay by investing millions of dollars. Indeed, whenever a storm approaches, the sand will be easilies washed away by strong destructive waves from the open sea. Therefore, it needs a lot of money in order to keep a beautiful beach. In long term, it is obviously not a economic way to do.

On the other hand, doing hard approaches such as building groynes, breakwaters and sea wall needs money as well, However, once they are built, they can protect the coast for a longer time. Maintenance work is not necessary to be done so often. The concrete used are less vulnerable to coastal erosion compared to sand, so it is more durable.

Generally speaking, hard strategies are protective methods while soft strategies are remedial methods. It is always better to prevent than to repair. Therefore, I think hard strategies are more effective than soft strategies.

C5E-M-3



Student demonstrates adequate knowledge of the curriculum, e.g. how the hard strategies help to protect coast. Student communicates his/her knowledge and understanding by making use of simple geographical terminology especially on beach nourishment. (8 marks)

C5E-L-1

In order to prevent coastal erosion and tsunamis, sea wall, breakwater, gorges are built to protect coasts. But it will destroy the beautiful natural scenary of the coast. Using beach nourishment, soft strategies are more effective than hard strategies in the protection of coasts.

The hard strategies protect coasts such as sea wall, breakwater and . Let talk about how hard strategies ~~pot~~ protect coasts.

Sea walls are built near the coast which is parallel to cover the rock at the coast. It reflect the wave ~~flowing~~ towards the coast. It prevents coastal erosion. For building sea walls, it need to straighten the coast that destroy the natural landscape. Also, it will destroy the marine animals which are living near the coast.

Also, breakwaters are built offshore to coast. When the ~~wav~~ strong wave attack to the breakwater and the wave erode breakwater but it's not erode the coast. When we built the breakwater, it will seem like reclaimed little land one the sea. It will damage the home of sea animals and destroy some ~~beca~~ beautiful corals in the sea. It also block some sediment that will flow to the beach.

We can see that hard strategies are effective to protect coast but it still affect the environment of

C5E-L-2

the sea and destroy it. So we need another sustainable way to protect the coast and the sea environment.

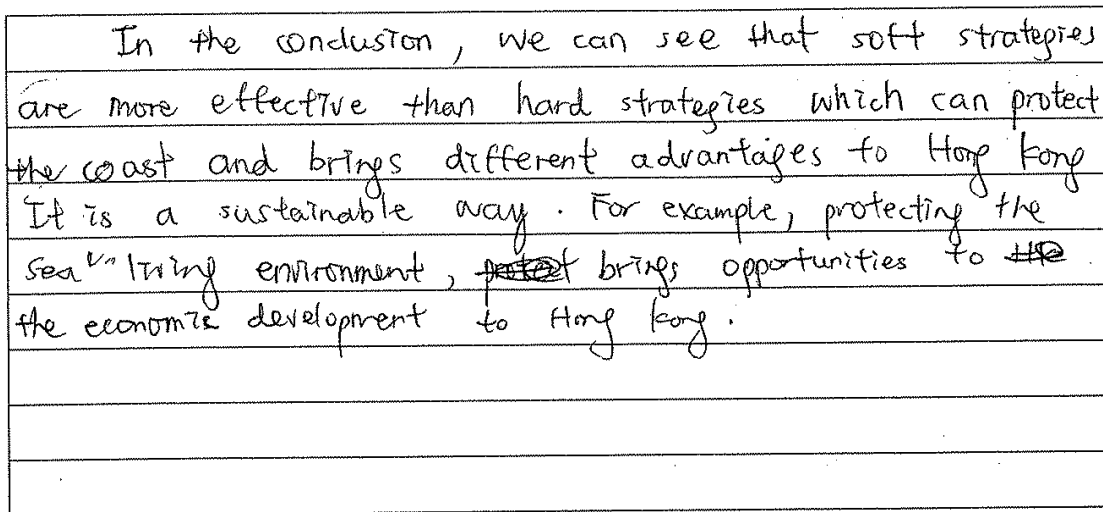
Using beach nourishment, ~~it is~~ soft strategies are more effective than hard ~~sta~~ strategies ~~to~~ in the protection of coasts.

~~Ad~~ First, adding more sand on the beaches ~~a~~ can restored the sand washed by the wave. More sand can prevent the erosion of wave brought to the coast.

Also, we can plant mangrove near the coast. Mangroves is one of the plant that grow near the coast. A large amount of mangrove ~~can~~ along the coast can ~~reduce the energy of~~ absorb the energy from wave and reduce the erosion to the coast. It also give place for ~~living~~ sea animals to live there. It provide home to animals.

In the other part, we can plant more corals and protect the corals in the sea. along the coast. It is because corals can reduce the flow of wave ~~the~~. It reduces the eroded energy ~~[illegible]~~ to coast. Also, the beautiful corals ~~to~~ under the sea can attract tourist to watch it. It brings opportunities to tourism. and ~~can bring up~~ to the economic development. The beautiful corals can make Hong Kong becomes ~~a~~ the most famous tourist spot.

C5E-L-3


In the conclusion, we can see that soft strategies are more effective than hard strategies which can protect the coast and brings different advantages to Hong Kong It is a sustainable way. For example, protecting the sea living environment, ~~protect~~ brings opportunities to ~~the~~ the economic development to Hong Kong.

Student shows limited knowledge on hard strategies and does not provide relevant information related to the question. The discussion on the hard strategies is superficial. Student uses information not related to beach nourishment, e.g. planting mangrove and coral. (4 marks)

C6E-H-1

Sustainable development means the development of the present generation without comprimising the ability of the future generation the meet their own needs. The Urban Renewal Authority (URA) has adopt urban renewal in Kwun Tong by following the concept of sustainable development. There are four strategies involve in urban renewal, they are, redevelopment, rehabilitation, revitalisation and preservation.

Kwun Tong is an inner city with urban decay. There are a number of housing, transportation and environmental problems arise there. The buildings are lack of maintenance. They are old and shabby. The risk of fire is high in those building as most of the buildings are built more 40 years. The living environment there is far from satisfactory. Besides the roads there are narrow which leads to traffic congestion. Noise and air pollution is severe in Kwun Tong. Mixed land uses are applied in Kwun Tong so that there are restaurants in the floor ground of the building. The hygiene is poor which may cause diseases easily. Moreover, Kwun Tong is lack of open spaces such as parks or other recreational facilities such as sports ground. It causes inconvenience to the residents nearby and lower the living standard.

In order to solve these problems, the URA have

C6E-H-2

applied the concepts of sustainable development in the urban renewal projects in Kwun Tong. Better land use planning is adopted to increase commercial and institutional land use in order that the surrounding environment can be improved.

First, the old and shabby buildings are going to be pulled down. The URA plan to construct a big shopping mall there to provide recreational and commercial landuse to the public. It can provide job opportunities to the residents nearby and attract tourists to come and thus stimulate the economic activities in Kwun Tong. Furthermore, more green belts will be built in the area to provide open space to the public. It is comfortable for visitors and public to enjoy these facilities for leisure activities.

Over and above that, some public facilities will be built say like parks to cater the needs of the residents nearby to improve the surrounding environment. The design of the new buildings are in line with sustainable development. They will adopt more glass and window on the building so that more sunlight can enter the building to reduce the usage of electricity. It is more environmental-friendly and can reduce the

emission of carbon dioxide to alleviate air pollution. Some of the designs imply the construction of roof-top gardan and it can beautify our environment and improve air quality because green plants will carry out photosynthesis by absorping carbon dioxide and release oxygen.

For the transportation design, the roads are widened so as to deal with the problem of traffic congestion. It can effectively reduce the burden of the road to tackle air and noise pollution. Besides, the URA has preserved a old tree there as it is meaningful to those residents and have historical value. All the above are sustainable and aim at improving the environment of the innercity.

Nevertheless, notwithstanding the improvement of the surrounding environment, there are some difficulties that the SAR government facing. It is difficult for the URA to start the project when there are too much objections from different stakeholders.

For the affected residents, since most of them are elderly, they live there for a long period of time and develop a social ties. They cannot adapt to

the new environment easily. They are too old to leave and they may lost their social links when all their friends nearby moved out. They cannot gather so easily as their health condition is not so good.

Some conflicts about the compensation may arise as some residents may think that the compensation is not enough for them to buy a flat with same area in the same district. Therefore, they refuse to leave. If some residents move to other district, they have to adapt to a new environment and find a new school for their children. As a consequence, huge cost is involved.

The conservationists and employers may banned it.

As long as the government pulled down the building there, the local culture will be lost. They are so collective memories between residents are shopkeepers there. The shops have to close down, so, it cause unemployment.

Moreover, the environmentalists may reject the projectin because the demolition will cause many construction waste such as concrete and all these will be transported to the landfill and give burden to it. The landfill will emit methane which is a kind of greenhouse gases to worsen global

C6E-H-5

warming. When the project is held, it will cause disturbance to other residents. Air and noise pollution will become more serious. Some roads may be restricted which cause inconvenience and serious traffic congestion.

Last but not least, urban renewal project involves in huge amount of capital and the government's expenditure will increase so some other public may think that ~~the~~ it should be used in improving the medical and education system in Hong Kong.

To conclude, the URA has ~~pro~~ applied sustainable development in Kwun Tong ~~but there are~~ to improve the environment, hygienic condition and housing problems. There but there are some difficulties that they ~~faced~~ are facing. The objection from different stakeholders ~~over the~~ will delay the implementation of the project.

Student demonstrates comprehensive knowledge on the concept of urban renewal and sustainable development, such as urban redevelopment and rehabilitation. Student communicate his/her knowledge and understanding consistently in a coherent and logical manner by making use of geographical terminology, e.g. the difficulties faced by the Hong Kong government in adopting the concept of sustainable development. (10 marks)

C6E-M-1

There are urban renewal project proceed in Hong Kong. In the concepts of sustainable development, the project are applied in three aspects; society, environment and economy. However, the HKSAR Goverment face serveral problem in adopting these concept.

For the economic aspect, the renewal of the buildings leads to the increase value of the buildings. This attracts the business man to invest here and build residential area. The construction provide a lot of job opportunities. After the development is finished, the urban area would be beautiful, such as Sheung Wan, more and more people are willing to move back. The living place here can be sold at a high price due to the approximate to the Central Business District. Besides, a large shopping mall is built, this attractor the mainland to consume in the renewal urban area, such as Kowloon Bay and Kwun Tong.

For the social aspect, the former resident of the urban area can move

back there. After the urban renewal, a better urban planing is adopted. The living environment has been improved and the public facilities will be more user-friendly. This can fulfil the needs of people. Just like Sheung Wan, it is next to central, if people move back there, they save transportation cost and time. Renewal project make it become an ideal living place.

For the environmental aspect, the urban renewal improve the environment. As they construct more green place for people to take rest, the environment become more comfortable and more tree are planted for to birds to live. Besides, it ~~adopts~~ use recycled material to ~~re~~ renew the urban. This is environmental-friendly.

However, when proceeding the urban renewal, some difficulties are not easy to deal with.

Renewal projects in the economic levels aspect can boost the economy,

C6E-M-3

by increasing the land rent. But this can be unaffordable for people to live in. The government cannot restrict and deal with this situation.

In the environmental aspect, it is hard to succeed under urban renewal. It is because it does not really aim at protecting the ecosystem. Besides, during the construction, it causes a lot of waste and produces noise and air pollution. HKSAR government to avoid it. It is hard for the

During the urban renewal, there may be conflict between the resident and the government due to the compensation. The government may not able to fully fulfil their needs.

To conclude, although the urban renewal project in Hong Kong cannot fully meet the requirement of the concept of sustainable development, it tries to meet a balance among three aspect.

Student demonstrates some understanding on the concept of sustainable development and gives only a generalised comment on the difficulties faced by the Hong Kong government, e.g. how to balance the interests of different stake holders and to attain consensus among different parties. (7 marks)

Section C

To make Hong Kong into a sustainable city, the Hong Kong government has been applied the concepts of sustainable development to urban renewal projects. However, the HKSAR Government also faces many difficulties at the same time.

To a large extent, I agree that the concepts of sustainable development have been applied to urban renewal projects in Hong Kong.

