



DEPARTMENT OF
EDUCATION

UPPER SECONDARY
SCHOOL CERTIFICATE
EXAMINATIONS

GEOGRAPHY

THURSDAY

20 October 2011

Time allowed:

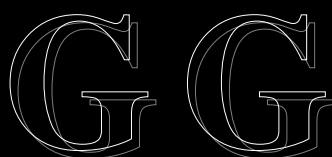
2 hours 30 minutes

(8:00am – 10:30 am)

NO EXTRA TIME

(NO OTHER TIME)

Candidates are advised to
fully utilise the allocated time



INSTRUCTIONS TO CANDIDATES:

(To be read out by the external invigilator)

1. The subject code for **Geography** is **13**
2. There are **16 printed** pages in the question booklet and **8 printed** pages in the answer booklet.

You will be given an extract of the Papua New Guinea **Topographic survey NADZAB 1:100 000** for use in this examination.

3. There are **two sections** to this examination. Answer all questions

SECTION A: MULTIPLE CHOICE QUESTIONS – (30 marks)

This section will be **electronically marked**.

Electronic Answer Sheet will be distributed by your external invigilator. All answers to the Multiple Choice Section **MUST** be answered on this Answer Sheet.

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

SECTION B: SHORT ANSWER QUESTIONS – (70 marks)

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

4. You are required to only write the correct answers in the space provided.
5. Calculators may be used.
6. Answers written on the question paper will not be marked. Write answers neatly in spaces as allocated on the answer sheet. Answer ***ALL*** questions.
7. Answer all questions on the answer sheet. Answers on any other paper including rough work paper and the question paper **will not be marked**.
8. Correctional Fluid is **not allowed** on the answer sheet. Where you have made an error, cross out the wrong answer and start on a new line.

The 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.

SECTION A: MULTIPLE CHOICE**(Questions 1 to 30) 1 mark each**

Answer each question by shading in with HB pencil, the circle directly under the correct alternative A, B, C, D or E.

If you make a mistake, rub it out completely using an eraser rubber and shade the correct answer on the Electronic Answer Sheet.

For questions 1 to 10 use the Topographic map: Nadzab 1:100 000 to answer them.

QUESTION 1

What is the approximate total area, in square kilometres, covered by the map?

- A. 1500 B. 3000 C. 3500 D. 4000 (1)

QUESTION 2

The scale of the Nadzab map is 1:100 000

This means that

- A. the map covers 100 square kilometres.
B. the map covers 100,000 square kilometres.
C. 1 kilometre of distance in the Huon Gulf Area is represented by 1 centimetre on the map.
D. 100 kilometres of distance in the Huon Gulf Area is represented by 1 centimetre on the map. (1)

QUESTION 3

In what direction is the Buang River flowing between grid references 860373 and 920390?

- A. Southeast B. Southwest C. Northeast D. Northwest (1)

QUESTION 4

The map shows that the area three kilometres west of Labu Bay is predominantly covered by

- A. rainforest B. tree swamp C. mangrove D. nipa (1)

QUESTION 5

The map shows that the waters immediately to the northeast of Schneider Point indicates

- A. sand B. foreshore flat C. coastline indefinite D. rock bare (1)

QUESTION 6

What is the approximate bearing required to sail directly from Milford Haven to Labubutu school?

- A. 045° B. 070° C. 180° D. 225° (1)

QUESTION 7

If Marco and Taicoon wish to walk from Schneider Point (975275) to Labu Bay (956534). What would be the approximate coastline distance they would have travelled, in kilometres, between the two areas.

- A. 25 B. 30 C. 35 D. 40 (1)

QUESTION 8

What riverine feature is found in grid square 4661?

- A. sandbar B. meander C. streamline D. Ox bow lake (1)

QUESTION 9

How many other rivers on the map flow into the big Markham river?

