



DEPARTMENT OF
EDUCATION

UPPER SECONDARY
SCHOOL CERTIFICATE
EXAMINATIONS

GEOGRAPHY

Thursday

22 October 2015

Time allowed:

2 hours and 30 minutes

(8:00 am – 10:30 am)

NO EXTRA TIME

(NO OTHER TIME)

Candidates are advised to fully
utilise the allocated time

GG

INSTRUCTIONS TO CANDIDATES

To be read by the external invigilator to all candidates.

1. The subject code for Geography is **13**.
2. There are **15** printed pages in the question booklet. An electronic answer sheet for part A and **8** paged Answer Booklet for Part B are inserted in the question booklet.
3. There are two parts in this paper. Answer all questions.

Part A: Multiple Choice (Questions 1-30) 30 Marks

This part will be electronically marked.

All answers to the Multiple Choice Part **MUST** be answered on the **ELECTRONIC ANSWER SHEET** provided.

Carefully following the instructions, fill in your Candidate Information and Subject Information.

If you make a mistake, rub the shading out completely using an eraser and shade in your alternative clearly.

Part B: Short Answer (Questions 31- 40) 70 Marks

Write down your name, your school name and complete your 10 digit candidate number on the Part B Answer Sheet provided.

4. You are required to only write the correct answer in the space provided.
5. Calculators may be used.
6. Answer all questions on the answer sheet. Answers on any other paper including rough work paper and the question paper will not be marked.
7. All working must be shown step by step to get full marks. You may lose marks for writing down final answers only.
8. Correction fluid is not allowed on the answer sheet. Where you have made an error, cross out all the working and start on a new line.

**Penalty For Cheating Or Assisting Others To Cheat In
National Examinations Is Non-Certification.**

**DO NOT TURN OVER THE PAGE
AND DO NOT WRITE
UNTIL YOU ARE TOLD TO START.**

PART A: MULTIPLE CHOICE (QUESTIONS 1 to 30) 30 MARKS
For questions 1-10 and questions 31 to 33, refer to the map Ambunti 1:100 000

QUESTION 1

What feature is represented by the symbol at grid reference 8727?

- A. High cliff or gorge B. Leave bank C. Stream D. Lake

QUESTION 2

The contour interval for the map of Ambunti would be:

- A. 10 m B. 20 m C. 40 m D. 100 m

QUESTION 3

What is the approximate straight-line distance from Malu to Yerikai?

- A. 5.5 km B. 5.75 km C. 6.25 km D. 7 km

QUESTION 4

Which of the following is the approximate bearing of Ambunti Landing Ground from the peak of Mount Townsend?

- A. 110° B. 135° C. 225° D. 235°

QUESTION 5

The dominant vegetation type found 8 kilometres directly west of Urambanj is:

- A. Secondary growth B. Rainforest C. Plantation D. Medium forest

QUESTION 6

Which 4 – figures grid square reference is Wagu situated in?

- A. 1593 B. 1692 C. 9214 D. 9216

QUESTION 7

If you are traveling from Maio to Brugnowi, what are some of the likely vegetation that you would find?

- A. Flood plain forest B. Plantation C. Rainforest D. Secondary growth

QUESTION 8

Sanchi river flows from Ablatak to Amaki No.1 and all the way towards Saseriman. In what direction does it flow?

- A. Northeast B. Northwest C. Southwest D. Southeast

QUESTION 9

What direction is Yambon from Ambunti Station?

- A. Northwest B. Northeast C. Southwest D. Southeast

QUESTION 10

Which 6 figure grid square reference is Yigei located?

- A. 011230 B. 230011 C. 228009 D. 009228

QUESTION 11

Uneven human development refers to a situation whereby not all human beings enjoy the same standard of living. Locally, regionally and globally there is a gap between the rich and the poor. This gap is increasing by the year.

Which of these is **not** the result of the gap between the rich and the poor?

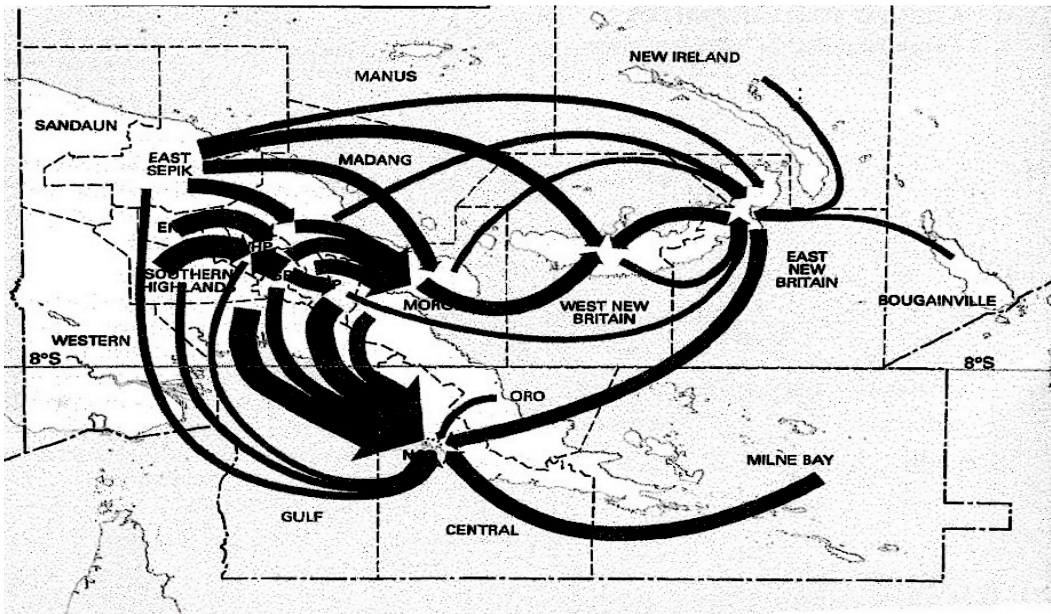
- A. Developed countries have a longer life expectancy than developing countries.
B. A family of four (4) in USA owns two (2) cars and a family of eight (8) in India does not own any car.
C. Rural areas are seriously affected during a drought and the people in urban areas are not affected at all during a drought.
D. In developing countries, there are twice as many people living with HIV in the urban areas compared to the rural areas.