Sustainable development refers to developing the city by balancing the interests of the social, economic and environmental aspects. Such concepts are all been applied to the urban renewal projects at currently.

In recent urban renewal projects, it mainly involve careful urban planning. Under the urban planning, more green areas are built at the areas. The height of building are also been being restricted in order to preserve the wind path. Besides, more eco-buildings are being built in the urban renewal projects in order to balance the interests of sustainable development.

In environmental aspect, the air quality can be greatly improved. Since there are more green areas, the plants and trees can then absorb the excess amount of carbon dioxide as well as air pollutants emitted from vehicles through photosynthesis. As there is less air pollutant, people can then live under a better air quality. Also, since the height of buildings are restricted, it help to preserve the wind path, wind can then easily enter to the inner city and can be disperse the air pollutants from vehicles. As a result, the air quality can be improved under a better air quality.

Besides, the design of eco-buildings can also lower the demand for energy consumption. Inside the eco-buildings, big windows and balcony are built. It helps to reduce the needs of electricity and air-conditioning as more sunlight and wind can be enter the house. Furthermore, the sky garden at the top of the building can also lower the amount of solar insolation and lower the temperature for the building. Thus, the need of air-conditioning is reduced. Therefore, with the building of eco-buildings at the urban renewal projects, it can lower the demand for energy consumption and protect the environment.

However, the construction process may produce pollution, like air pollution and noise pollution at nearby at short term.

In social aspect, the health of citizens can be maintained. With better air quality and environment, people will catch less respiratory diseases, like cough or even lung cancers. Since they can maintain a better health and environment at the same time, they then got a better quality of life.

In economic aspect, applying concept of sustainable development can helps the government save more expenditure. Since people health is maintain, the government can be save the need for medical care as well as expenses. It can then save more money in building infrastructures that can boost economic development. Moreover, as people are healthier, it can also enhance their productivity at work. Companies will then be earn more profits and able to pay taxes for the government as revenue.

By applying sustainable concepts into urban renewal

C6E-L-4

projects, the government also face a number of difficulties in adopting such concept.

First, there will be ~~strong~~ large protest or demonstration from the society in opposing the plan for preserving local culture. In order to keep the collective memory, some of the people in the society will ~~the~~ be oppose the plan as it involves to the demolish of cultural heritage, for example, there ~~was~~ were large group of citizens ~~gath~~ opposed the plan of demolishing the Lee Tung Street as for urban renewal. as it has a kind of local collective of memory. This ~~he~~ hindered the Social Stability.

Second, the government have to balance the interests of different people. Some of the former owners of property may ~~reje~~ opposed the urban renewal project as they are forced ~~to~~ move out. while the ~~land~~ property companies are ~~to~~ satisfy for owning more land resources for development.

Third, the urban renewal projects involves high cost. The construction cost may huge and the government also got the responsibility for ~~comp~~ paying compensation fees

Student has limited knowledge on the concept of sustainable development and communicates by using everyday language only. Student gives only superficial answer which is not related to the question. (4 marks)

Essay #7

The tropical rainforests rely on the nutrient cycle for the plants and animals growth. It is important to maintain the balance of the cycle.

The cycle consists of three main parts, the soil, the biomass and the litter. The biomass shares the largest proportion of nutrients in the tropical rainforest. It refers to all organisms living in the rainforest. Plant gains energy from sun to produce food by photosynthesis as nutrient. Herbivores eats the leave or fruits of the plants to gain nutrients. Carnivores predate other animals to gain energy from them. The energy is transferred as a food form transfer up the trophic level. Energy is lost during respiration as heat. For the uneaten part of plants or animals, excretary products, fallen leaves and dead bodies of organisms, ther are the seond part, litters.

Litters shares the smallest proportion of nutrients of the cycle. Under the huge canopy layer, shaded, wet and cool condition favours the decomposers growth. Fungi and bacterias decomposes the litters quickly as the condition is suitable and the supply is sufficient. They break down organic compounds into inorganic nutrients and returns to soil in a very fast rate so the proportion of nutrients is small.

The inorganic nutrients is returned to the soil and taken up rapidly by the plants. In presence of sufficient sunlight, plant grows more rapidly and transpiration rate is relatively higher so the nutrients and water is drawn up the long trunk due to transpiration. The nutrients such as nitrate and some major minerals, potasium, magnesium and phosphurs is used for the synthesis of cells and chlorophyll, in other words, for growth to absorb more light for photosynthesis.

There is a very little loss of nutrients from the cycle, such as leading.

nutrients is lost. But in these years, the size of each part is shrinked. Why?

Human processes modern farming practices in tropical rainforests. It brings damages to the nutrient cycle seriously. The main farming practices there are large scale plantation and cattle ranching.

Plantation requires abundant supply of extensive flat land. To reach this, large amount of trees is cut and removed as timber. Nutrients stored cannot return to soil. During farming, the nutrients in soil is used by crops. When harvest, most products is transported away and nutrients also cannot return to the soil by decomposing. After repeated planting through years since the climate is suitable for farming whole year, the yield drops due to the decrease in nutrients in soil. Some investers may apply chemical fertilizers to boost the yield. But in a more economical way, abandont the farm is better. Another place will be deforested and the above would happen again.

Cattle ranching also need large space of land. The cattles eat the grass and uses up the nutrients of soil. They are transported to foreign countries for making food such as hamburger and steak. The nutrient stored in biomass also removed. More and more land is needed so leads to the shrinking in size of biomass, litters and soil. As a result, nutrient cycle is disturbed.

Moreover, lack of attachment of trees, soil become loosen and easy washed away by the heavy rainfall. Leaching is common and more nutrient is lost. The animals loses the habitat by deforestation and they moved away since there's no shelter and food supply for them anymore. The biomass is reduced further.

C7E-H-3

In conclusion, the nutrient cycle is used to be operated effectively, but it is affected by modern farming practices by human seriously. The balance of the cycle is no longer exists.

Student can give a comprehensive discussion on the nutrient storage and flow and can discuss the effect of modern farming activities in affecting the nutrient cycle, e.g. the removal of nutrients after harvesting and the washing away of nutrients by surface runoff. Student can communicate his/her knowledge in a logical manner by making use of geographical terminology. (10 marks)

C7E-M-1

Biomass is a very important element in the nutrient cycle of tropical rainforests. Biomass represents the plant and animal. Nutrient cycle represent the relationship and flow between biomass, soil and litter.

In tropical rainforests, the biomass, vegetation stores most of the nutrients. Due to the hot and wet climate in tropical rainforest, the decomposition of litter including fallen leaves, bodies of plants and animals are rapidly broken down by decomposers and left in the topsoil. The plant then absorb the nutrient on the topsoil rapidly.

Moreover, due to the high annual mean temperature and rainfall, the vegetation in tropical rainforests are evergreen. Therefore, the litter provided by plants are less and many nutrients are stored inside the biomass.

Also, the soil in the tropical rainforest is thin and infertile with little humus and organic matter. This is mainly due to the rapid absorption of vegetation. Therefore, the biomass, vegetation serves as a very important storage of nutrient.

C7E-M-2

Modern farming practices affect the nutrient cycle in tropical rainforest.

First, many lands in tropical rainforests are bought to clear vegetation for growing large-scale plantation. The clearing of vegetation causes the the nutrient storage in biomass all gone. No more fallen leaves and dead bodies contribute nutrient to the litter. Without litter, decomposers cannot break down the litter to form organic matter to replenish the soil nutrient. The litter become even less and the soil become even less infertile without humus. Moreover, this modern farming practice also causes the soil erosion more severe. This makes the soil poorer and soil moisture become even less.

Moreovers monoculture is often practised in modern farming practices especially in large-scale plantation. This kind of farming practices make the soil become even poorer because the same type of crops only absorb the same kind of nutrients in the soil. This cause the over-absorption of only one-kind of nutrient in the soil, making the soil poorer and lead to land degradation. .....

C7E-M-3

The restorage of biomass and the soil cannot be recovered.
In conclusion, biomass is important in the nutrient cycle of tropical rainforests and modern farming practices affect the nutrient cycle in tropical rainforests.

Student demonstrates adequate knowledge of the curriculum content, such as the storage and flow of the nutrient within the tropical rainforest ecosystem. However, he/she can only provide superficial explanation on the effect of modern farming activities on the nutrient cycle. (7 marks)

C7E-L-1

In tropical rainforest, an ecosystem is well developed. In the ecosystem, there a high interaction between abiotic components and biotic components while energy and nutrients flow between them. The flow of nutrient in the tropical rainforest develop into a nutrient cycle, a cycle between the nutrients flow of biomass, soil and litter. In biomass, The operation of the cycle is, the nutrients in the plants are taken by animals. When both plants or animals die, their bodies nutrients, they transform to litter by littering. The inputs absorb in rainfall also give nutrients to litter while the heavy rainfall may reduce the ~~litter~~ litter nutrients. After that, the nutrients in the litter absorbed by the soil by decomposition. Surface-runoff may reduce the soil's nutrient. But then the nutrients are uptake back to the biomass by plants.

In the nutrients cycle, biomass is relatively the most importance since biomass store the largest amount of nutrients. As we discuss in paragraph 2, nutrients are transfer in a cycle which means if one of the components - biomass, litter or soil are being destroy or removed, the nutrients can not effectively transfer to each other. Moreover, if the biomass are being removed, there are

no enough nutrient support to litter and follow by the soil. If the soil cannot have enough nutrients, it gradually turn much poor and dry. If rapid erosion even rapidly occur in there, the land will ~~become~~ form gully or badland which cannot support any ~~even~~ vegetation and ecosystem growth. This largely affect the biodiversity of the tropical rainforests. Therefore, the biomass is relatively important in the nutrient cycle of tropical rainforests.

Nutrient cycle is important ~~of~~ maintaining a ecosystem in the TRF. However, modern farming process in the TRF affect the nutrient cycle.

In the first place, local farming practices, shifting cultivation is carry out in the TRF by the native for daily support. In order to carry out shifting cultivation, a part of trees are being burned. This remove the part of biomass while decrease a little bit of litters. This practice would partly affect the nutrient cycle in TRF though they reduce the biomass, the relative important component, but they will shift to another place after a period of time. So during the fallow time, the ~~tree~~ vegetation in the area regenerate and then maintain back the nutrient cycle well.

Nevertheless, as population growth rapidly, demand of

C7E-L-3

Shifting cultivation increased among the nature. This cause the fallow time of the land is now not enough for vegetation regeneration. Not only the biomass being removed, the explode soil and litter layer's nutrients are easily being reduced by heavy rain and surface run-off. This damaged the nutrients cycle.

Besides, another farming practices, cattle ranching will also bring impacts on nutrients cycle. To carry out the activity, large amount of trees are being cutted. This, largely reduce the biomass since trees are removed and the cattle will eat up the grass on the ground. This already caused not enough nutrients transfer to the litter and soil level. Although the dead body of some cattle may give nutrients to litter. But the very little amount as most of the animals may not die in order to sell to other parts of world. So the cattle there only utilized the nutrients in the area, and thus, badly affect the nutrients cycle.

Apart from that, plantation also give impact on the nutrient cycle. Plantation means people specifically plant only one or two type of crops in one land. The activities require large amount of land, so trees are cut for the requirement. This reduce the

C7E-L-4

great nutrients supporter, biomass. Moreover, as plantation only plant one kind of crops, same kind of nutrients are taken from the soil in the same time. Soil lack of a specific kind of nutrients then become poor. This develop bedland after plantation, and thus bring adverse impact to ecosystem and nutrients cycle.
Furthermore, other practice like commercial logging also reduce the biomass by cutting a large amount of trees for commercial use.
To sum up, most modern farming practices reduce the nutrients supporter, biomass, and also let the litter and soil level becoming less and less nutrients. This means the modern farming practices, most likely, affect the nutrient cycle badly.