- A. 2 B. 4 C. 6 D. 7 (1)

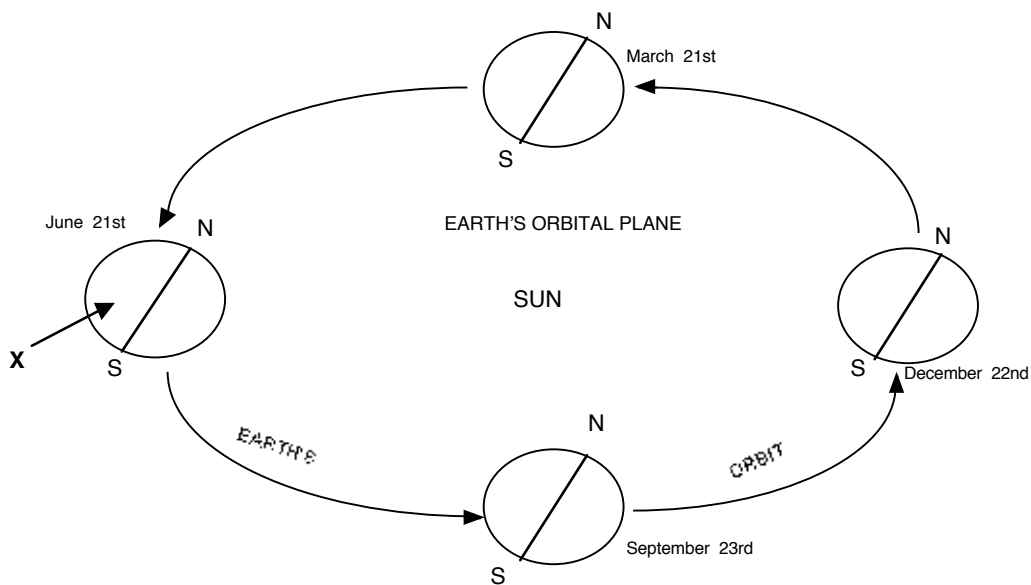
QUESTION 10

The major agricultural commodity found around Mumeng would be

- A. tea B. cocoa C. coffee D. coconut (1)

QUESTION 11

The diagram below represents the revolution of the earth around the sun.



Which of the following statements is TRUE for position X?

- A. Day and night are equal all over the world.
- B. Japan has its longest hours of daylight.
- C. It is winter in North America.
- D. New Zealand has its longest hours of daylight.
- E. The North Pole is in darkness all day long.

QUESTION 12

Which of the following statements about conditions on March 21st are correct?

- i. The sun is vertically overhead at the Tropic of Cancer.
- ii. The equator has 12 hours day and 12 hours night.
- iii. The sun is vertically overhead at the Tropic of Capricorn.
- iv. The Arctic circle has 24 hours of darkness.
- v. The sun is vertically overhead at the equator.

- A. I and iv
- B. ii and iii
- C. ii and v
- D. iv and v

QUESTION 13

Which of the following statements most accurately describes a coral atoll?

- A. bar at a river mouth
- B. circular reef enclosing a lagoon
- C. gap in a coral reef
- D. reef separated from the coast by a lagoon