QUESTION 12

The classification of countries into developed and developing countries is based on:

- A. Military Might B. Political System
C. Level of Economic Development D. Skin Color, Race and Religion

Study the map below on Migration prior to 1940 and answer questions 13 and 14.



QUESTION 13

People were migrating to Bulolo (Morobe Province) to _____

- A. visit relatives.
- B. work in the gold mines.
- C. work in the coffee plantations.
- D. rebuild the township of Bulolo.

QUESTION 14

What was the main reason for people migrating to Rabaul? To _____

- A. work on the coconut and cocoa plantations.
- B. work on the oil palm plantations.
- C. rebuild the township.
- D. work on the copper mine.

QUESTION 15

Which of these statements about **cloud** is false?

- A. Cloud is a form of condensation.
- B. Cloud is a form of precipitation.
- C. Clouds are a result of adiabatic cooling.
- D. Clouds are a cluster of vapour.

QUESTION 16

Which of these are the main features of an underground limestone cave?

- A. Interlocking spurs and sinkholes
- B. Horns and stalactites
- C. Peaks and stalagmites
- D. Stalactites and stalagmites

Read the paragraph below and answer questions 17 and 18.

People's movement and interaction from one place or region to another has been an important factor in the spread of civilization, cultural integration, and the spread of knowledge and technology. It is understood that migration is as ancient as man. There are many natural and man-made factors that **pull** and **push** people out of one area into another area.

QUESTION 17

Which of these is the main **push** factor for the migration of Carteret Islanders to mainland Bougainville?

- A. Continuous cyclone
- B. Drought
- C. Sea level rise
- D. Tsunami

QUESTION 18

Which of these is the main **pull** factor for people migrating out of Iraq?

- A. Peace and tranquility
- B. Economic prosperity
- C. Religious freedom
- D. Gender equality

Read the brief statement below and answer questions 19 and 20.

An essential requirement for most industries is adequate supply of energy. The most important primary sources of energy are coal, oil, natural gas, water and uranium. Alternative sources using the sun's rays, wind and waves are being developed.

QUESTION 19

Which of these sources of energy is used by Yonki Power Station to generate electricity supply?

- A. Oil
- B. Natural gas
- C. Water
- D. Solar radiation (sun's ray)

QUESTION 20

Which of these energy sources is a clean energy source that does not create air pollution and does not contribute to global warming?

- A. Wind
- B. Coal
- C. Oil
- D. Natural gas

Read the passage below and answer questions 21 to 23.

Life, the Atmosphere, and the Banded Iron Formation



Example of stromatolites in Shark's Bay Australia, deposited as much as 3.5 billion years ago by the photosynthetic cyanobacteria (commonly known as blue-green algae). A mat-like community of cyanobacteria covers the outer surface of stromatolites. Tiny particles of calcium carbonate collect among the filamentous organisms when the tide is high and water covers the structure; this slowly builds up thin layers of rock over time. About 2 billion years, stromatolites are probably a common feature on the earth, but today they only exist in only a few places.

The earth's rocks and the fossils in them help us to decipher some of the planet's history. The oldest known indication of life is found in 3.5-billion-year-old rocks that contain peculiar limestone structures called stromatolites, produced by and covered with a mat of fossilized marine cyanobacteria.

Chemical analysis of these ancient rocks shows that the cyanobacteria were photosynthetic. Because photosynthesis releases oxygen, dissolved oxygen gradually accumulated in the seawater. As the oxygen level increased, the gas eventually began to escape into the atmosphere leading to the modern oxygen-rich troposphere and ultra-violet-filtering stratospheric ozone. Together, these made possible the existence of life on land. One strand of evidence that the atmospheric oxygen was changing is that red sediments, colored by oxidized iron, appear in rocks approximately 2.5-2.8 billion years old.