Student's answer is fragmented and there is confusion among different geographical concepts, such as ecosystem, nutrient cycle, badland and gullies. The answer lacks logical coherence and only limited geographical knowledge is demonstrated. (6 marks)

D1E-H-1

a) The natural event is : landslide.
The rainfall : contributes to
the landslides. The rainfall on 6th June was 130mm
and suddenly rise to 240mm on 7th June. The sudden and
heavy rainfall add pore water pressure to the slope materials,
reducing the strength - and cohesion between soil
particles. It acts as a lubricant to loosen the soil.
Therefore, the stress added by the rainfall and
gravity is greater than that of the shear strength,
and thus landslide take place.
which is more than
of the sum of rainfall
between June and June

b) The bed rock is granite which is a kind of
intrusive volcanic rock. It has large grains size owing
to the long cooling and crystallization time. It is
also well jointed. At the same time, owing to the hot
and wet climate in summer, the feldspar in granite
easily weathered into clay through process like hydrolysis
and oxidation, so the rock materials become less resistant.
The Quartz and mica will become loose as a result.
Therefore, the low resistant and loose structure of
the granite increase the risk lead to
the occurrence of landslide when heavy rainfall comes.

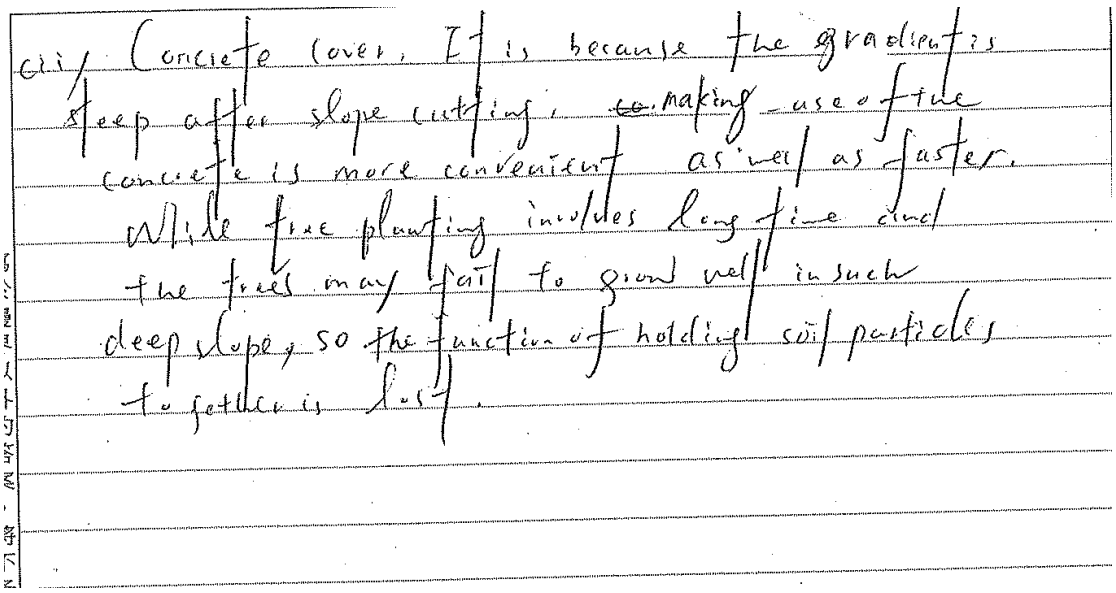
Answers written in the margins will not be marked.

(The slope were converted to unpaved filled slope)

(b) (i) According to figure 1b, we can see that there is human construction on the slope and slope cutting have been taken place. Slope cutting will greatly increase the steepness and slope angle of the slope, making the soil materials more easily to be dragged down by gravity. Also, the construction will add weight to the slope, leading to the slope being subjected to stronger stress. When the slope being cut were not being well maintained by structure like retaining wall and weepholes, all these human disturbance with poor maintainese will lead the occurence of land slides.

(ii) Concrete cover is impermeable and ~~and tree planting~~ can help reduce water infiltrated and percolated into the slope, thus, reducing the pore water pressure adding to the slope and prevent the soil materials to become loosen. While the tree planting can make use of the roots of trees to hold soil materials together (and increase the cohesion) so as to prevent being loosen and fall down due to gravity.

D1E-H-3



This exemplar displays extensive knowledge of the exogenetic processes. The student is able to use accurate geographical terminology extensively throughout the question. Explanations are clear and logical. The answer in part (b) (i) demonstrates extensive understanding of rocks and weathering processes though the relationship between weathering and landslide is not well explained. The student is able to put forward relevant arguments to support his/her choice in part (c) (ii). He/she also demonstrates the ability to analyse and interpret geographical data provided in parts (a) (ii) and (b) (ii). (17 marks)

a i) ~~Rock~~ Landslide

ii) The direct cause is the higher rainfall at that day. Slope become slippery, as rainfall serve as lubricant for slope materials to move downslope. ∴ It reduce the strength of the slope. Also, the rainfall add the weight of the slope materials, which increase its ~~Strength~~ stress.

b i) ~~The~~ The bedrock is granite, it is well-jointed. ~~Water~~ Rainfall can easily seep into the joint and process in chemical weathering, such as solution, hydration, hydrolysis and oxidation. Also, its minerals' structure is less resistant to weathering under hot and wet climate condition in summer in Hong Kong, eg. mica will oxidate to be iron oxide. The rock is weathered, and its chemical structure are weaken to prepare more downslope.

b ii) The slope is very ~~steep~~ steep. ~~The~~ The steep slope will introduce the ~~the~~ slope material move downwards under gravity.

D1E-M-2

ci) ~~They~~ They provide soil which are dense and long, to bind the soil tightly, so they will not be loosed easily. It increase the strength of slope materials. Also, concrete cover can made the slope more rough and prevent they fall under gravity and so that they won't fall down

cii) Concrete cover is more appropriate. As there is road nearby, the planting tree may need to block the road and transport network.

The student demonstrates adequate knowledge of mass movement and weathering of granite. A range of geographical terminology is used accurately in explaining the processes. However, the student fails to explain the use of concrete cover and vegetation in preventing landslide. (10 marks)

ai) Landslide.

ii) The direct cause of the event would be heavy rainfall on the date of event happened. Since the slope is unpaved filled slope, on the slope there would be filled materials, soil and ~~loose fragment~~ rocks there will be the internal cohesion in between the materials. And the slope would not be very deep because the bedrock of the slope is granite which is less resistant to erosion. As the external force acting the slope that day (rainfall) is very strong, it will increase the force acting on the slope. As mentioned in Fig a, the slope is filled, it will be no many vegetation, without vegetation, the internal cohesion and strength of the material is quite low. Therefore, with heavy rain, the forces of rain and gravity override the strength of material, as the result landslide happened.

bi) The bedrock is granite. In northern part of Hong Kong Island, the landscape is low land, which means that granite as the intrusive igneous rock are less resistant to erosion. With rapid erosion, there will be materials loose from the

rock, therefore, there will be more materials on the slope. Also, less resistant to erosion will ~~m~~ make vegetation difficult to grow on the slope because granite are rocks with ~~to~~ joints, under erosion, the cracks will further developed into gullies and when gullies are ~~b~~ extended, badlands are formed As the result, vegetation are not able to grow on it. So that the nature of bedrock lead to the occurence of landslide.

(vii) With reference to Figure 1b, the slope is being cut for development. Cutting slope will increase the gradient of the slope and the gravity force acting on the slope will be greater. As for construction on the slope will also add weight and pressure to slope, which will make the slope become unstable, ~~therefore, when there is heavy rain, landslide will be more often to occur on that place.~~

In figure 1b, there are serious ~~to~~ cutting slope problem acting on the slope, therefore, the material structure of the slope will be less tightened. As the result of heavy, rain, landslide occur.

Answers written in the margins will not be marked

ci) Concrete cover and tree planting can help to prevent ~~natural~~ landslide from happening. First, the concrete cover place over the slope can prevent the materials are being in a state of too loose, therefore, the structure of the slope is strengthened. Besides, the concrete cover is resistant to water, so that if there is heavy rain, the slope will not be unstable and even ~~land~~ landslide happened. Second, tree planting could help to hold the soil. As vegetation's roots will hold soil to absorb nutrients, so that ~~with~~ with the more vegetation, the roots can hold more soil from losing.

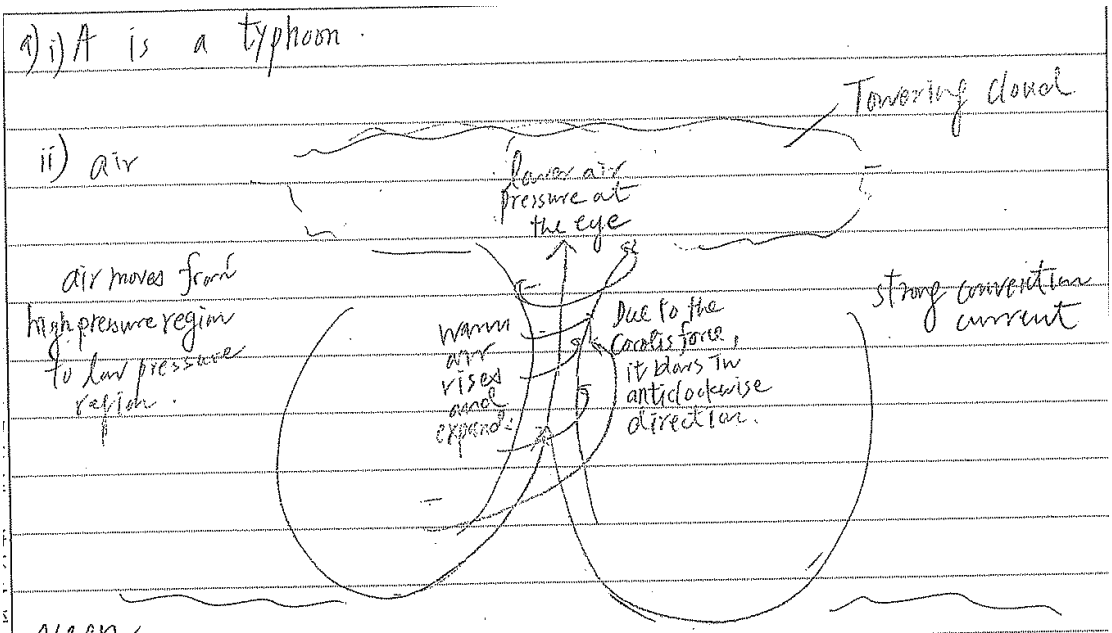
ii) Concrete cover ~~with~~ is more appropriate to be used in the area because bedrock of the slope's nature are not favourable for ~~veget~~ tree planting. and the planting of ~~ter~~ trees on the slope may cause even serious casulties in landslide when there is even heay rain, which trees roots ~~are~~ have not ~~e~~ enough strength to help the soil. Therefore, concrete ~~cover~~ cover is more appropriate.

The student is able to interpret briefly the data provided but he/she demonstrates elementary understanding of the mass movement process only. Concepts are not clear and explanations are irrelevant in part (b). (6 marks)

D2E-H-1

9) i) A is a typhoon.

ii) air



Warm ocean provides both latent and sensible heat favouring the upward movement of air.

An digram showing the formation of typhoon.

b)i) At that Hong Kong, wind is strong. Wind blows from the north at a speed of 12.5 m/s. The air pressure of Hong Kong falls also. There is precipitation. Heavy rain accompanied with thunderstorm will occur. The weather is bad with no or little sunshine.

ii) Typhoon is a low pressure system. Low pressure forms the upward movement of air facilitating the formation of cloud. As water vapour in the air condense after saturation, they form water droplets and join together to form cloud. When the cloud and water droplets become too heavy for the ~~updi~~ uprising air to support, it rains. As the ocean provides continuous water supply to the typhoon, when the typhoon approaches Hong Kong, it rains ~~heavily~~ heavily.

Air moves from high air pressure region to low air pressure region. Air is drawn into the centre of the typhoon. Due to the Coriolis Force, they blow in in an anticlockwise direction. This explains why Hong Kong has winds blowing from the north or northeast.

From the weather chart, the isobars of the typhoon is close and the ~~g~~ pressure gradient is steep too.

D2E-H-3

Therefore, the wind speed is high and Hong Kong receives strong wind on that day.

c)i) Tai O is suffering from flooding in the figure. Tai O is located at the coast and with low and extensive flat land. ~~Due~~ During the approach of typhoon, there will be storm surge flooding the region because of its low relief. ~~Seen~~ The influx of seawater is easy.