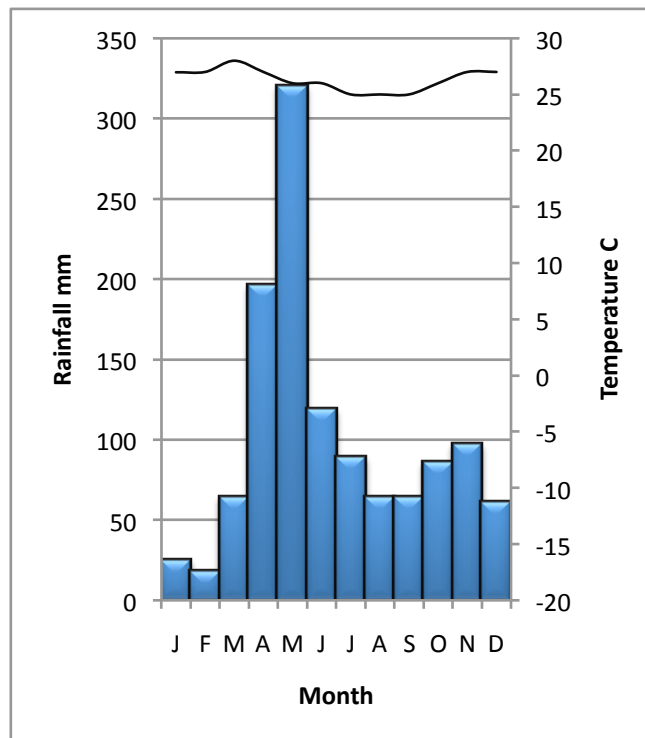
QUESTION 14

What type of farming does the following sentence describe?

“One crop is usually grown on a large estate and produced for a predominantly export market”.

- A. Intensive farming
- B. Market gardening
- C. Mixed farming
- D. Plantation agriculture
- E. Shifting cultivation

For questions 15 & 16 refer to the climate graph



QUESTION 15

What type of climate is represented in the above climate graph?

- A. Mediterranean
- B. Cool Temperate margin
- C. Savanna
- D. Warm Temperate Eastern margin

QUESTION 16

What type of commercial agricultural practise associated with this climate condition?

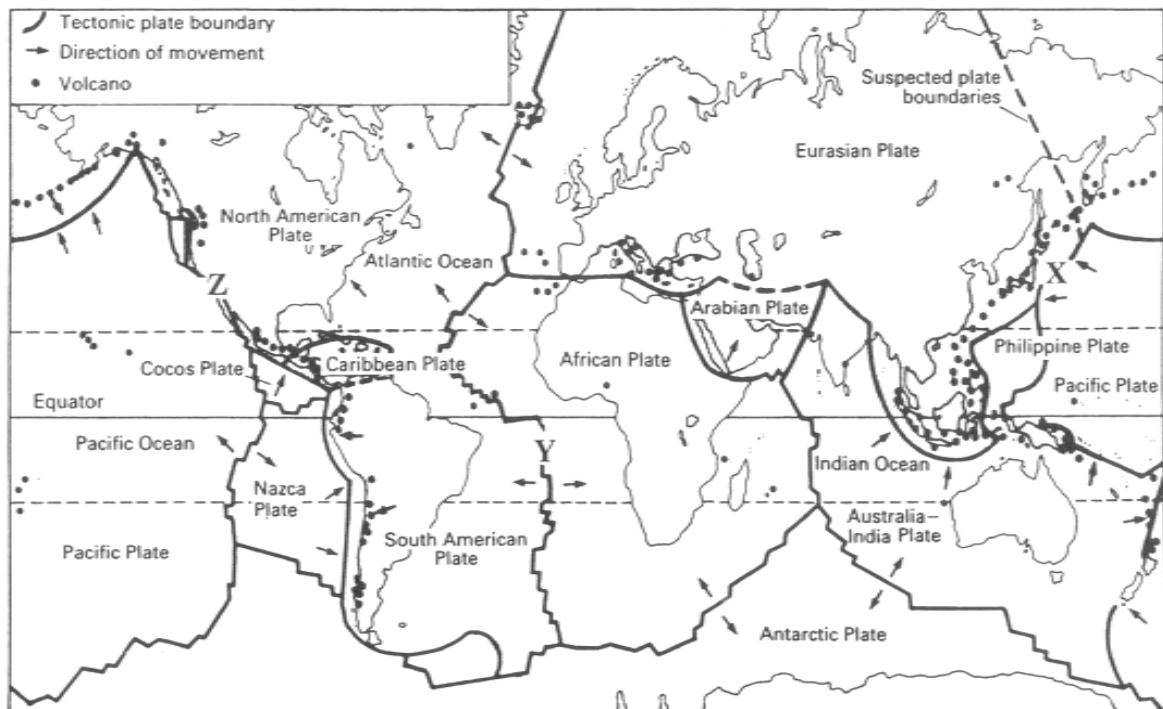
- A. mixed farming
- B. sheep and wheat farming
- C. cattle ranching
- D. Dairy

QUESTION 17

The meeting of relatively warm and cold air masses usually causes _____

- A. relief rain.
- B. cyclonic rain.
- C. orographic rain.
- D. convectional rain.