The most economically important deposits of iron ore owe their existence to ancient cyanobacteria. Oxygen released into the ancient ocean by cyanobacteria combined with dissolved iron. This combination changed the iron to a less soluble form, which precipitated out of solution, and became parts of sediments. Over millions of years, these sediments formed the thick deposits of the Lake Superior Banded Iron Formation that are mined today in Minnesota and Michigan. This is a striking example of how life, the atmosphere, and the earth's crust have interacted over billions of years –another example of connections in nature.

QUESTION 21

Banded Iron Formation that is mined in parts of the world today is the result of an interaction between the;

- A. Biosphere and the Hydrosphere.
- B. Biosphere and the Lithosphere.
- C. Hydrosphere and the Lithosphere
- D. all four sphere of the natural environment.

QUESTION 22

Which of these is **not** true according to the passage?

- A. Carbon dioxide was built up in the atmosphere due to photosynthesis.
- B. Oxygen was built up in the atmosphere due to photosynthesis.
- C. Ozone was built up in the atmosphere due to photosynthesis.
- D. Ozone is found in the stratosphere.

QUESTION 23

Which of these statements is **not** true about cyanobacteria? They _____.

- A. are fossilized in stromatolites
- B. were the earliest known life-forms
- C. are photosynthetic organisms that produce oxygen
- D. lived in limestones 3.5 billion years ago

Read the passage below and answer questions 24 to 26.

Water and rights

The Affolé district of Mauritania is a region of villages scattered across a parched landscape. On the edge of the Sahara Desert, agriculture is a precarious business. Drought has always been an occupational hazard for the people who live there. Many of the subsistence farmers are former slaves, whose livelihoods rely on the infrequent and unreliable rains.

When at last it does rain, downpours can cause flash floods in minutes. Large floodwater dams, built by the French during colonial times to supply water for irrigation, have collapsed over the years. So the local people have adapted the idea to meet their own needs. They build *diguettes* – low stone or earth walls – along the contours of the land to trap runoff water. This increases the moisture in the soil so that crops can grow – a water harvesting technique. Unfortunately, in the drought years the *diguettes* do not guarantee a reasonable harvest; food may be in short supply for months at a time.

In 1983, Oxfam began to work with poor people in the Affolé to improve the *diguettes* and to develop other water-harvesting schemes. It gradually became clear that simply improving the water supply was of limited benefit without wider changes, both social and economic. Although water was concern for the farmers, they had other priorities. They wanted better health care, new grain stores, and improved ways to market and sell their produce locally. Their main worry was being in debt to rich merchants who would buy the farmers' crops in advance, then sell them back at vastly inflated prices in times of scarcity.

To Oxfam, the Affolé's main problem at first seemed to be an environmental one – lack of water. Applying a technical solution to what appeared to be a technical problem uncovered far wider needs that required social action. A decade after the water-harvesting began, the people of the Affolé had evolved a wide range of community initiatives to find solutions to their problems. Women's groups are especially active, running small shops that cater for the community's basic needs, rather than relying on travelling traders who charge extortionate prices. Cereal banks have also been set up. The grain can now be stored the whole year round, freeing the farmers and their families from the profiteering of the grain merchants.

QUESTION 24

Which of these statements is correct according to the passage? The Affolé' _____.

- A. people's economic security depends on soil type
- B. people are economically secured
- C. district receives a lot of rainfall in a year
- D. people's economic security depends on water

QUESTION 25

Which of these is the main cause of a 'flash flood'? A _____.

- A. drought
- B. steep slope
- C. very heavy rainfall
- D. non-porous and impermeable rock

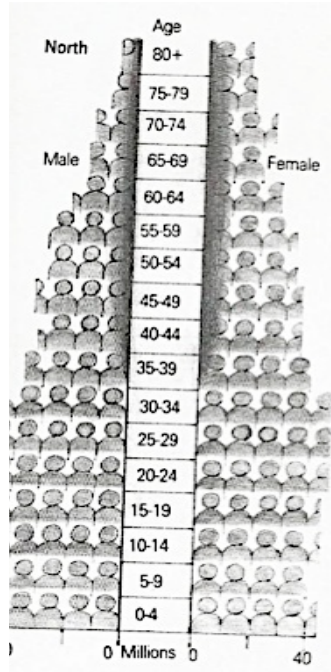
QUESTION 26

Floodwater dams and *diguettes* are equivalent of _____

- A. bore water
- B. tanks and drums
- C. rivers
- D. rainfall

QUESTION 27

Study the population pyramid below and answer question 27.

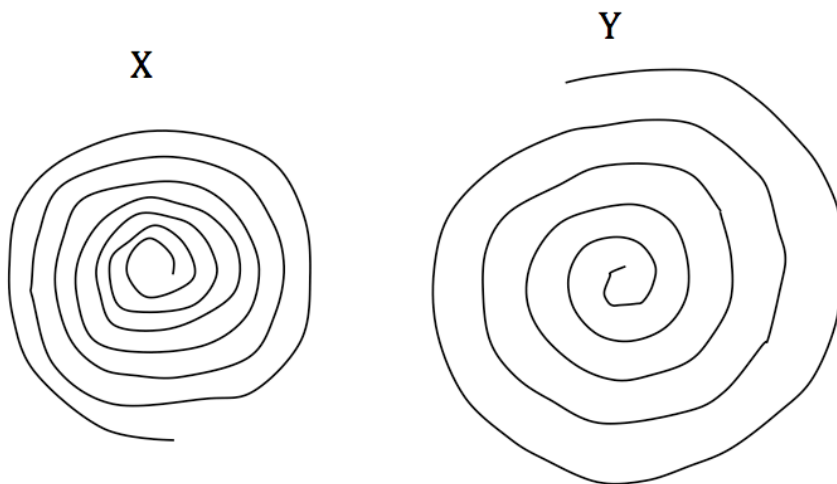


Which of these statements is **not** correct according to the population pyramid?