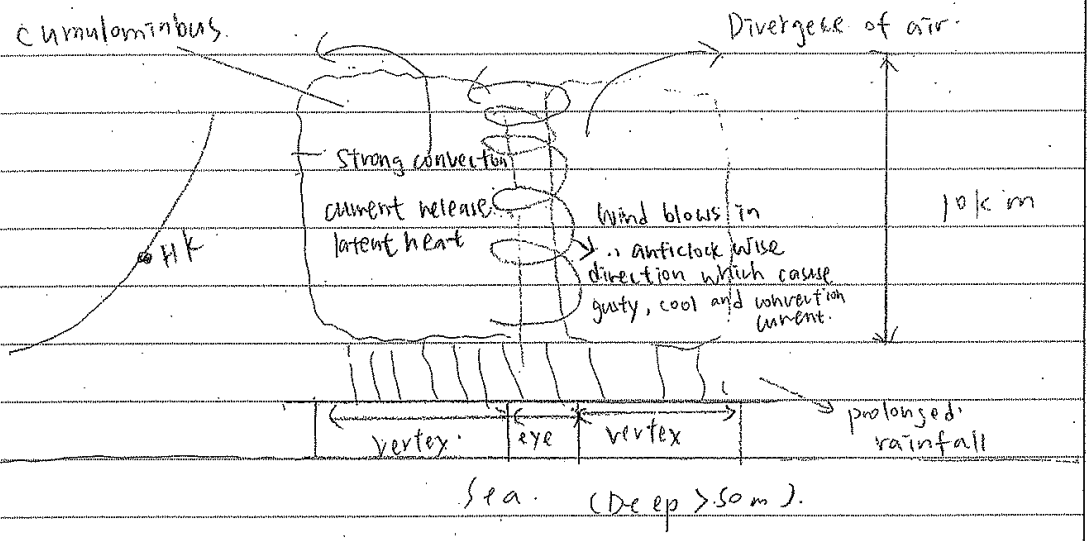
ii) Introducing a warning system is not the most effective way to reduce the damge caused by typhoon. ~~Be~~ Even though the warning system allows people to take early evacuation and precautions measures, their homes and roads are still drained by the influx of sea water. The warning system ~~to~~ cannot prevent ~~that~~ seawater from flooding into the region. Houses and cars are immobile and the typhoon still cause damages. Therefore, it is not effective.

Though the diagram drawn is far from satisfactory, the student demonstrates sound understanding of typhoon formation in the annotation. He/she also demonstrates his/her sound understanding of the weather system in part (b) (ii). The student demonstrates the ability to interpret weather chart and relief map in answering parts (b) (i) and (c) (i). Evaluative skills are shown in part (c) (ii). (16 marks)

3a.(i) Referring to figure 3a, Hong Kong International airport is located in coastal area

2.a(i) The feature A is a tropical cyclone.

(ii) The annotated diagram of formation of feature A



b(i) Hong Kong has a low air pressure on that day which is about 1001 hPa, so the temperature is high. Besides, The wind blow in north-east direction with 12.5 m/s, so the wind speed is fast and blow northly-east.

(ii) Since feature A is approaching to Hong Kong, it affect the weather of Hong Kong. As feature A is a tropical cyclone. It is an intensive low pressure

system blow in anti-clock wise direction. It will cause the latent heat released and gusty wind to form. As the eye of tropical cyclones is coming to Hong Kong, it leads a low air pressure to Hong Kong. Therefore, Hong Kong has a high temperature at that day and the wind speed is high. Besides, there will have an intense rainfall with high wind speed.

from figure 2c

c(i), Since Tai O is located at coastal area. It is suffered from tropical cyclones, Intense rainfall bring bring tropical cyclones may bring to Tai O. Beside, from figure 2c, we can see that Tai O is about 10 m., which has a gentle slope Therefore, as Tai O is a low-lying flat land, feature A bring Intense rainfall may lead flooding to occur in Tai O.

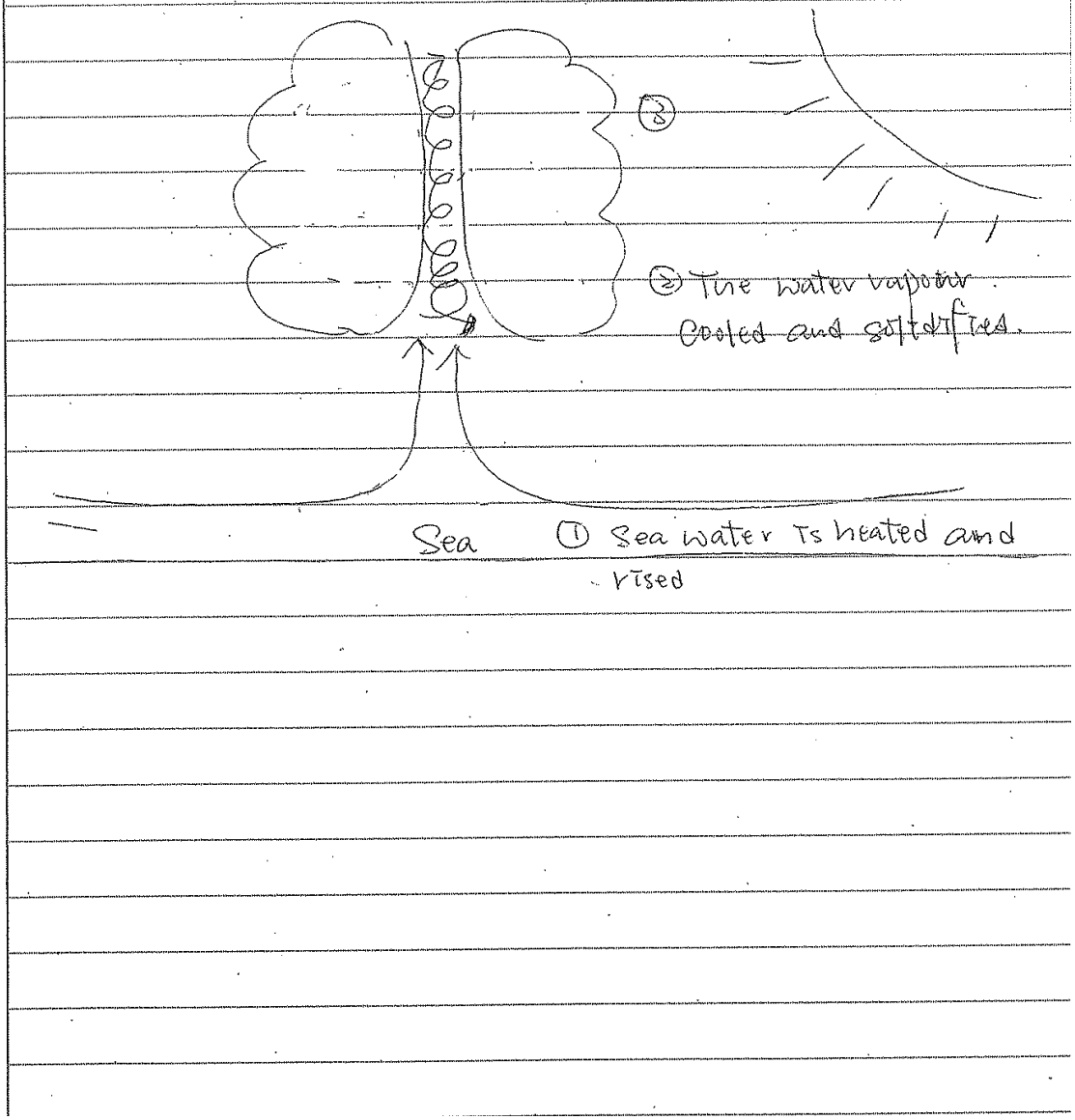
(ii) Using warning system may be effective to reduce the damage caused by the hazard in Tai O. As from figure 2b, we can see that there are many Infrastructure and building in Tai O. If there is warning system, goverment can issue the warning to the residents in Tai O, then they can have some prevention and coastal measures, like putting sand bags in the barriers. Or, move out the machines and materials to prevent flooding.

The student demonstrates adequate knowledge in typhoon formation as shown in the annotated diagram drawn. A range of geographical terminology is used accurately. Although he/she displays adequate knowledge of the weather associated with typhoon, he/she is not able to provide logical explanation. He/she is able to interpret weather chart but unable to interpret the contour map correctly. (11 marks)

D2E-L-1

(a i) Feature A is typhoon.

(a ii) An annotated diagram to show the formation of feature A.



(b i) According to Figure 2a, Hong Kong suffer from thunderstorm. ~~because of the cloud of feature A~~ and Hong Kong suffer high wind speed also ~~with 30 m/s~~ On that day, Hong Kong ~~suffer~~ affected by low pressure

~~(b ii) Feature A brings thunderstorm to Hong Kong due to thick clouds.~~

(b ii) Since feature A is a low pressure, the weather condition is not stable. Feature A forms up with thick and heavy clouds. When the weight of the clouds ~~are~~ is heavy, there will be rain. As the clouds are very thick, the rainfall will be high. The pressure on the ground is attracted by the feature A and feature A is turning continuously so it brings Hong Kong High wind speed on that day

(c) Tai O is located next to the mountain. So it will easily affected ~~during~~ by ~~the~~ feature A because the rain water from the hill directly go to Tai O. Since ~~the~~ Tai O is surrounded by the mountain, the water cannot go to other place, ~~as~~ except the sea.

D2E-L-3

(c ii) Warning system may reduce the damage caused by the hazard in Tai O. When the people receive the warning from the warning system, they can move away to other places so as to avoid the hazard. Moreover, they can move their furniture to a higher place so that the water will not damage the furniture. and they need not to buy the new one. However, ~~warn~~ some damages cannot be reduced by the warning system. During the hazard, the shops cannot open for work and therefore they lost the income. Moreover, after the hazard go into the house, the citizens have to use time for cleaning up. Therefore, warning system is not the best way to reduce the damage caused by the hazard.

The student demonstrates elementary knowledge of tropical cyclone. The diagram drawn and the answer in part (b) (ii) demonstrate inadequate understanding in the formation and influence of tropical cyclone on weather conditions. Everyday language is used throughout the answer. (6 marks)

Section D

(a)(i) From Figure 3a, it shows that the Hong Kong International Airport is near the coast and the sea. Therefore, goods and products can be easily sent out to the global market. Moreover, the coastal location favours expansion in future. Second, it is shown that the airport is accessible to roads. It shows that highway and railway are connected to the airport, so that this favours the transfer of goods to export. Furthermore, it is shown that Hong Kong has a multi-modal transportation hub. Therefore, the goods can be transferred to the airport to export easily and it has high efficiency.

(ii) Despite the locational advantages of Hong Kong International Airport, Shenzhen Bao'an International Airport still have development potential. One of the pull factors is that the airport in Shenzhen is surrounded by industrial park. As agglomeration of economies is found near Shenzhen Bao'an International Airport, high demands of exporting goods is found in the area. Therefore, it is a valuable airport ~~for~~ for development. Moreover, surrounded by the airport, many industrial locations such as Zhongshan, Dongguan and Shenzhen are found. Therefore, it has a ~~develo~~ development value. Other than that some of the push factors also turn some people to choose Bao'an instead of Hong Kong International Airport. First, the complicated ~~Heavy~~ custom clearance procedures in ~~Airport~~ Hong Kong drive some people to turn to Bao'an International Airport. As people want

D3E-M-2

to transfer their goods as soon as possible, they may not want to have their goods inspected for a long time. So they may go Shenzhen and choose the Bao'an International Airport instead. Furthermore, nowadays Hong Kong's airport is now nearly overcapacity. Every day, Hong Kong's airport need to handle a lot of goods and other services. Thus, this made the airport cannot handle more goods transfer. So some people may choose Bao'an International Airport for export goods. Therefore, it still have development potential.