For questions 18 to 20 refer to the Plate tectonic map below.



QUESTION 18

What natural phenomena was created earlier this year 2011 as a result of tectonic activity at location X causing devastating effects to its surrounding areas .

- A. Volcanic eruption
- B. Tsunami
- C. Flooding of low lying areas
- D. Typhoon

QUESTION 19

Which tectonic feature would be found at location Y.

- A. Fold mountain
- B. Deep ocean trench
- C. Mid-ocean ridge
- D. Island arc

QUESTION 20

Name the mountain range located at letter Z.

- A. Andes
- B. Rockies
- C. Himalayas
- D. Great Dividing

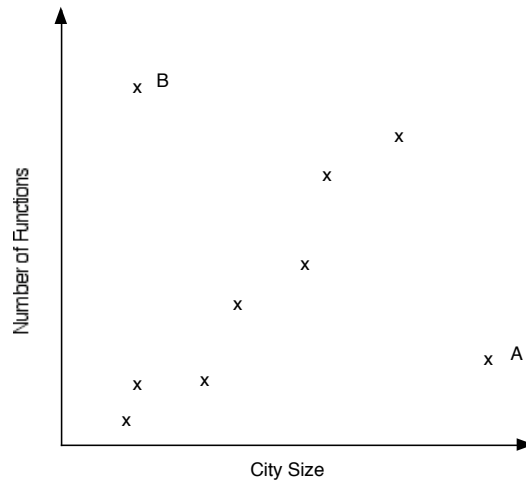
QUESTION 21

The term “Green Revolution” refers to the

- A. movement of people from rural to urban areas in developing countries.
- B. increasing of crop yields by using modern methods of production.
- C. formation of farmer’s co-operatives to improve crop production with shared expertise.
- D. reclamation of areas of land from the sea for agricultural use.

QUESTION 22

The scatter graph below shows the relationship between city size and the number of functions performed by the city.



- I The larger the city, the more functions it usually has.
- II City A is greatly under-serviced
- III City B is greatly over-serviced
- IV Both cities are under-serviced
- V City A is probably Tokyo.

Which of the above statements are *true*?

- A. I, II and IV
- B. I, III and V
- C. II, III and V
- D. I, II and III

QUESTION 23

“Rock surfaces heat up rapidly when exposed to the sun, and the surface layers expand and crack. At night, when the temperature falls rapidly, the same layers contract and more cracks develop. Repetition of this heating and cooling cycle leads to the breaking away of the surface layers.

The process described above is

- A. chemical weathering
- B. freeze-thaw action
- C. exfoliation
- D. intrusion

QUESTION 24

In which type of rock are swallow holes and caves with stalactites and stalagmites found?

- A. basalt
- B. granite
- C. limestone
- D. sandstone

Questions 25 to 27 refer to the information below.

Living standards in the world's megacities

Mega-city	Public safety	Food costs	Housing standards	Education	Traffic flow	Urban living standard score
Cairo	56.4	47	94	53	12.4	36
Lagos	—	58	50	31	17.4	19
Buenos Aires	7.6	40	86	51	29.8	55
Lima	—	70	82	55	3.7	33
Mexico City	27.6	41	94	62	8.0	38
Rio de Janeiro	36.6	26	92	55	18.6	51
São Paulo	26.0	50	100	67	15.0	50
Bangalore	2.8	62	67	60	16.0	37
Bangkok	7.6	36	76	71	13.0	42
Beijing	2.5	52	89	97	25.7	55
Mumbai	3.2	57	85	49	10.4	35
Calcutta	1.1	60	57	49	13.3	34
Dhaka	2.4	63	73	37	21.4	32
Delhi	4.1	40	66	49	14.0	36
Istanbul	3.5	60	89	67	11.2	42
Jakarta	5.3	45	85	77	16.3	40
Karachi	5.7	43	75	65	17.6	36
Manila	30.5	38	91	67	7.2	43
Seoul	1.2	34	100	90	13.8	58
Shanghai	2.5	55	95	94	15.3	56
Tehran	—	—	84	58	7.5	39
Tianjin	2.5	52	82	71	20.2	51
Los Angeles	12.4	12	94	90	19.0	69
Moscow	7.0	33	100	100	31.5	64
New York	12.8	16	99	95	8.7	70
Osaka	1.7	18	98	97	22.4	81
Paris	2.4	21	99	99	8.5	72
Tokyo	1.4	18	100	97	28.0	81

