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Class:	Register No:	Name:
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CRESCENT GIRLS' SCHOOL
SECONDARY FOUR
PRELIMINARY EXAM 2016

GEOGRAPHY

2236/01

Paper 1

23 August 2016
1 hour 40 minutes

Additional Materials: Answer Paper
1 Insert
1 : 25 000 Survey Map Extract

READ THESE INSTRUCTIONS FIRST

Write your name, index number and class in the spaces provided at the top of this page, and on all separate sheets of paper used.

Write in dark blue or black pen on both sides of the paper.

You may use a pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

Section A

Answer Question 1.

Section B

Answer **one** question.

Start each question on a fresh sheet of paper.

Candidates should support their answers with the use of relevant examples.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

The Insert contains Figs. 2 and 3 for Question 1, Fig. 4 for Question 2 and Fig. 6 for Question 3.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

Section A

This question is compulsory.

- 1 A group of students were investigating tourism in Nusa Dua, located on the east coast of the island of Bali, Indonesia. They did their fieldwork during the June holidays. The students wanted to test the following hypothesis:

Hypothesis 1: People of different ages visit Nusa Dua for different reasons

Hypothesis 2: Tourism has a positive effect on Nusa Dua

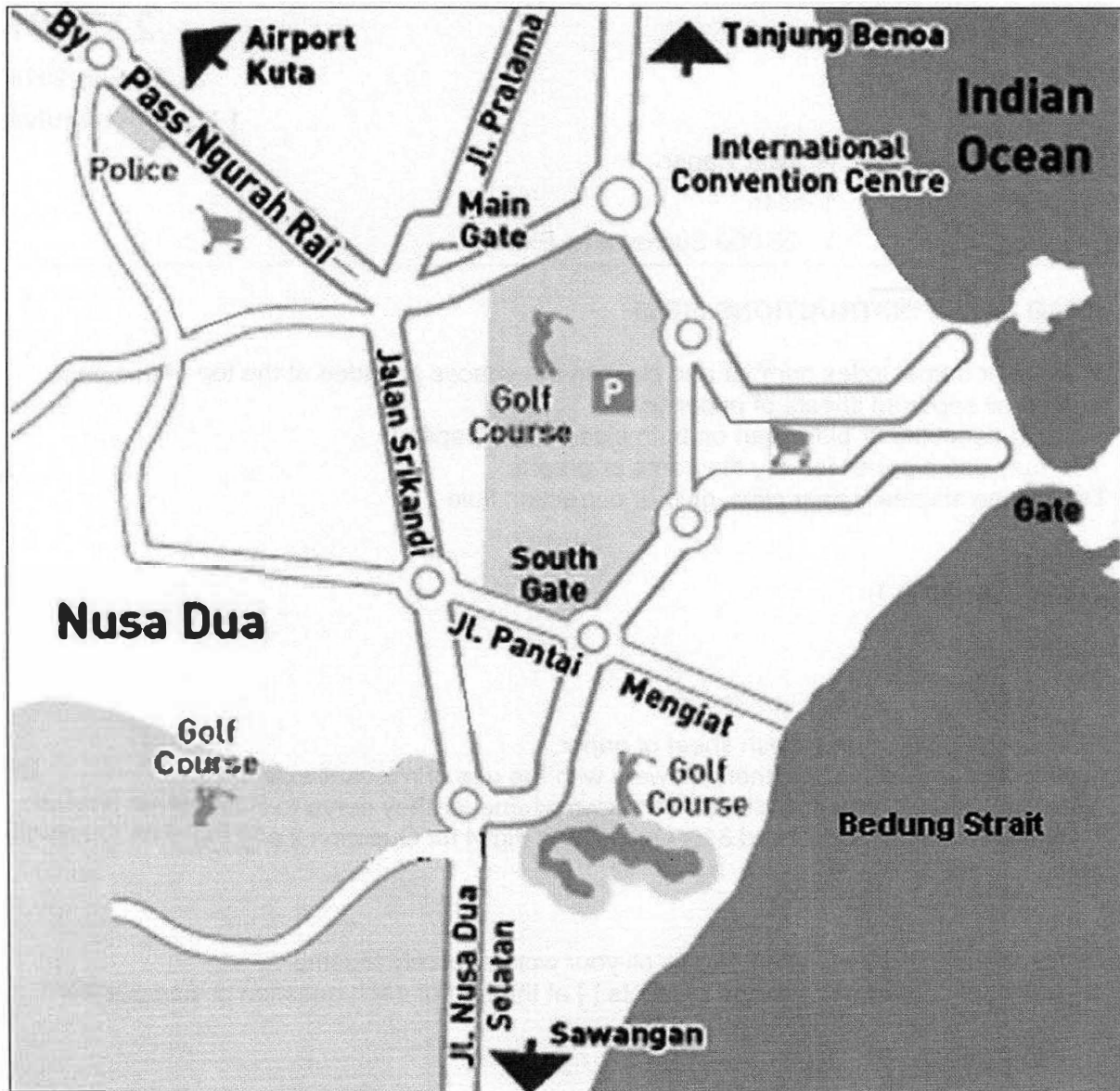


Fig. 1

- (a) To find out information for Hypothesis 1, the students produced a questionnaire for tourists. This is shown in Fig. 2 (Insert).

- (i) The results to Question 1 are shown in Table 1 below.

What is the main reason for your visit to Nusa Dua?		
Main Reason	Number	Percentage
Scenery	20	25
Scuba diving/snorkelling	22	28
Spa and massage	15	19
Golf	14	17