(b) Refer to Figure 3a, it shows that the location between the two airports is so near. Therefore, when the capacity of Hong Kong International Airport is full, she may transfer the goods to Bao'an when business nearby the area wanted to send goods out. Refer to Table 3b, it shows that Shenzhen's airport has a less passenger number. This shows that Hong Kong is helping Shenzhen to release the passenger pressure. For the routes, the domestic routes of Hong Kong is 45 and for Shenzhen, it is 50. This reflects that Shenzhen is helping Hong Kong to release its pressure in transferring goods within domestic market. However, for the International routes, Hong Kong has 115 routes while Shenzhen only has 10 routes. Therefore, this shows that Hong Kong is helping Shenzhen to release the burden when transferring goods to International market. This proves they have divide the roles.

(c) Hong Kong still need to construct a third runway because

D3E-M-3

~~Hong needs~~ a It is for the future development of Hong Kong. It is expected that the capacity of Hong Kong's airport will be full within the 20 years. Therefore, facing this internal problem, Hong Kong need to find a new solution itself. Thus, Hong Kong need to construct a new runway in order to increase the competitiveness of logistic in the world and satisfy ~~its own~~ and increase its loads of transfer.

This exemplar demonstrates basic knowledge of the topic. Basic understanding of division of work and specialisation, as well as competition among airports is demonstrated in parts (b) and (c). In part (a), the student demonstrates the ability to analyse and interpret the information provided. (9 marks)

D3E-L-1

a) (i) Referring to figure 3a, the Hong Kong International Airport located in between some regions like macau, zhuhai, shenzhen and zhongshan. Also, the Hong Kong International Airport also located at places where highway and railway is provided. It is much convenient for people to travel to airport from cities. Besides, the railway and highway of Hong Kong can connect to Shenzhen. It is convenient for them to travel to Shenzhen by railway. But other airport may not have railway or highway nearby the airport.

(ii) The Shenzhen Bao'an International Airport still have development potential as there are highway nearby the Airport. Also, there are four industrial park. It can attract many people to invest their money in those industrial park. It is because the resources, land rent and labour cost is cheaper than Hong Kong. With the industrial park, the Shenzhen Bao'an International Airport will be a potential airport as many people will travel to Shenzhen via airport in Shenzhen.

D3E-L-2

b) Referring to figure 3a and 3b, the international routes of Shenzhen Bao'an International Airport only has 10 routes but Hong Kong International Airport has 115 routes. Those people from other countries who want to go to Shenzhen can travel to Hong Kong first. It is because there are more routes, and then they can go to Shenzhen through highway or railway. So the people from all over the world can travel to shenzhen via Hong Kong International Airport. Also, the annual passengers of Hong Kong International Airport has 43000000 annual passengers but only 20000000 annual passengers for Shenzhen Bao'an International Airport. It shows that more people will visit Hong Kong or go to other places through Hong Kong. So Shenzhen Bao'an Internation Airport can cooperate with the Hong Kong International Airport. Hong Kong International Airport has more international routes that can attradt more foreigners. But Shenzhen Bao'an International Airport can have more domestic routes.

D3E-L-3

c) Though the two airports can complement each other, it is still inconvenient for passengers to travel to other places via highway or railway by long time. It is indirect and time-consuming to passengers. Besides, it will add pressure to the highway and railway transport in Hong Kong. By building a third runway, passengers can directly travel to places they want to go with faster speed.

Also, it will increase the transportation fee and pressure. So the passengers may spend more. Therefore, to construct a third runway could save money and time of passenger travelling to Hong Kong or other places. It can attract more people to travel via Hong Kong International Airport and solve the congestion problem of transport. It also provide more choices for passengers to choose.

This exemplar demonstrates elementary knowledge of the topic only. The student is able to interpret briefly the information provided and can explain briefly the complementary relationship of the two airports. However, he/she demonstrates inadequate understanding of the competition among airports in Guangdong province in part (c). (5 marks)

D4E-M-1

(a) Refer to Figure 4a, there are many lowlands in the Zhujiang Delta. Also, the drainage system is spreadly covered the region. They are favourable factors for farming development, because farming/ low land is suitable for. The river allows irrigation for crops.

Refer to Figure 4b, the mean annual temperature is 22°C, it is moderate for plant growing. Moreover, the annual rainfall is 2422 mm, it allows species which need large amount of water to crops, such as, water paddy, vegetable, etc, to grow there. What's more, the annual sunshine hours is 1733 hours, the adequate sunshine hours for plants to have photosynthesis. Thus, crops grow well in the Zhujiang Delta.

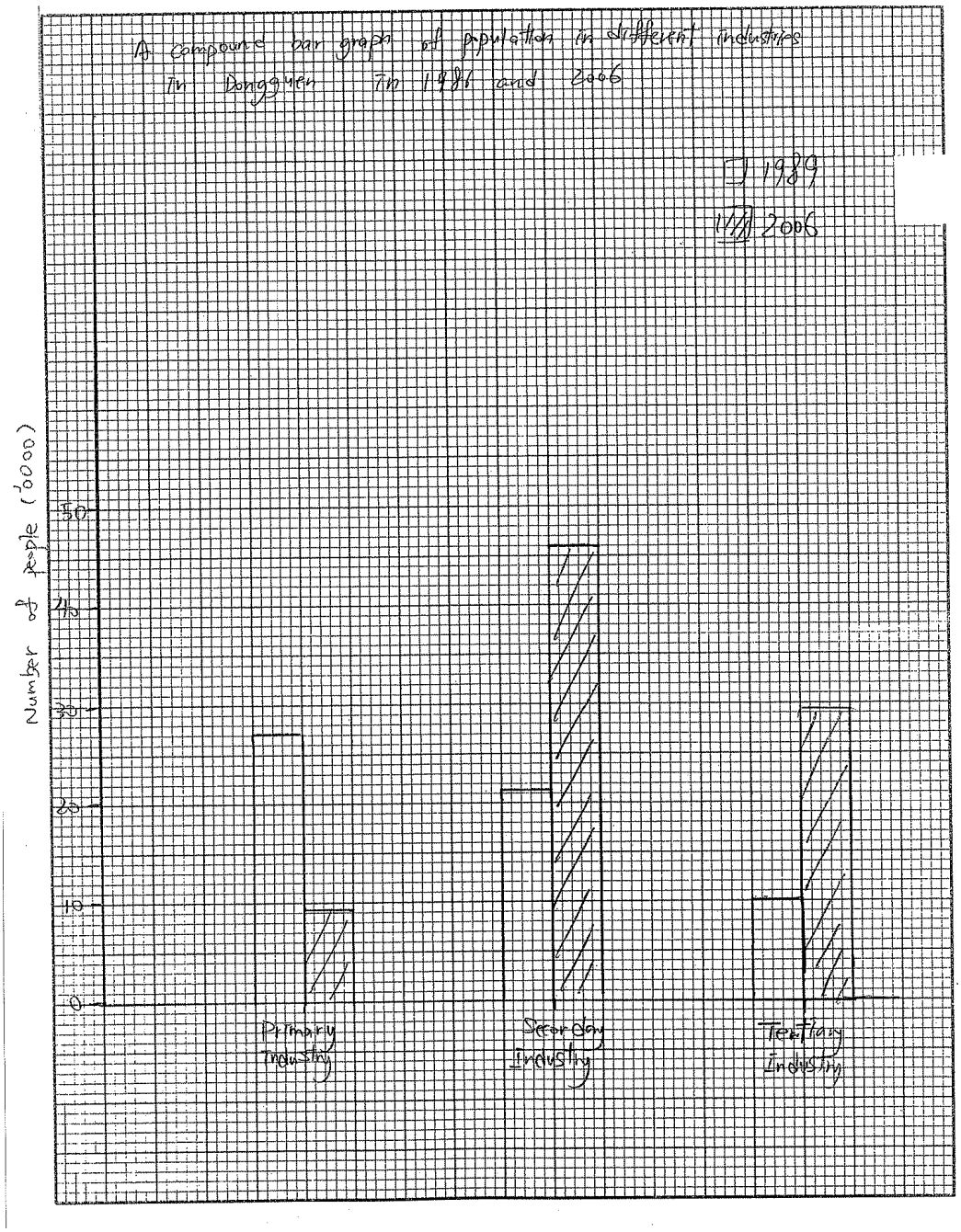
(b1) The values of production per hectare for food and fruit in 2006

$$= \frac{4882000 + 29652000}{4084 + 1701}$$

$$= \$ 5969 5.8$$

(b11) The farming areas has decreased sharply from 1989 to 2006, that's because many farmland have been convered into industrial land use. Many factories were built in the Zhujiang Delta Region.

D4E-M-2



and many farmers have changed to be labour of factories. The Industrialization and urbanization rate ~~are~~ is very high within 1988 and 2006, because the central government ~~ab~~ adopted open policy, which, various investment from ~~the~~ foreign countries. Farming's ~~importance~~ importantance declines in the past 30 years. Thus, The ~~farming~~ areas reduce a lot.

Due to the urban development of the Region, people has more income. At the same time, government power to as well as supply ~~the~~ farming ~~has~~ decrease. Thus, market demand for fruit ~~is~~ has increases. Farmers are more ~~resp~~ response to market. Also, ~~owing~~ owing to the development of transport, perishable ~~to~~ crops are available to be sold to places with far ~~distant~~ distances. ~~Thus~~ Demand of ~~fruit~~ fruit increases. Although ~~the~~ the farming area for fruit has decreased a lot. The production does not have obviously decrease. It is mainly because the technology improvement. Due to the improvement of technology, people improve ~~irrig~~ irrigation systems and plant crops with higher yields. Also, they use pesticides to kill pests and fertilizers to increase yields. Therefore, the production of fruit, in 2006 still remain nearly the same as 1989 despite the reduction of farming areas.

(cii) The prospect of farming development in the Zhujiang Delta Region has declined. ~~The~~ People involved in

D4E-M-4

primary production has decreased by 181000 people while 244000 people increased in Seconday Industry and 193000 people increased in Tertiary industry. The farming development is declincing as seconday and Tertiary industry develop rapidly.

The student demonstrates adequate understanding of farming development in the Zhujiang Delta region in parts (a) and (b) (ii). He/she demonstrates the ability to analyse information in answering parts (a) and (c) though the assessment in part (c) is brief and not comprehensive. He/she is unable to calculate and present the data in the graphical form required. (9 marks)

4a) As the Zhujiang Delta was built by deposition of sediments, the soil in the Zhujiang Delta is very fertile for farming. Morover, the Zhujiang Delta contains many river distributries and is the coastal area. This factor provides water supply for irrigation. Besides, the well-developed infrastrutures provide expressway, inland nevigation and airports for transporting products to local market and ~~oversea~~ oversea markets more quickly to keep products fresh. Lastly, the extensive farmland can buy for farming under China government's discounting values which attract many investment from foreign and Hong Kong.