- A. A country that best fits this pyramid is Germany
- B. This country has a low life expectancy.
- C. This country has a low birth rate.
- D. This country has a high literacy rate.

QUESTION 28

Study the two pressure systems below and answer question 28.

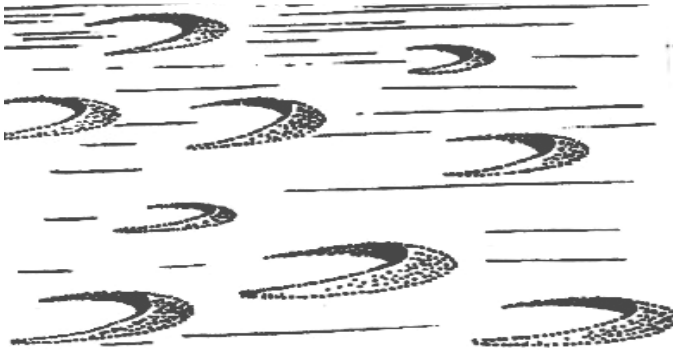


Which of these statements is correct about the two pressure systems?

- A. The wind is moving out of X and into Y.
- B. Pressure is measured in percentage.
- C. The lines used to join areas of equal pressure as shown above are called isotherms.
- D. Y is a cyclonic or depression area.

QUESTION 29


Below is a group of barchans.




Choose the direction of the prevailing wind that is responsible for the formation of these types of sand dunes.

A. 

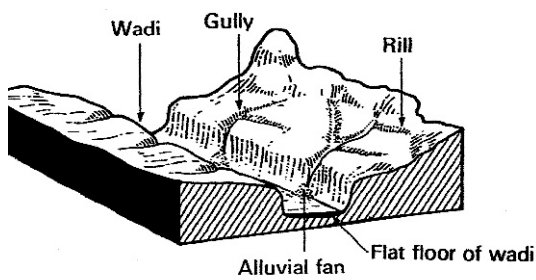
B. 

C. 

D. 

QUESTION 30

Erosion in the desert results in the formation of the features shown in the diagram.



Which agent of erosion is responsible for creating these features?

A. Wind

B. Water

C. Ice

D. Sand

PART B: SHORT ANSWER**(QUESTION 31 to 40)****70 MARKS****Write all the answers to the questions on the Answer Booklet provided.****QUESTION 31**

Write all the answers to the questions on the Answer Booklet provided.

a) Write down the 4-figure grid square references for:

- (i) Amaki No. 01 1 mark
- (ii) Ambunti Airfield 1 mark
- (iii) Yambon gate 1 mark
- (iv) Avatip School 1 mark

b) Write down the 6-figure grid square reference for:

- (i) Bangwis 1 mark
- (ii) Yessan 1 mark
- (iii) Ablatak 1 mark

QUESTION 32

Below are given grid square references from the map of Ambunti, labeled A, B, C, D, E, F and G; and seven types of social, cultural and economic land uses that can be found on the map.

Grid references

A	B	C	D	E	F	G
6756	0232	9536	9432	1537	2045	0733

Identify the grid square from this list in which the following land use types can be found and write the letter A, B, C, D, E and G next to the name of the land used.

- i) Melawei Village 1 mark
- ii) Warasai Landing Ground 1 mark
- iii) Waskuk village 1 mark
- iv) Malu Gardens 1 mark
- v) Japandai Gardens 1 mark
- vi) Yau'umbak village 1 mark
- vii) Ambunti village 1 mark

QUESTION 33

- (i) What is the distance in kilometers from the highest peak of Waskuk hills to Beglam village? 1 mark
- (ii) What are the altitudes of these **two** locations?
 - a) Nambolo River 1 mark
 - b) Warasai Landing Ground 1 mark
- (iii) What is the change in altitude from the highest peak of Waskuk Hills to Beglam village? 1 mark

- (iv) Using your answers from (i) and (iii) above, calculate the approximate gradient from the highest peak of Waskuk Hill to Beglam village. 3 marks

QUESTION 34

Listed below are four countries. Write the letter of the country that best fits the geographical descriptions provided.

A. Germany B. Papua New Guinea C. Indonesia D. Japan

- (i) Which country has the smallest population? 1 mark
- (ii) Which country has a negative growth rate? 1 mark
- (iii) Which country has the largest number of islands? 1 mark
- (iv) Which country is the largest Muslim country in the world? 1 mark
- (v) In which country's major cities is air pollution a serious environmental problem? 1 mark
- (vi) Which country has never and will never experience a tsunami? 1 mark
- (vii) Which country is known for its land reclamation from the sea due to its mountainous nature? 1 mark

QUESTION 35

Below is a cloze passage on world pressure systems and world winds.