Notes:

- Public safety: murders per 100 000 people
- Food costs: present income spent on food
- Housing standards: percentage of homes with water/electricity
- Education: percentage of children in secondary school
- Traffic flow: miles per hour in rush hour
- Urban living standard score, ranking from 100 to 0: 100–75, very good; 74–60, good; 59–45, fair; 44 and below, poor

Source: Population crises committee, Washington, DC.

QUESTION 25

Which city in a developing country had the highest housing stand?

- A. Lagos B. Sao Paulo C. Karachi D. Seoul

QUESTION 26

Name the city which is most unsafe for people to reside in?

- A. Rio de Janeiro B. Cairo C. Calcutta D. Seoul

QUESTION 27

Which city has the highest traffic congestion?

- A. Moscow B. Tokyo C. Lima D. Manila

Which of the following features was ***not*** formed by the action of water on limestone?

- A. Vertically standing and hanging deposits of calcium carbonate.
- B. Flat beds of rock grooved and furrowed by chemical weathering
- C. A stack formed because of the collapsed of the arch from the headland.
- D. A tributary valley which has joined the main valley at a level above the base of the valley.

QUESTION 29

The sea current which warms the coast of Japan is known as the

- A. Benguela current
- B. Gulf stream
- C. Kuro Siwo
- D. Humboldt current

QUESTION 30

“There are a number of features that are common to Third World cities that distinguish them from the contemporary Western city.”

Which of the following features is typical of a large Western city but ***not*** of most large Third World cities.

- A. service industries are more important than manufacturing industries.
- B. there is obvious separation of residential and commercial zones
- C. extensive squatter settlements are found on the outskirts
- D. total populations are constantly growing because of urban drift

SECTION B: SHORT ANSWER QUESTIONS

(Questions 31 to 45)

For questions 31 to 38 use the same topographic map: NADZAB 1:100 000 to answer the questions.

QUESTION 31

What feature is named in grid square reference 9252? _____ (1)

QUESTION 32

Write down the 4 - figure grid square references for

- i) Wampit School _____ (1)
- ii) Markham bridge _____ (1)

iii) Lae golf course _____ (1)

QUESTION 33

Write down the 6 - figure grid references for

i) Forestry Camp _____ (1)

ii) Momsalom village _____ (1)

iii) Mount Shungoi _____ (1)

QUESTION 34

Which agricultural cash commodity is found in grid square 5771? _____ (1)

QUESTION 35

What two evidences are there on this map to show that the Watut river has changed its course several times in the past.

(2 marks)

QUESTION 36

i) Name the feature at grid reference 789757. _____ (1)

ii) Explain its purpose?

(2 marks)

QUESTION 37

Below are five grid square references from the map, labelled A, B, C, D, E and F.

Grid references:

A	B	C	D	E	F
7644	5567	9975	7566	8075	9128

Identify the grid square from this list in which the following vegetations can be found, and write the letter, A, B, C, D, E or F, next to the name of the vegetation.