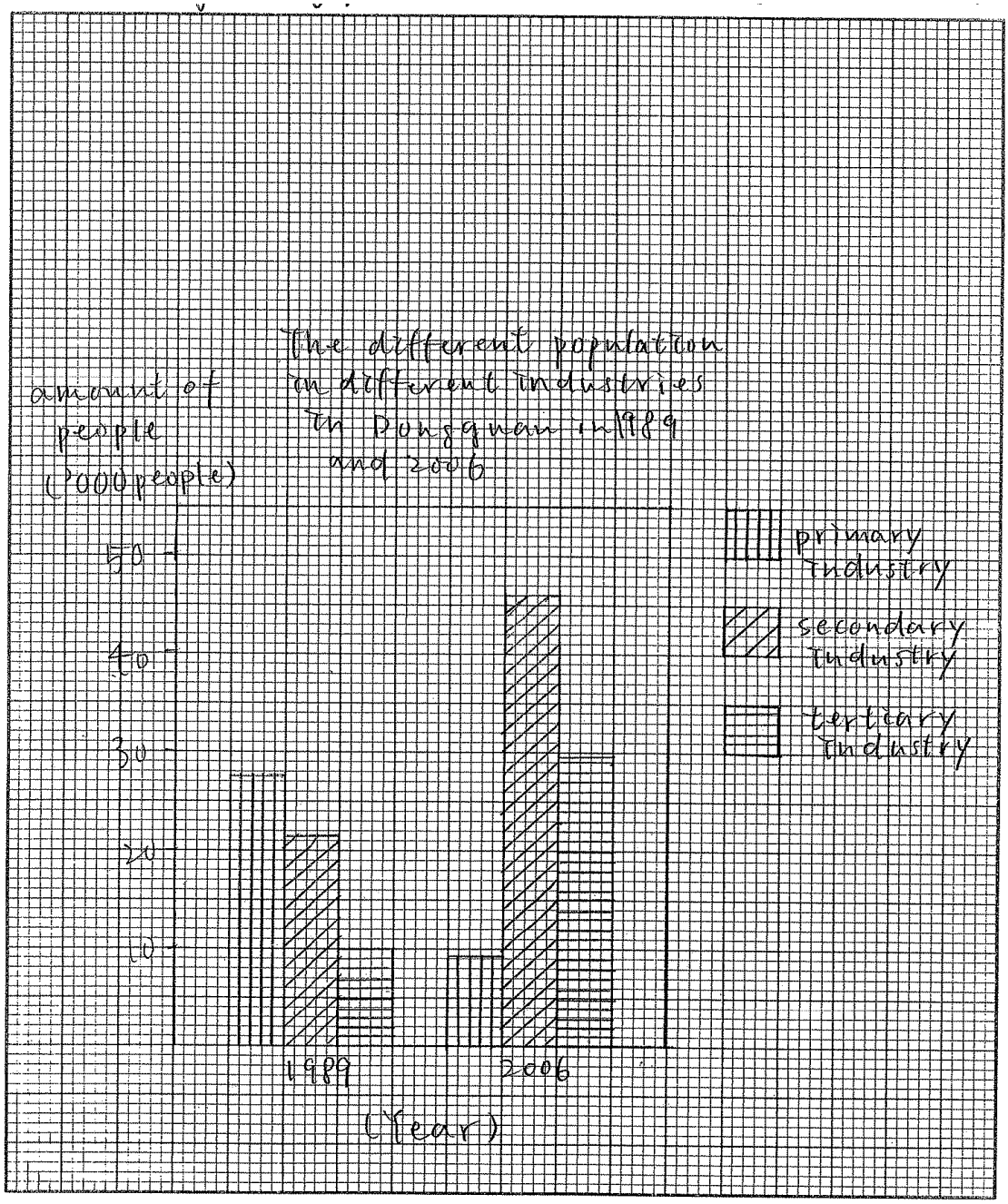
bi) The values of production per hectare for food and fruit in 2006

$$= \frac{29652000 \text{ (yuan)} + 48820000 \text{ (yuan)}}{1701 \text{ (hectares)} + 4084 \text{ (hectares)}}$$

$$= \$\ 59696 \text{ (yuan/hectare)}$$

bii) It's because of the China gorernment gives the right to farmers to chouse farming which kind of crop. As a result, farmers choose to make the farming to be commericialization for earning the greet profits. At the same time, for earning the maximum ~~va~~ profits with the least production cost, some farmers only plant one or two species crop which is called ~~speci~~ specialization. They can use fewer land to produce high profits. The reason why they plant large amount of cash crop because the demand of high quality food increase due to the living standard of people increased. Besides, it's because of urbanization. ~~In~~ The farmland in Zhujiang Delta turn to be urban area Then farmers have to use limited farmland to produce more products.

D4E-L-3



This exemplar displays basic understanding of farming development in the Zhujiang Delta region only. Some of the favourable factors mentioned in part (a) and the explanations given in part (b) (ii) are irrelevant. The student does not make good use of the information given in answering part (a). He/she demonstrates inadequate skills in data processing, for example, calculation and graph drawing. (6 marks)

5 HK is a place with a wide variety of rocks. Rock from Sai Kung varies greatly with ~~the~~ NT New territories due to ~~which~~ a number of reasons.

Firstly, rock in Sai Kung is volcanic rock which is an igneous rock. Tuff dominate in Sai Kung Region, so it has light to grey colours fine grain and ash with feldspar and quartz minerals on top. While rock in Northeast NT is sedimentary rock, like ~~silt~~ siltstone, sandstone. These clastic sedimentary rock is commonly stratified with bedding plane.

They are distinctly different ~~in~~ because of their formation ~~and~~, prone to erosion and weathering and ~~rate~~.

In terms of formation, tuff in Sai Kung is due to vulcanicity. In Cractons peroid, crack is developed in the crust due to plate tectonics and magma convection, the pressure in magma chamber is released, lava with different mineral flows out it cooled and solidified and ~~or~~ mixed to form extrusive Igneous rock like tuff in Sai Kung with minerals and

E5E-M-2

~~Yet, for sedimentary~~ no bedding planes. The cooling of it also produces hexagonal columnar shape while sedimentary don't (in High Island)

Yet for sedimentary rock in NT, it (unlike tuff) is formed when moving agent of soil, sediment loses energy, deposition occurs. It washes into the sea and pile up to form sediment (sedimentation). When time gone by, pore between soil may have water dissolved with minerals as gluing agent. Under pressure, it is compacted and cemented. Water squeeze out and sedimentary rock is formed (lithification) Therefore, it generally has bedding plane, strata (except conglomerate).

Besides, how prone to erosion also varies. Tuff in Sai Kung is relatively more resistant to weathering as it is a whole mass of rock, while sedimentary rock with strata, it may be subjected to erosion, weathering more easily with waves or water. However, as tuff in Sai Kung is facing open sea (and exposed to) with long fetch while that in NT is not, so Sai Kung has a number of erosional landform (rock), like sea cave, geos etc.

Fault is also affecting the landscape in these two region.

As fault (Tolo channel fault and Sha Tong kok fault) is all passing through NE of NT. Sai Kung is also subjected to some fault like, ~~faulty reverse fault~~.

It firstly forms the landscape of faults, like reverse fault in Sai Kung (Ma Shi Chau), it is a geological landform with rock displacement viewed.

Besides, as fault may let the rock more prone to erosion, the erosional landform along fault is common. Fault is a crack and water (wave) can attack it easily by hydraulic action. The compression and release of pressure of air parcel breaks the rock. So erosion landform, like geo, stack are common partly because of fault. So headland, reservoir are due to the fault.

Moreover, as fault provides cracks, it also favour weathering, both physical & chemical. As with crack, it favour the ~~[illegible]~~ block disintegration by thermal expansion and contraction. Also, water seep through cracks may lead to spheroidal weathering by oxidation, hydration ~~[illegible]~~ etc, living corestone or tors. This alters the landscape of Sai Kung and both NE of NT.

That's why NE of NT and Sai Kung are in Geopark and with different landforms.

This exemplar demonstrates adequate knowledge in rocks. The student is able to describe the formation of sedimentary and volcanic rocks. He/she has attempted to explain the differences in characteristics of rocks in terms of their different formation. He/she also demonstrates the basic knowledge of faults and the impact on landscape. Appropriate geographical terminology is generally used. However, there are some incorrect concepts throughout the answer. (7 marks)

E5E-L-1

Rocks in Sai Kung volcanic region are distinctively different from those found in the Northeast New Territories sedimentary region because of different rock formation and characstics. In the following essay, I will explain the reason of above difference, and evaluate the impact of faults on the landscape in these two regions.

Rocks in Sai Kung volcanic region called tuff, which is an Igneous rock formed by violent volcanic eruption. It is formed by lava come out from the volcanoes, which compacted with volcanic ash which is dark in colour. It is dark in colour and has fine grain since the cooling rate of tuff is fast as the lava exposed on the earth surface.

Rocks in the Northeast New Territories sedimentary region called sedimentary rocks, which is physically formed by particles of other kinds of rock. When the sediments brought by the erosional agent such as wind and snow and deposited at a place, sedimentation occurs. Under the pull and pressure of gravity, different kinds of rock fragments compacted layer-by-layer and formed sedimentary rock.

These two kinds of rocks are distinctively different because their different formation and characteristics, and also the position of formation. Sai Kung was a volcanic region and it would produce tuff, New Territories is suitable for deposition and sedimentation than it forms

E5E-L-2

sedimentary rock.

Fault on the landscape in these two regions will cause the following impacts :

Firstly, fault on the Sai Kung volcanic region will intesify the ~~erosion~~ chemical erosion. There are also granite in the Sai Kung volcanic region. Granite is well-jointed and less resistant than the other kinds of rock. As Hong Kong's hot and wet climate, water react with carbon dioxide in air and form weak carbonic acid. Rain seeps into the @ faultes and cause chemical weathering. Granite may be weathered to @ tors and it may easily cause rock-fall, which would harm our lives and properties. For example, in Castle Peak Road in Hong Kong, ~~the~~ rockfall had caused people died.

On the one hand, fault on the Northeast New Territories sedimentary region will cause landslide easily. As sedimentary rock are less strong as the other kind of rock, gullies and landslide may easily formed when there is a fault ~~on~~ on the rock. It may also cause loss of lives and properties.

To conclude, these two regions creates different ~~kind~~ types of rock because of different formation, and the faults on these two regions may both course loss of lives and properties to us.

This exemplar displays basic knowledge of the formation of sedimentary and volcanic rocks. However, the student fails to explain their different characteristics. Poor understanding of faults in the latter part of the question demonstrates the student's inadequate understanding of exogenetic processes and the impact on landscape. (4 marks)

E6E-M-1

Q6 Drought occur due to the shortage of water for a long period of time. Drought problem in North China is common which cause by many natural factors such as the dry climate, the relief and distant from the sea. The local government should responsible for combatting drought.

North China receives dry and cold winter monsoon, the air contain less moisture and the precipitation is low. There is insufficient water supply for irrigating and drinking. Besides, the wet onshore monsoon climate may not reach to the interrior area. As a result, drought may occur. In summer, the temperature of the northern part of China is high such as Urumqi, Hebei etc. The evaporation rate is high. Soil moisture will lose easily.

Besides, the northern part of China is far away from the coast. The onshore wind may not blow and reach to the interrior area like Hubei. Interrior may not benefit from the wet onshore wind. Precipitation will also be lower.

However, the relief of the north china is higher than that of the coastal cities. Qin Ling works as a barrier to block the onshore wind and precipitation. Air contain more moisture may not reach in the interior region and high relief area. In addition, the high relief area receive much more insolation and it evaporation

rate will be higher.

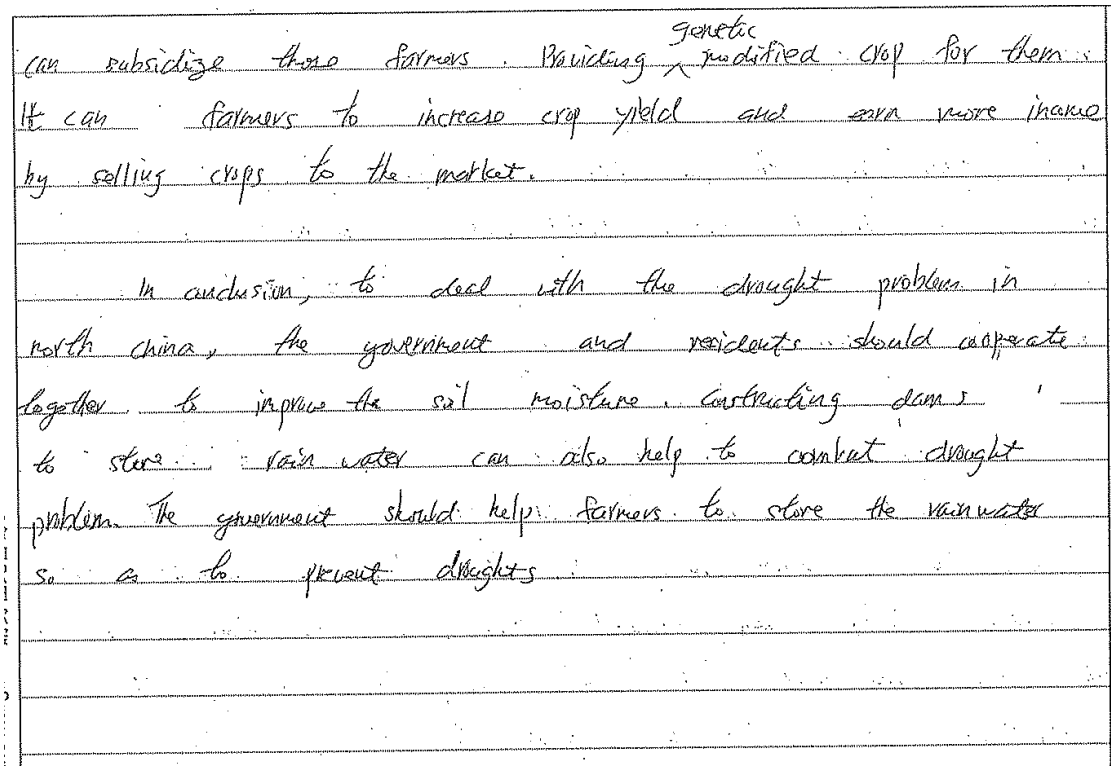
Additionally, the poor soil structure can also cause the problem of drought in North China. It's because the soil cannot retain and store moisture and it may lose moist easily under the high temperature and evaporation rate.