Business	0	0
Others e.g. visiting friends	9	11

Table 1

Using the graph paper provided, present the data shown in Table 1. [4]

- (ii) The students produced Table 2 below, in which they compared the reasons for the visit with the ages of the visitors.

Main Reason	Age				Total
	Under 20	20-40	41-60	Over 60	
Scenery	7	6	4	3	20
Scuba diving/snorkelling	6	10	4	2	22
Spa and massages	3	4	7	1	15
Golf	0	2	5	7	14
Business	0	0	0	0	0
Others e.g. visiting friends	2	3	3	1	9
Total	18	25	23	14	80

Table 2

With reference to Table 2, assess the validity of Hypothesis 1. [3]

- (iii) Suggest how the visitors' main reason for visiting Nusa Dua, Indonesia may change at different times of the year. [2]

- (iv) To find out information for Hypothesis 2, the students decided to conduct an environmental perception survey.

Describe how the students could collect the required data. [4]

- (v) Suggest **two** possible problems with the perception survey which might affect the reliability of the investigation. [2]

- (b) Another group of students carried out a field investigation at a beach in Nusa Dua. They wanted to know if there was a relationship between size of beach sediments and distance from low tide mark.

(i) Suggest a suitable hypothesis which the students could investigate. [1]

- (ii) In order to test the hypothesis, the students made use of a quadrat to conduct sediment analysis. They identified a line of transect at the low tide mark and worked inland.

Describe in detail how the sediment analysis was carried out. [5]

- (iii) The students also measured the gradient of the beach. The beach profile is shown on Fig. 3 (Insert).

Describe the relationship between the beach material and the angle of the beach. [4]

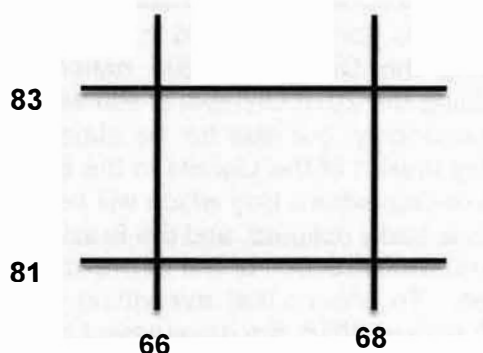
Section B

Answer **one** question from this section.