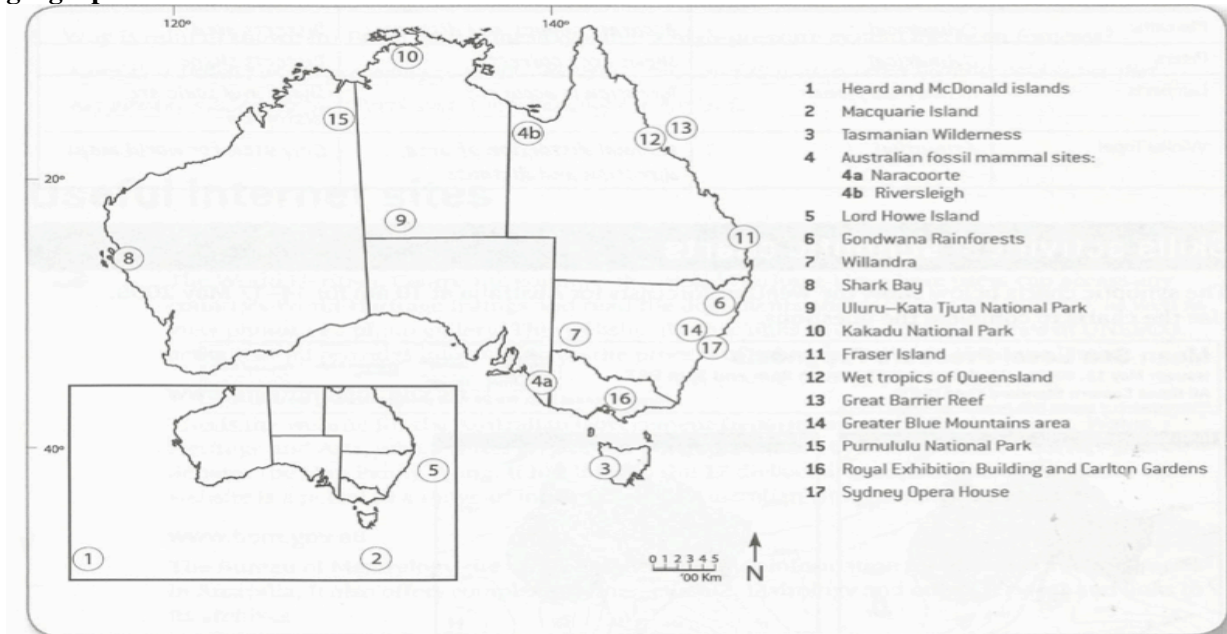
Choose a suitable word from the list of words given for each blank in the passage. Some words can be used more than once. 7 marks

Missing words: low, high, 23½; 30, 60, 66½, Polar, Trade, Westerlie

Wind is the surface movement of air from an area of ____ (i) ____ pressure to an area of ____ (ii) ____ pressure. There are 7 world pressure belts and 6 world winds. The equator is heated the most creating a ____ (iii) ____ pressure at 0°. Warm air rising at the equator cools at ____ (iv) ____ degrees north and south of the equator. This cool dense air descending at these two latitudes creates a High Pressure System called the Horse Latitude. The two poles receive the least amount of solar radiation resulting in ____ (v) ____ temperatures that create ____ (vi) ____ pressure systems at 90° N and 90° S. This dense sinking air hits the Earth's surface at 90° north and south and move as surface winds to 60° degrees north and south of the equator. The winds that move from the Horse Latitudes to the equator are called the ____ (vii) ____ Winds.

QUESTION 36

Study the map of Australia and answer question 35. Choose one site number only that fits the geographical statements below.



- (i) Which site 3,7,9 or 12 is located where sugarcane is farmed? 1 mark
- (ii) Which site 8,9,10 or 16 is located in a tropical wet and dry climate? 1 mark
- (iii) Which site 1,10,11 or 17 will be the coldest in winter due to the factor of latitude? 1 mark
- (iv) Which site 2,5,8 or 9 will be the coldest in winter due to the factor of distance from the sea? 1 mark
- (v) Which site 3,8,10 or 17 is located in an area with the highest urbanization in Australia? 1 mark
- (vi) Which site 4a, 4b, 7 or 9 is located within the deserts of Australia? 1 mark
- (vii) Which site 1,10,11 or 17 is the first to see sunlight everyday? 1 mark

QUESTION 37

Complete the table below on weathering. Some parts have been done for you.