To a large extent that the local community help the government to combat drought. It is because the local farmers are more aware to their farmland condition and drought problem. They should report and voice their opinions to the local government and seek help from the local government so as to solve the drought problem.

Meanwhile, the local community can cooperate with the local government in order to use the best methods to combat the droughts problem. For example, tree planting can help to increase underground water and soil moisture. The local government works as a leader to guide the local farmers to plants trees. It will be more efficiently and effectively to solve the drought problem. Since farmers are more familiar with their living environment and which types of trees are suitable to plant.

Sometimes, the local farmers are poor, the local government

E6E-M-3



can subsidize those farmers. Providing genetic modified crop for them. It can farmers to increase crop yield and earn more income by selling crops to the market.

In conclusion, to deal with the drought problem in north china, the government and residents should cooperate together to improve the soil moisture, constructing dams to store rain water can also help to combat drought problem. The government should help farmers to store the rainwater so as to prevent droughts.

This exemplar displays adequate knowledge of climatic factors that cause drought. The student demonstrates general knowledge in climate and relief in China. However, the region of North China is not accurately defined. In the latter part of the question, the student is able to express his/her standpoint though some arguments are not directly related. (7 marks)

E6E-L-1

Drought is a climatic hazard that refers to water deficiency in a place, which causes famine to the place owing to not enough rainwater for plants' growth. In China, drought is a serious problem in the north inland China and I am going to discuss its causes and to what extent can the local community help the government to combat drought.

For its natural factors, it is mainly due to the climate condition in North China. In inland North China like Inner Mogolia, Heilongjiang, etc, its latitude is relatively higher and there is less insolation received due to smaller angle of sun and less energy concentrated. As a result, it is unfavorable for evaporation to occur and thus the cloud formation. Besides, as precipitation is unevenly distributed when it decreases from coastal to inland. The inland areas has less precipitation and during dry seasons, the number of water cut-off days increases, resulting in not enough water and a state of water deficiency.

Second, it is related to the failure of monsoonal climate in Summer. As the weather becomes more extreme nowadays, the El Niño effects on sea water which increases sea temperature in Summer will discourage convectional activities and so as the cloud formation. Precipitation cannot efficiently transfered inland thus it creates a deficiency of water available in north regions. It also bring less onshore winds which bring moisture inland.

Third, it is because of the location factor of those region. It is far from the sea and it lacks a moisture supply. Eventually, cloud formation is less unfavourable and less water can be stored in Northern regions.

As drought can seriously affect the livlihood of people living there, it is imperative for the local community to cooperate with the goverment to prevent drought. However, it can only be done at a small extent. I think.

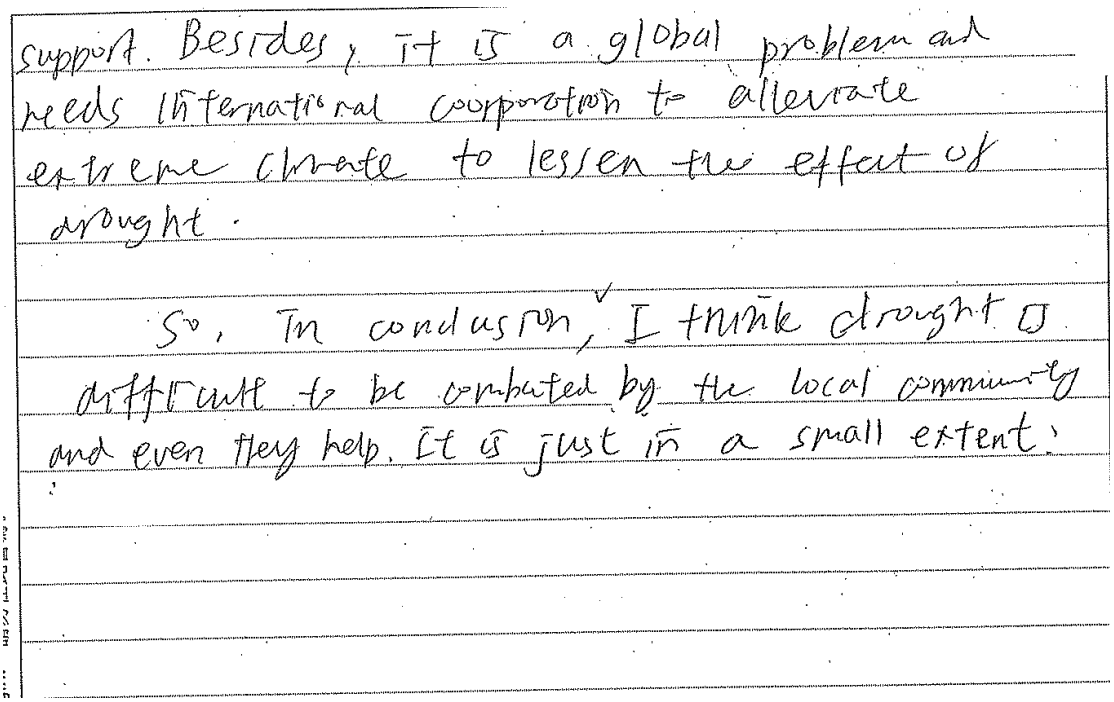
First, although local communities can help save water by water rationing. The amount of water saved is actually insignificant to

improve the overall situation. Because, as the problem is derived from mostly climatic factors, human effort is so small that it can only help people at a small extent.

First, local communities don't have huge capital and the money needed to provide water is huge. Nowadays, the Chinese government is usually South-to-North water tranfer scheme to mitigate the problem and apparently it needs a comprehensive construction of water channels. Local community who even hardly care for their livelihood is absolutely not able to do it. Large project like cloud-seeding, etc is also hard to carried out without the support of the government.

Second, the educational level of Chinese people in those hazard prone and poor region is usually low. Without the guidance and the support of the government, it is hard for them to take respective combat measures. For example, they don't know how to plant draught resistant seeds and it all needs giverment

E6E-L-4


support. Besides, it is a global problem and needs international cooporation to alleviate extreme climate to lessen the effect of drought.

So, in conclusion, I think drought is difficult to be combated by the local community and even they help, it is just in a small extent.

The student does not have basic knowledge of the location and geographical setting of North China. In explaining the natural factors, the student also demonstrates inadequate knowledge in climatic system. Concepts are unclear, for example, El Nino and monsoon. Arguments in the latter part of the question also demonstrate inadequate understanding of the importance of local community in combating drought. (4 marks)

E7E-H-1

Traffic congestion ~~is~~ is a major transport problem of many cities in the world, especially for those well-developed countries. Hong Kong is also suffering from traffic congestion, though the problem in Hong Kong is not particularly serious. Most congestion problem are take place in the inner city area. Why was it like that? Can railway system help solve the problem?

To discuss whether railway system can help, we need to first know what factors lead to congestion in the inner city.

First, road in the inner city is narrow. Inner city had long development history, in the past, urban planning was poor, the road designed was narrow. Also, the transport demand in inner city had grown a lot. the capacity of the road is no longer meeting the demand for the transport. When transport demand exceed the capacity of road, traffic congestion occur, car on road cannot move smoothly.

Second, inner cities in Hong Kong are places that concentrated with a lot of economic activities, there are many retails shops. Population density is high too, so transport demand in inner city is especially high. Everyday, particularly in rush hour, traffic in inner cities area is heavy. As road is too narrow, they cannot support the high demand of transport. Since many retail shops are located in inner city, a lot of good vehicles will need to carry goods to the area. Good vehicles are large in size, they occupy more road space than a private car, so road capacity is even smaller. Furthermore,

the unloading and handling of goods takes time. When the goods vehicles park on the road side, the road is even narrower, it further reduce road capacity, traffic congestion thus easily occur. Cars cannot move smoothly on road.

Thirdly, parking space in the inner cities is not enough to meet the demand. As mentioned before, inner city is not well-designed. They cannot provide enough parking facilities to meet the high parking demand. When cars do not have legal parking facilities, they will choose to park on the road side. Illegal on street parking block the road, other cars can not pass, the already low capacity become even lower. Moreover, driver will choose to drive the car and ward for parking space, this raise the traffic flow. These will lead to traffic congestion when traffic flow seriously exceed the capacity of road.

Lastly, the inner cities area is not served by ~~rail~~ railway system. Inner cities area such as To Kwa Wan is not yet cover by the rail network. So people must use road transport to travell. More vehicles means more traffic, so the traffic is exceeding the capacity of road. Also cars, including private car and buses have lower capacity than rail system. Rail can transport large amount of passenger in short time, but cars cannot.

All of the above are the main reasons that cause severe traffic congestion in inner cities area in Hong Kong. Someone sugeested that railway system should be introduced so that

E7E-H-3

problems of congestion can be solved, is that true?

Railway system can reduce road transport demand. As railway system is cheap and fast, ~~once~~ develop railway system can definitely encourage people to travel by rail instead of road transport. When more people choose to use rail, less private cars and buses are needed, the road demand of transport in the inner city can be reduce. This reduce the chance of congestion. Goods vehicles or buses can move smoothly on road, as there are less car. The capacity of road can then meet the reduced demand on road transport.

Other than that, railway system can increase the transport capacity in the inner cities area. Rail is an efficient transport system. It can carry large amount of people in a short time. ~~and it~~ So the traffic capacity of the area can be increased. This can help meeting the necessary demand on transport of those area.

~~Railway system~~ Railway system cannot totally solve congestion problems itself although it is helpful. It is because there are other factors that lead to congestion. Such as lacking of parking space, and narrow roads.

Railway system can reduce amount of private car, but demand of good s vehicles is still high, they still needs space to park and handling their goods. If parking space do not increase and tackle problems at the source, traffic congestion will still exist. Also, road in the inner city is too narrow, when cars amount

E7E-H-4

is high, traffic congestion still occur. So widening roads and more parking space to combat with illegal parking is needed to help solve congestion problems in the inner cities area.

To conclude, railway system can help to solve the problem of traffic congestion in inner cities area, however, if other measures, such as widening the road can be done together, the effectiveness in solving congestion problem can be higher than railway system works alone.

The student demonstrates extensive knowledge of traffic congestion in the inner city. Explanation is logical, coherent and well structured. Geographical terminology is extensively used. Discussion in the latter part of the question is comprehensive. In addition to the merits of railways, the limitations of railway in solving the traffic congestion problem are also discussed. (10 marks)

7. Traffic congestion is common in inner city. To improve the situation, the government proposed to develop railway system.

Traffic congestion in inner city is mainly caused by the poor urban planning. In the ~~th~~ early ages of development, the government does not consider the ~~the~~ needs of transport brought by urbanization. The roads are usually not wide enough. If traffic accident occurs, the road will be blocked.

Moreover, the increased residents caused by urbanization is also a factor. Since ~~the~~ many people need for commuting, the usage of road will be fully occupied. Many people ~~got~~ become users of the road causing the demand ~~is~~ ~~was~~ is greater than the supply. This brings traffic ~~prob~~ congestion.

In addition, the ~~th~~ economic growth of Hong Kong is also one of

E7E-M-2

factors. ~~The~~ Since the ~~eco~~ ~~be~~ people become richer, they want to have a higher quality of live, so they will buy private cars! This increases the usage of the road and will cause traffic congestion in rush hours.