2(a) Distinguish clearly between constructive and destructive waves. [4]

(b) Study the map extract of Roseau.

(i) Identify the coastal landform in the area bounded by Northings 81 to 83 and Eastings 66 to 68 and describe how it is formed. [6]



(ii) Suggest what could happen to the coastline in future. Explain your answer. [4]

(c) With reference to Fig. 4 (Insert), discuss the issues surrounding the destruction of mangroves. [3]

(d) "Soft engineering strategies are more effective than hard engineering strategies in an LDC."

To what extent do you agree with this statement? Explain your answer with reference to examples. [8]

3(a) Study the map extract of Roseau.

Explain why swimming near grid reference 7081 is risky and not recommended. [4]

(b) Describe the key ecosystem services which can be obtained from coastal ecosystems. [4]

(c) With reference to Fig. 5, assess the impact hosting of the 2016 Olympics will have on Brazil. [6]

In 2016, the Olympics is going to be held in Rio de Janeiro. This is the first time Rio is ever holding the Olympics. 205 nations are expected to come to the Olympics. Holding the 2016 Olympic in Rio will bring significant benefits not only for the city's economy, but also for the state and country. According to a study, the expected impact of the Games in the Brazilian economy could reach R\$ 102 billion. Rio's Guanabara Bay which will be the venue for the sailing and windsurfing events is badly polluted, and the Brazilian government has promised to clean up the bay. Construction of the Olympic sites have resulted in families losing their homes. To ensure that everything will be ready by the time the Games open on 5 August 2016, the government has spent over R\$ 25.6 billion.

Fig. 5

(d) With reference to Fig. 6 (Insert) **only**, describe the trend of international tourism in 2015. [3]

(e) "Planning authorities are the only ones responsible to ensure that sustainable tourism is being carried out in the country."

To what extent do you agree with this statement? Explain your answer with reference to examples. [8]

Copyright Acknowledgements:

Question 1 Fig. 1 © mapsbali.com

Question 3 Fig. 5 © adapted from <http://olympics-riodejaneiro2016.weebly.com/> and <https://www.rio2016.com>

Class:	Register No:	Name:
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**CRESCENT GIRLS' SCHOOL
SECONDARY FOUR
PRELIMINARY EXAM 2016**

GEOGRAPHY

2236/01

Paper 1

23 August 2016

Insert

1 hour 40 minutes

READ THESE INSTRUCTIONS FIRST

This insert contains Figs. 2 and 3 for Question 1, Fig. 4 for Question 2 and Fig. 6 for Question 3.

Fig. 2 for Question 1**Questionnaire for tourists in Nusa Dua, Bali**

1. What is the main reason for your visit to Nusa Dua?

- ☐ Scenery
- ☐ Scuba diving/snorkelling
- ☐ Spa and massage
- ☐ Golf
- ☐ Business
- ☐ Others (e.g. visiting friends)