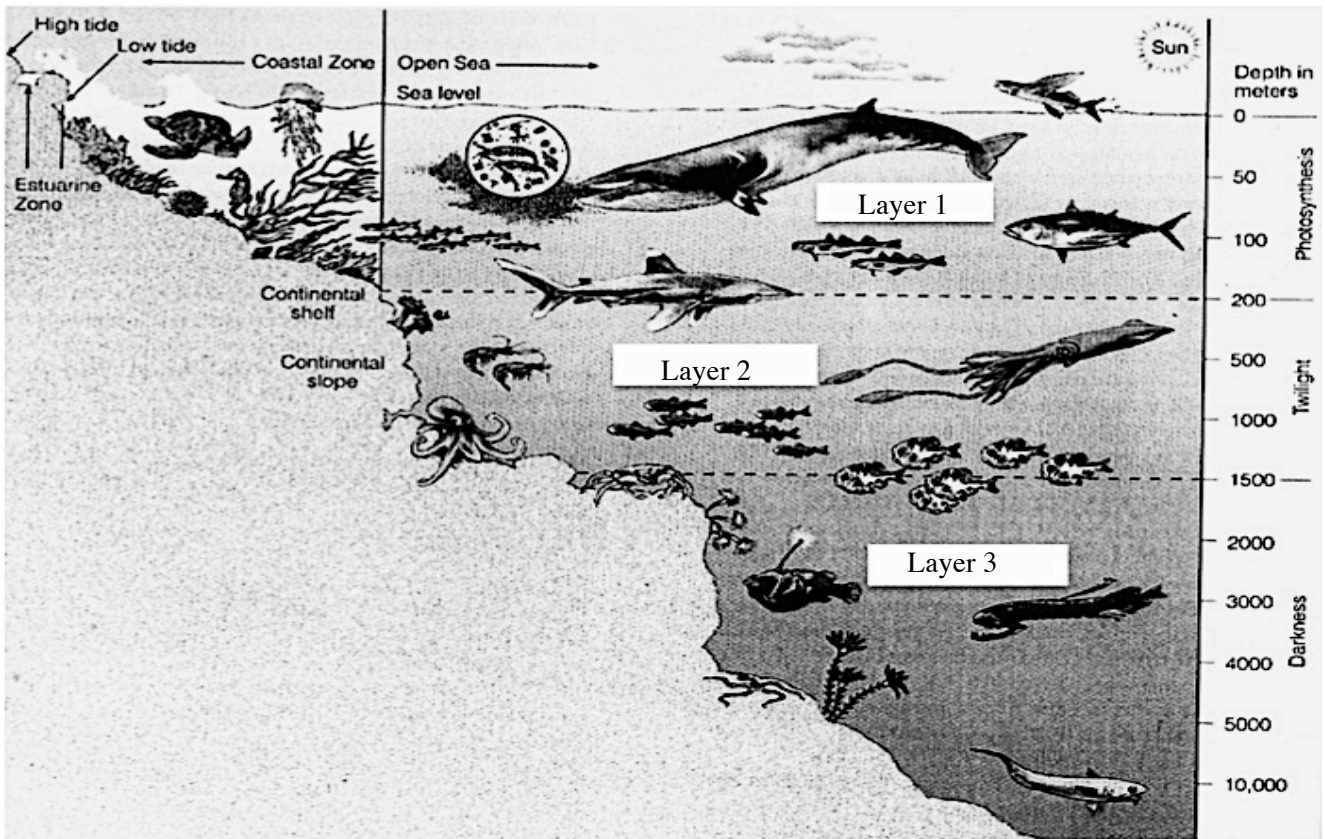
Write either the **agent** of weathering or the **process** of weathering for each blank.

7 marks

PHYSICAL WEATHERING	CHEMICAL WEATHERING	BIOLOGICAL WEATHERING
Agent: Temperature Process: Insolation	Agent: _____(iii)_____ Process: Solution/ Hydration	Agent: _____(vi)_____ Processes: roots (growth) : decomposition
Agent: Ice Process: ____ (i) ____	Agent: Oxygen Process: ____ (iv) ____	Agent: _____(vii)_____ Processes: burrowing : salivation : excretion : urination : decomposition
Agent: Salt Process: ____ (ii) ____	Agent: Carbon dioxide Process: ____ (v) ____	
Agent: Temperature and Pressure Process: Pressure Release		

QUESTION 38

Study the picture and information on Major Life Zones in an Ocean and answer the questions.



The statements below describe the 3 zones of the open sea.

Read and Match the zones correctly with the layers of the ocean. The layers 1, 2 and 3 are shown in the picture. 3 marks

- (i) Bathyal Zone – does not support photosynthesizing due to little penetration of sunlight to its depth.
- (ii) Abyssal Zone – contains high level of nutrients. It is very cold and has little dissolved oxygen.
- (iii) Euphotic Zone – contains high level of dissolved oxygen and supports photosynthesis.

Planktons are divided into three categories.