On the top of it, the traffic congestion may be caused by the spatial/ rush hours. ~~Since~~ In the morning, at ~~for exam~~ around 7:30, the road must be the busiest since students and workers need to ~~must~~ go to school and work respectively. The sudden increase in demand of transport will increase the chance of traffic congestion.

E7E-M-3

To a large extent, I believe the railway system can help to solve the problem. First of all, it can increase the capacity of the transport system. Railway ~~is the backbone~~ has a high capacity, so it can largely reduce the people using roads as their transport medium. This can reduce the number of people use the road.

Moreover, the railway is the backbone of Hong Kong's transport system. It reaches most of the places in Hong Kong. This will attract the passengers to choose railway for transportation. They can go to most of the places in Hong Kong without changing their mode of transport. ~~That~~ This is more ~~con~~ convenient to them. Since more passengers will shift to using railway, the road capacity ~~will~~ will be enough to shve the demand.

In addition, ~~since~~ Hong Kong is an financial centre, time is most

important for the people. Railway can reach the destination more ~~qu~~ quickly ~~in~~ compare with other mode of transports in most of the cases. Moreover, ~~it~~ if you miss a MTR, it will only take you 2 minutes to wait for another one. With the time-management of Hong Kong people, they will choose railway to save time. Then the traffic problem can be solved.

Furthermore, the Hong Kong citizens start to aware to the poor air condition of Hong Kong. Since railway system release the least pollutant per passengers and no air pollutant will directly release to the surroundings and affect our health, the people may shift the modes from road transports to rail transport. This will decrease the demand of road, ~~in~~ in terms, increasing the road capacity and solve

E7E-M-5

The problem of traffic congestion.

To conclude, the traffic congestion is brought by poor urban planning, urbanization, economic growth and rush hours. It can be solved by developing railway system since the amount of people useng the road will decrease. They are attracted by the convinence of railway, the saving of time, the environmental consideration. The railway also increase the capacity of Hong Kong's transport system

The student is able to explain the causes of traffic congestion in the inner city, showing adequate knowledge of the topic. However, the second part of the question is not well focused. Some of the points are not relevant. (7 marks)

E7E-L-1

Hong Kong is a city with long history. There are some inner city area have been developed for many decades, eg. Wan Chai, Central, Admiralty in Hong Kong Island. In Kowloon, there are Kolwoon City, Jordan and Mong Kok. These are the busiest areas in Hong Kong and they usually occur traffic congestion. There are some reasons.

First, since the inner city area have been developed for a long time. The town planners didn't expect the traffic flow in these inner city area will like this. In few decades ago, there are not many cars and vehicles in Hong Kong. The town planners in the past haven't expected the traffic flow capacity of nowadays. From the above, the low traffic flow capacity may lead to traffic congestion.

Second, the inner city area have developed for a long time, there are lots of essential business in the area. In nowadays, these areas are still the most important areas for business and other commercial uses, like Wan Chai, Central etc. These are the Central Business District in Hong Kong. A lot of employees and servants have to work here. This would be another cause that cause traffic congestion.

To deal with traffic congestion in the inner city area, the government have build the railway system to solve the problem. I personnally think that the railway system can effectively solve the traffic congestion.

E7E-L-2

In nowadays, since the inner city area still remains the most important part of Hong Kong, many people have to travel to those areas. Most of the employees they do not have owned a private car. Thus they have to travel the road transport such as buses, taxis, minibuses, these transports will increase the opportunities of having traffic congestion. But after the railway systems have been linked up different parts of Hong Kong, the people can travel to the inner city area by the railway system. Railway system is an efficient and comfortable public transports. It can provide a cheap and fast way for the passengers to go their workplace. The railway system is also a great public transport system that can travel a large amount of passengers at the same time, ~~≒ 3000 of passenger~~ The train can store up to 3000 people at the same time. It's can help to reduce the demand of using public land transports in the inner city area. The railway system can help to solve the problem of traffic congestion in inner city areas effectively.

This exemplar demonstrates basic knowledge of the transport problems in Hong Kong and poor communication skill. Though the student is able to cite some examples of inner city district in Hong Kong, he/she fails to explain the causes of congestion there clearly. Some merits of railway as mass transit system are being described in the latter part of the question. (3 marks)

Part E — Q8

Sustainable development is the mode of development that meets the needs of present without compromising the ability of the future generation to meet their own needs. In recent decades, the labour-intensive industry in the Zhujiang Delta has changed gradually to capital-intensive industry. And the development of high tech industries will certainly make an impact on sustainable development in the region. In the essay, I'll discuss all of above.

First, labour-intensive industry has changed to capital-intensive industry e.g. petrochemical industry in Zhujiang Delta Region(ZDR) It is because of the following reasons:

Firstly, there's insufficient supply of labour. Due to urbanization and commercialisation, many labours have left the rural areas and find jobs in the tertiary production sector. Therefore, supply of labour drops sharply. e.g. in 2005, there's an excess demand for 2 million manufacturing workers in ZDR. It forced the factories to shifts to capital-intensive.

Second, the wage rate of workers have increased sharply, e.g. According to the

Guangdong Statistical Yearbook, the monthly wage of worker in the region has increased from $78 in 1990s to $2000 in 2005. Moreover, with the introduction of New Labour Contract Law, the workers are better protected and thus the cost of production of labour-intensive industries increased sharply. Therefore the industries are transformed to capital-intensive.

Third, foreign investment is available to develop capital-intensive industries. The capital can be obtained by joint venture. e.g. Nissan, Honda, Toyota — the three largest Japanese car producers have established joint venture with the Guangzhou Automobile Group. With the foreign investment and technology support, capital-intensive industries can be easily developed.

Fourth, there's government support to development capital-intensive industries. e.g. the government offers lower land rent and subsidies and provides better transport to the industries. It greatly encourages the development.

The development of high-tech industries will affect the sustainable development of the region.

E8E-H-3

First, from the economic aspect, as high-tech industries are the global trend, it can open up the global market and the sales can be increased sharply. Moreover, high-tech products are generally more expensive and thus the industry can bring higher economic returns to the regim. The profit made by the industry is greater and it can boost the local economy.

Second, from the social aspect, it promotes higher quality of life. On one hand, the income of people increases due to economic growth. The living standard is improved. On the other hand, high-tech industries produces products which will make our life more convenient e.g. mobile phones, computers. Therefore our quality of life is improved. Moreover, with high government revenue from the profit tax of the industy, infrastructure and social welfare can be improved. The society as a whole will benefits from it.

Third, from the environmental aspect, high-tech industries can lower the emission of greenhouse gases than the traditional industries.

E8E-H-4

As high tech industries involve less intensive burning of fossil fuels, the emissim of greenhouse gases e.g. carbon dioxide, Sulphur dioxide etc. will be lowered. This can alleviate the air pollution and greenhouse effect and thus slown down the global warming. Moreover, the factories of high tech industries are more modern and beautiful than the traditional one, therefore visual pollutim is lowered. Besides, high tech industries involves fewer deforestation needs than the traditional one as raw materials are less important. Therefore the destruction on the nature and biodiversity is lowered.

To conclude, the recent changes of labour-intensive industry to capital-intense and technology intensive industries will promote the sustainable development of ZDR. Therefore the government should better encourage the development of this industry. e.g. 17 High Tech Industrial Development Zones are designated in the regim.

This exemplar demonstrates sound knowledge and understanding of recent industrial development in the Zhujiang Delta region. The student is able to account for the change generally and he/she has attempted to use examples to illustrate his/her answer. In the latter part of the question, the student is able to express his/her standpoint. He/she can evaluate the impact of high-tech industries from the three aspects of sustainable development. He/she is able to develop his/her arguments with respect to his/her standpoint though the arguments developed tend to be on one side only. (9 marks)

E8E-M-1

The Zhujiang Delta Region (ZDR) is the southern part of Guangdong Province, China, which was designated agricultural production at first and then transformed to labour-intensive industries (in the 1980s) such as textile and toy industries, and then further changed into capital-intensive industries in the 1990s, such as carmaking and petrochemical industries.

As for the reasons for the change from labour-intensive to capital-intensive industry, ~~first~~, the first reason is labour shortage and high labour cost. ~~As~~ After China adopted the Open Policy in the 1980s, other regions of China also developed rapidly, such as Chongqing and Chengdu. There is high demand for labour in these regions. As demand increases, ~~wage level~~ while supply remains more or less constant, the wage of labour increases, leading to increase in production cost.

Besides, due to traditional Chinese concepts, labour prefer to work near their hometown. As the ZDR developed rapidly in the 1990s, the cost of living increases. Labour ~~may~~ t'were then refusing to work in the ZDR as transient population.

Labour shortage is resulted. Therefore the labour-intensive industry would have to change ~~their~~ its mode of production by employing more machinery instead of labour, ~~and~~ or transform into other industries which do not require much labour input ~~as~~, so as to avoid the increase in labour cost. Therefore the ~~the~~ change took place.

Moreover, there is fierce land competition in the 2DR due to urbanisation and industrialisation among residential, commercial, industrial and other land uses. As land prices go up, it is not very profitable for ~~it~~ low value-added industries (labour-intensive industries in 2DR). Therefore they transform into the high value-added capital-intensive industry.

Furthermore, environmental cost increased due to the increase in awareness of environmental protection in the 2DR in the 1990s. ~~The~~ It is thus not profitable for high-polluting industries such as dye industry, which is also labour-intensive, to ~~run~~ do their business. They tended to transform into low polluting capital intensive industry such as the IT industry as a result.

E8E-M-3

Sustainable development means a balance between the social, economic and environmental aspects and that present consumption of resources will not deplete those of the future generations. Both positive and negative impacts of high-tech industries can be shown in the development in the PDR since the 1990s.

First, high-tech industry is less polluting. It does not require high energy input and pollution for air, water and soil is reduced. Besides, high-tech industrial sites usually have much greening.

Besides, high-tech industries are high-value-added and it increases the people's income and living standard. This benefits the socio-economic development under the multiplier effect.

However, the industry creates unemployment

This exemplar displays adequate understanding of the recent change from labour-intensive to capital-intensive industry in the Zhujiang Delta region though not all the factors are relevant. The student is able to discuss generally the positive and negative impact of developing high-tech industries on the three aspects of sustainable development. However, the student fails to express his/her standpoint. (6 marks)

(8) In 1980s, the Chinese government adopted the open policy, which is 'having some regions developed first'. The coastal regions ___ more fast.

The Zhujiang Delta region is mainly ... contain labour-intensive industry. There are iron and steels factories and some light industries. These industries required abundant unskilled labours. Zhujiang Delta region is intensive population, which can provide ~~enough~~ sufficient labour to the labour-intensive industry. Thus, the labour-intensive industry grew in ZDR first.

Later on, the open policy attracted a large amount of foreign investors to develop in ZDR. They carried a huge amount of capital to ZDR. Thus, the factories become more rely on machines instead on labour. To buy more machines, capital is needeed. ZDR developed into semi-high-tech industries region.

If ZDR develop into a high-tech industries, the ZDR will become social unstable. Although ~~the~~ ZDR is now semi-high-tech industries, it still

required abundant of labour. Otherwise, the labours in ZDR will become unemployment. That will cause social problem of ZDR. The coastal regions usually provide a large amount of scrap steel and iron, if ZDR develop into high-tech industries, these scrap steel and iron will become wastes. That is not agree the development of sustainable.
High-tech industries ~~a~~ required skilled labours and professionals. Also, advanced machines are needed. These need to [illegible] import from other places or countries. The existance of machines are abondoned. The labours are all need high education, the citizens in ZDR is not allow to work in.

Zhujiang Delta region is more sustainable with semi-high-tech and capital-intensive industry. As there is abundant supply of labours ~~[illegible]~~

This exemplar displays inadequate understanding of industrial development in the Zhujiang Delta region. Iron and steel industry is wrongly used as an example of labour-intensive industry in the region. Simple arguments are put forward in the second part of the question, showing the student's inadequate understanding of the impact of high tech industries on sustainable development. (1 mark)