(i) savannah _____ (1)

(ii) secondary growth _____ (1)

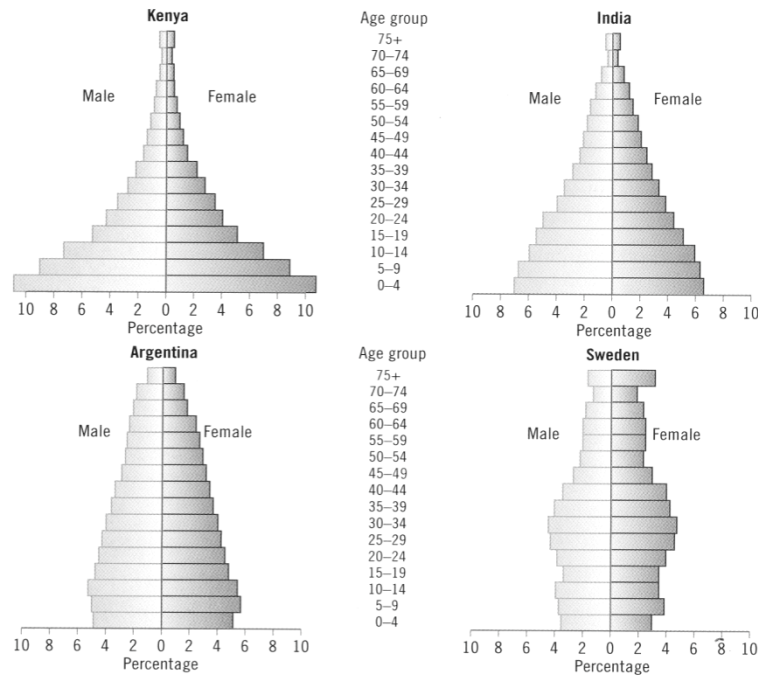
(iii) grassland _____ (1)

(iv) rainforest _____ (1)

- i) Name the feature found in grid square 531735. _____ (1)
- ii) What is the cause of the feature found there?

(2 marks)

QUESTION 39 refer to the population pyramids



Source: Complete Geography, (1998) Oxford University Press

- i.
- (a) Explain why less economically developed countries have a rapidly expanding population. (1 mark)
- (b) What problems will this cause? (2 marks)
- ii.
- (a) Which country had its female population above the age group of 70+ living longer than the males? (1 mark)
- (b) Give a reason for their longer life expectancy. (1 mark)
- iii. India has almost an evenly distributed population from the pyramid. State two reasons on how it has managed to control its population. (2 marks)
- iv. Kenya experiences a higher younger dependency ratio. Calculate the percentage of its younger population between the ages of 0 – 9 years old. (1 mark)

Study the different types of coastlines and answer question 40

Photograph.1



Photograph.2



Photograph.3



QUESTION 40

There are three common types of coastlines; a fjord, a raised beaches and a ria.

- i. From the photographs identify and name each correct type of coastline (3 marks)
- ii. For each photograph, explain how each type of coastline was formed. (3 marks)
- iii. State one reason why many coastlines are being drowned? (1 mark)

QUESTION 41

Mining and petroleum activities in Papua New Guinea have increased in recent years. This activities have brought many benefits like employment opportunities, landowner business spin-offs and also not forgetting the negative social and environmental impacts.

Ramu Nickel Mining in Madang Province developed by a Chinese Company is an example. The company plans to Deep Sea Tailing into the Basamuk Sea.

- i. Explain the Concept of Deep Sea Tailing. (1 mark)
- ii. What would be the specific environmental impacts the Deep Sea Tailing could have on;
 - (a) the coastal villagers. (2 marks)
 - (b) the marine life. (2 marks)
- iii. Suggest two ways on how the environmental damages from the mining could be avoided or minimized through out Papua New Guinea. (2 marks)