2. How long are you staying on the island?

- ☐ One day
- ☐ 2-3 days
- ☐ 4-7 days
- ☐ more than a week

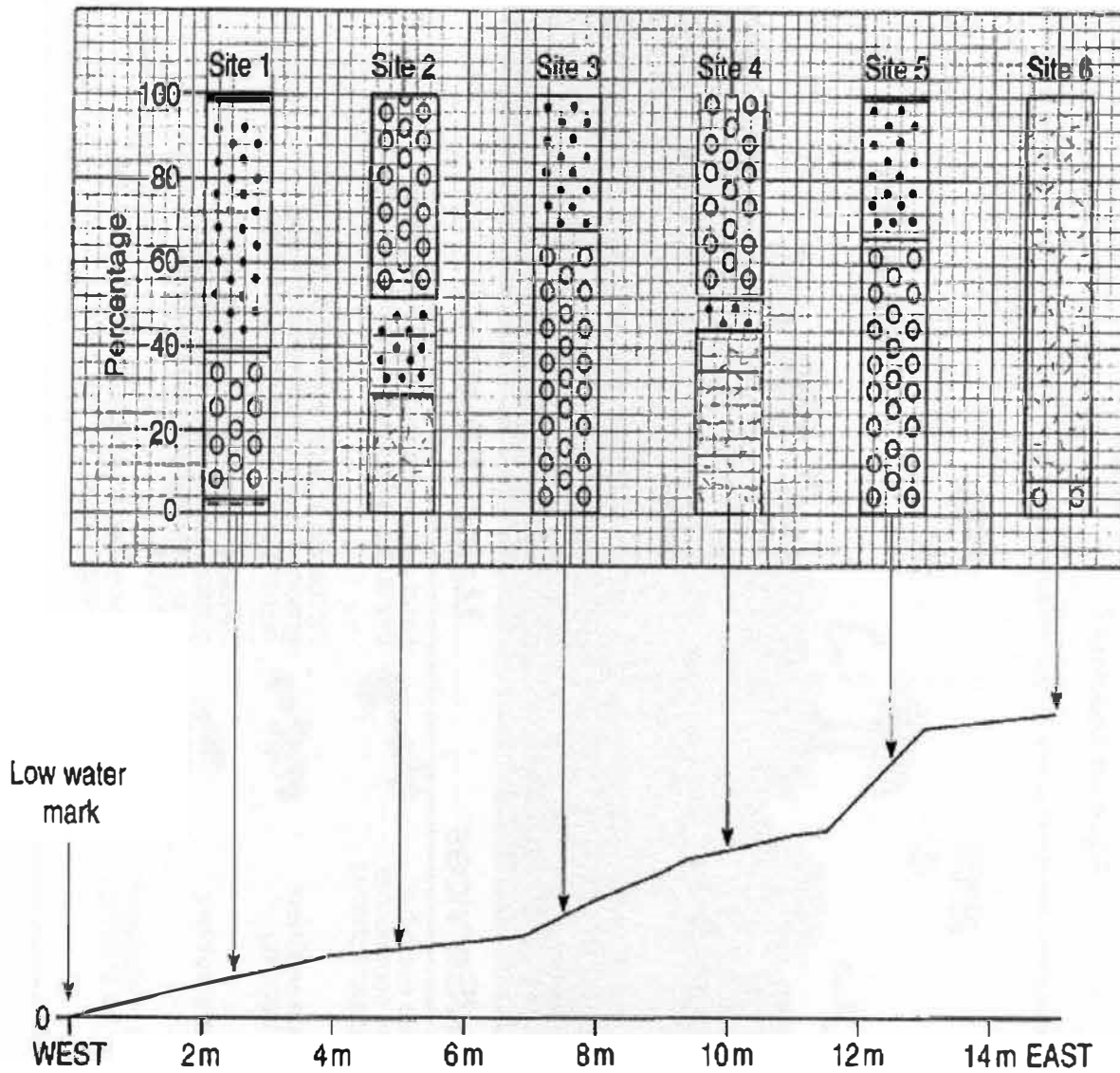
3. What type of accommodation are you staying in?

- ☐ Hotel
- ☐ Youth Hostel
- ☐ Campsite
- ☐ Villa or cottage
- ☐ Others (e.g. friend's place)

Thank you for your time.

Age: ☐ Under 20 years ☐ 20-40 years ☐ 41-60 years ☐ above 60 years

Fig. 3 for Question 1



WEST		Beach Measurements					EAST
	site 1	site 2	site 3	site 4	site 5	site 6	
Distance from low water mark	2.5	5	7.5	10	12.5	15	
Slope angle (°)	10	5.5	20	10	35	8	
Beach material (%)							
Wet sand	2	—	—	—	—	—	
Dry sand	—	28	—	42	1	92	
Shingle	60	26	32	10	33	—	
Pebbles	35	46	68	48	66	8	
Organic	3	—	—	—	—	—	