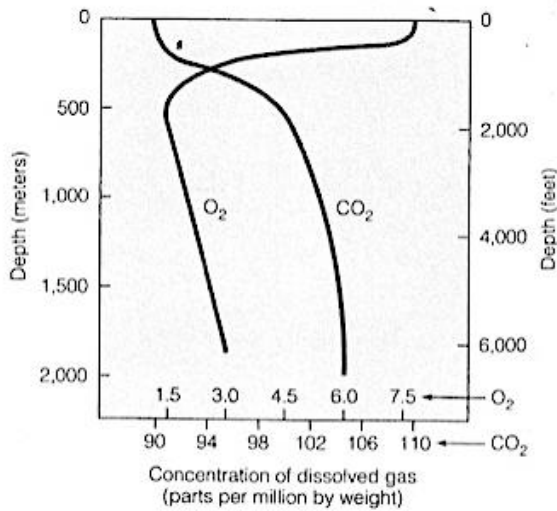
Type	Description
Phytoplankton	Free floating microscopic photosynthetic cyanobacteria and many types of algae. They are the producers that support most aquatic food chains and food webs.
Nano plankton	Recently rediscovered and much smaller than phytoplankton. At a lower degree, they are also responsible for production and sustaining food chain and food webs.
Zooplankton	Non-photosynthetic primary consumers. Primary consumers and other secondary consumers feed on zooplankton

(iv) Which type of plankton is responsible for supporting **most** of the sea life? 1 mark

(v) What is the depth range in meters in which most respiration happen and oxygen is released as the by-product? 1 mark

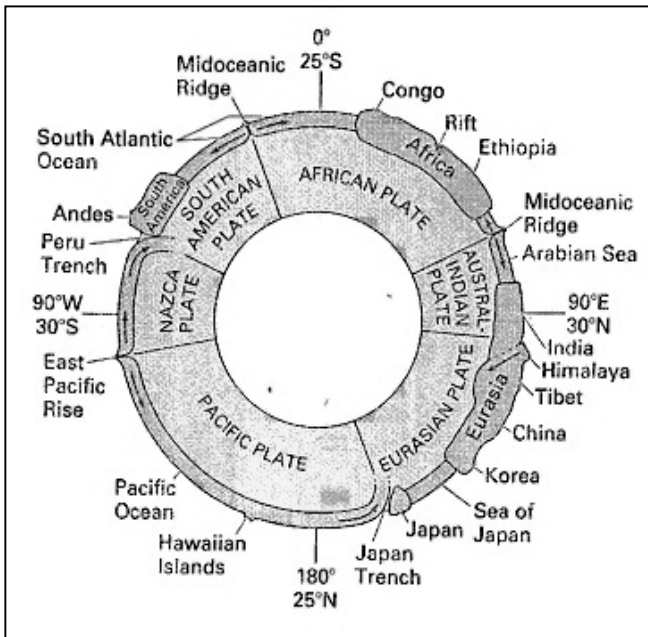
(vi) Referring to the graph below, what is the relationship between:

- a. O₂ production and ocean depth? 1 mark
- b. CO₂ production and ocean depth? 1 mark



QUESTION 39

Study the figure below and answer the questions.

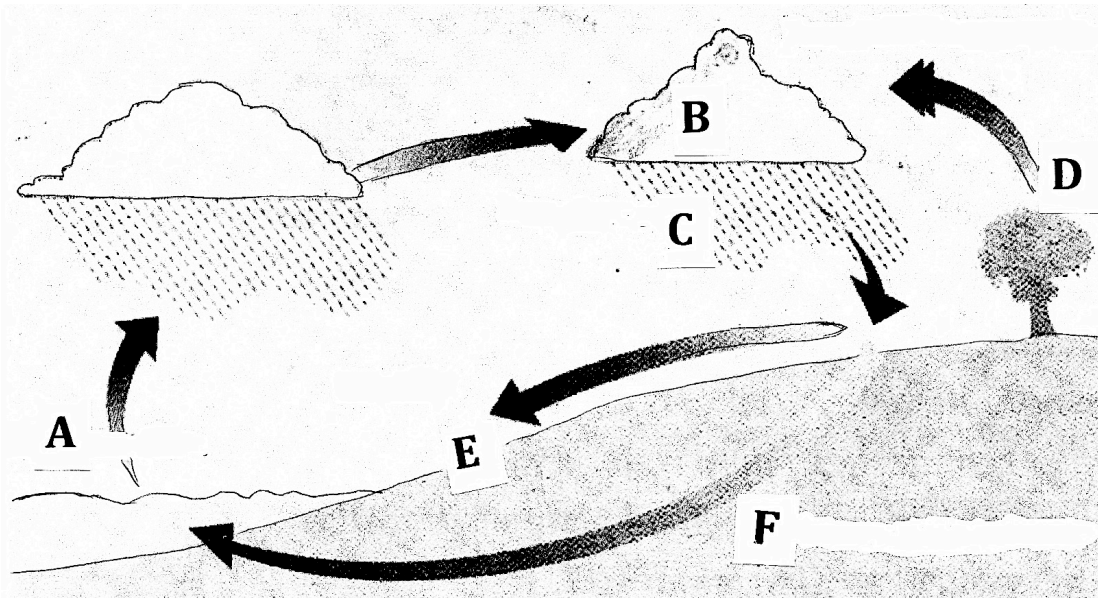


- i) How many **major** lithospheric plates are there? 1 mark
- ii) Name the type of plate movement between the Nazca Plate and the Pacific Plate. 1 mark
- iii) Name the general type of landform created at the boundary of the Nazca Plate and the Pacific Plate. 1 mark
- iv) What type of plate movement is responsible for creating the Japan Trench? 1 mark
- v) Which two plates were responsible for the formation of the Peru Trench? 1 mark

- vi) Where is the mid oceanic ridge formed as a result of the plate movement of the African Plate and the Austral-Indian Plate? 1 mark
- vii) The Hawaiian Islands were formed: - 1 mark
 - a. from a chain of submarine volcanoes on the Pacific Plate
 - b. by the subduction of the Pacific Plate under the Eurasian Plate.
 - c. The convergence of the Pacific Plate and the Eurasian Plate.