For question 42, refer to the photographs

SOIL CONSERVATION

Photograph.1



Photograph. 2



Photograph.3



Source: Complete Geography, (1998) Oxford University Press

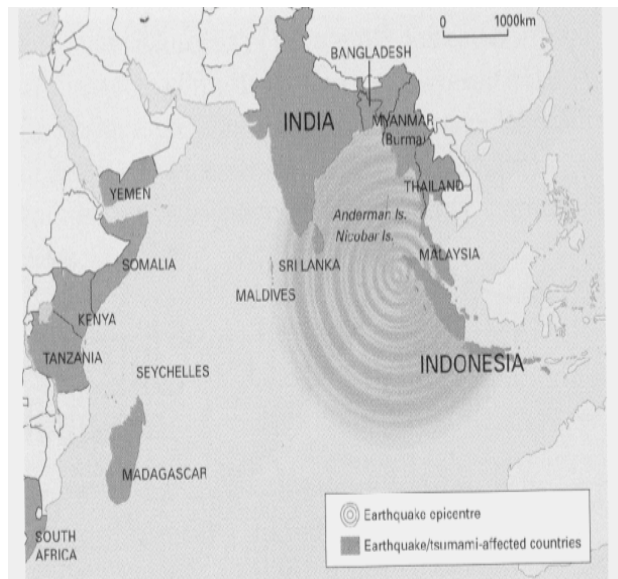
QUESTION 42

Soil erosion is a very real problem. Many countries suffering from its effects are seeking effective ways to conserve what soil they have left and to try and prevent further soil erosion in the future.

- i. Identify and name the type of soil conservation in each photograph above? (3 marks)
- ii. Explain how each soil conservation method is maintained in each photograph. (3 marks)
- iii. State any two methods that cause soil degradation. (2 marks)

Use the map and table to answer question 43

TSUNAMI AFFECTED REGION



ESTIMATED HUMAN IMPACT (2004 TSUNAMI)

Country	Deaths	Missing	Displaced
Indonesia	>130000	>37000	>500000
Sri Lanka	31000	5600	573000
India	12405	5600	380000
Thailand	5399	3000	-
Somalia	298	-	5000
Maldives	82	26	22000
Malaysia	68	-	-
Burma	61	200	3200
Tanzania	10	-	-
Seychelles	2	-	-
Bangladesh	2	-	-
South Africa	2	-	-
Kenya	1	-	-
Yemen	1	-	-
Madagascar	-	-	>1000
Total	>179331	>51426	>1484200

Source: GEO BROADSHEETS, (2006)

QUESTION 43

- i. What are tsunamis? (1 mark)
- ii. Why was this tsunami the deadliest in recorded history? (1 mark)
- iii. What created the tsunami? (2 marks)
- iv. Give two reasons why Indonesia, Sri Lanka, India and Thailand were greatly affected by the tsunami. (2 marks)
- v. How many deaths were recorded for the African continent? (1 mark)

QUESTION 44

The closer you are to the Ela Beach seaside and Down-town Port Moresby, the expensive the cost of accommodation.



Over the last few years the price of accommodation has increased dramatically. Company executives and employees of bigger firms, including those of the Liquidified Natural Gas (LNG) project are being paid huge sums of money to rent luxurious apartments on Paga and Touaguba Hill areas. Those seafront apartments have been previously rented by people for about K10,000.00 per month some five years ago but now the rentals have doubled. Tenants of those luxurious apartments cannot afford the current increase in rentals so they will have to re-locate to Korobosea, East Boroko and Gordons areas. The similar case happens to those living in Gordons to seek for low-cost accommodation in squatter settlements in Morata. Hence, working class people are being forced to live in settlements.

- i. Explain the effect of emergence of LNG project in Port Moresby on the Real Estate Agencies (Housing Industry). (2 marks)
- ii. Why is that accommodation closer to the seafront are expensive? Give two reasons. (2 marks)
- iii. Many Public Servants and Private Company employees reside in settlements. Explain why? (2 mark)
- iv. Suggest one possible solution by the Papua New Guinea Government in minimising housing shortage in Urban cities and towns. (1 mark)

QUESTION 45

Migration may be a one-way movement with migrants not returning to their origins, or it may be temporary. Reasons for migrating are varied and complex. The migrant is influenced by a number of positive and negative factors. In each case the individual's decision will be affected by personal choice.

In Papua New Guinea Rural - Urban drift and migration to mining and petroleum development sites has created many socio-economic problems including Law and Order.

- i. List two *push* and *pull* factors of rural – urban drift. (4 marks)
- ii. What is one of the social impacts of rural – urban drift. (1 mark)
- iii. Explain two factors that cause force migration. (2 mark)

END OF EXAMINATION