QUESTION 40

Study the diagram below illustrating the “Water Cycle” and answer the questions.



- (i) Name the processes represented by letters A, B and C on the diagram. 3 marks
- (ii) **Define** the process at C. 1 mark
- (iii) The process in which trees release water vapour into the atmosphere is known as _____. 1 mark
- (iv) Name the process at E. 1 mark
- (v) Name the process in the water cycle whereby water enters soils and rocks. 1 mark

END OF EXAMINATION

GEOGRAPHY PAPER - 2015

PART B - ANSWER BOOKLET

Write your name, your province and school codes and your candidate number correctly and clearly in the space provided below.

Year		Province		School			Candidate No		
1	5								

Candidate Name: _____

School Name: _____

ANSWERS WRITTEN ON THE QUESTION PAPER OR ANY OTHER PAPER WILL NOT BE MARKED. WRITE ANSWERS NEATLY IN THE SPACES AS PROVIDED IN THIS ANSWER BOOKLET.

FOR MARKERS USE ONLY

	Score	Markers' Initials	
		M1	M2
Question 31			
Question 32			
Question 33			
Question 34			
Question 35			
Question 36			
Question 37			
Question 38			
Question 39			
Question 40			
TOTAL			

PART: B SHORT ANSWERS

For questions 31 to 33, use the same topographic map of AMBUNTI 1:50 000 to answer these questions.

<p>QUESTION 31</p> <p>(a) Write down the 4-figure grid square references for</p> <p>i) Amaki No. 01 _____</p> <p>ii) Ambunti Airfield _____</p> <p>iii) Yambon gate _____</p> <p>iv) Avatip School _____</p> <p>(b) Write down the 6-figure grid square references for</p> <p>i) Bangwis _____</p> <p>ii) Yessan _____</p> <p>iii) Ablatak _____</p>	<p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p>
<p><i>For Markers Use Only</i></p>	<p>Q31 TOTAL</p>

QUESTION 32

Write the letter next to the name of the land use.

- | | | |
|----------------------------|-------|-----|
| i) Melawei Village | _____ | (1) |
| ii) Warasai Landing Ground | _____ | (1) |
| iii) Waskuk Village | _____ | (1) |
| iv) Malu Gardens | _____ | (1) |
| v) Japandai Gardens | _____ | (1) |
| vi) Yau'umbak Village | _____ | (1) |
| vii) Ambunti Village | _____ | (1) |

For Markers Use Only

Q32 TOTAL

<p>QUESTION 33</p> <p>i) _____</p> <p>ii) a) Nambolo River _____</p> <p>b) Warasai Landing Ground _____</p> <p>iii) _____</p> <p>iv) _____ (Show your working out)</p>	<p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(3)</p>
<p><i>For Markers Use Only</i></p>	<p>Q33 TOTAL</p>

QUESTION 34		
i) _____		(1)
ii) _____		(1)
iii) _____		(1)
iv) _____		(1)
v) _____		(1)
vi) _____		(1)
vii) _____		(1)
<i>For Markers Use Only</i>	Q34 TOTAL	

QUESTION 35		
i) _____		(1)
ii) _____		(1)
iii) _____		(1)
iv) _____		(1)
v) _____		(1)
vi) _____		(1)
vii) _____		(1)
<i>For Markers Use Only</i>	Q35 TOTAL	

QUESTION 36		
i) _____		(1)
ii) _____		(1)
iii) _____		(1)
iv) _____		(1)
v) _____		(1)
vi) _____		(1)
vii) _____		(1)
<i>For Markers Use Only</i>	Q36 TOTAL	

QUESTION 37		
i) _____		(1)
ii) _____		(1)
iii) _____		(1)
iv) _____		(1)
v) _____		(1)
vi) _____		(1)
vii) _____		(1)
<i>For Markers Use Only</i>	Q37 TOTAL	

QUESTION 38		
i) Bathyal zone: _____		(1)
ii) Abyssal zone: _____		(1)
iii) Euphotic zone: _____		(1)
iv) _____		(1)
v) _____		(1)
vi) a. _____		(1)

b. _____		(1)

<i>For Markers Use Only</i>	Q38 TOTAL	

QUESTION 39		
i) _____		(1)
ii) _____		(1)
iii) _____		(1)
iv) _____		(1)
v) _____		(1)
vi) _____		(1)
vii) _____		(1)
<i>For Markers Use Only</i>		Q39 TOTAL

QUESTION 40		
i) A: _____		(1)
B: _____		(1)
C: _____		(1)
ii) _____		(1)
iii) _____		(1)
iv) _____		(1)
v) _____		(1)
<i>For Markers Use Only</i>		Q40 TOTAL