Fig. 4 for Question 2

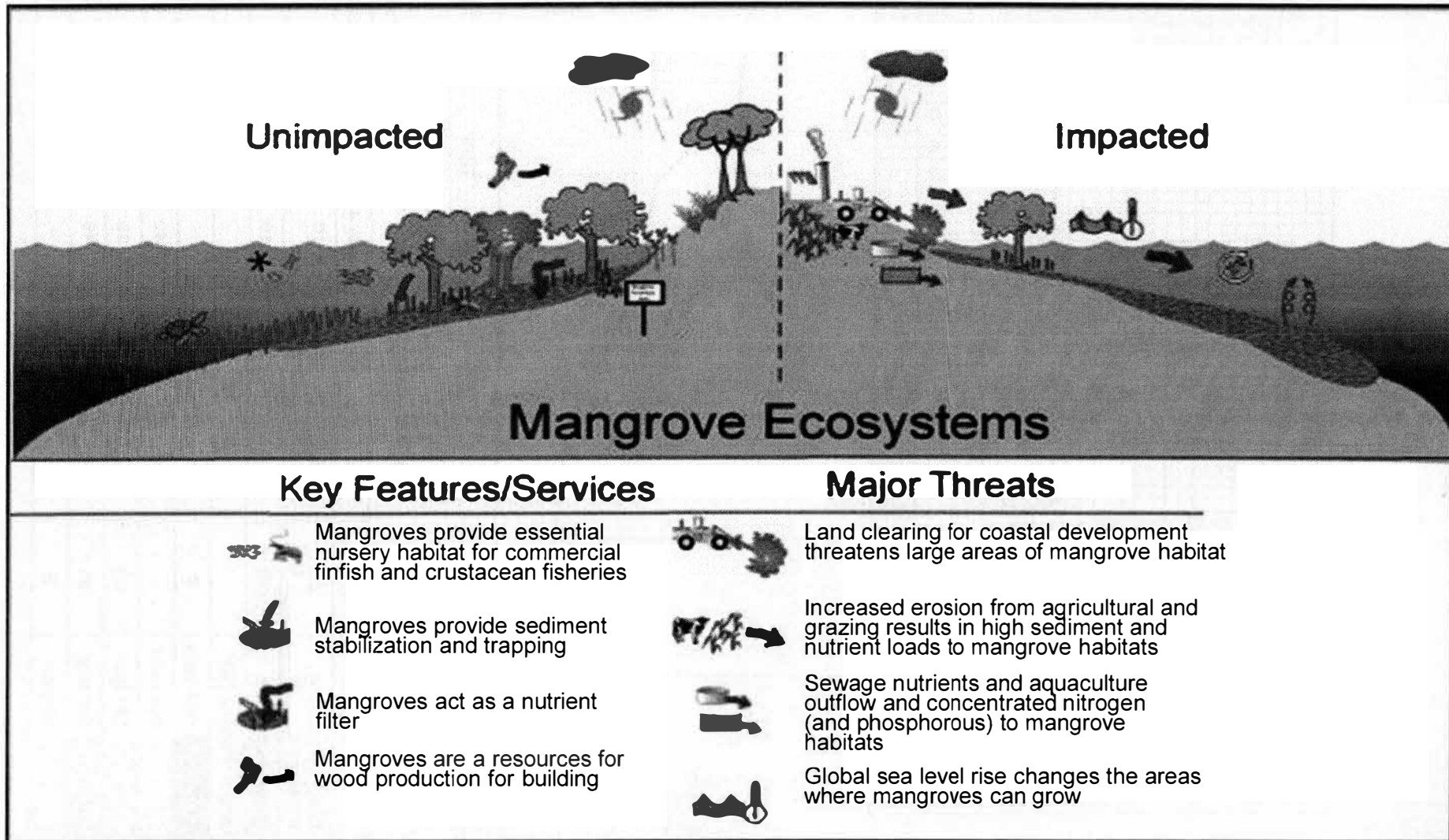
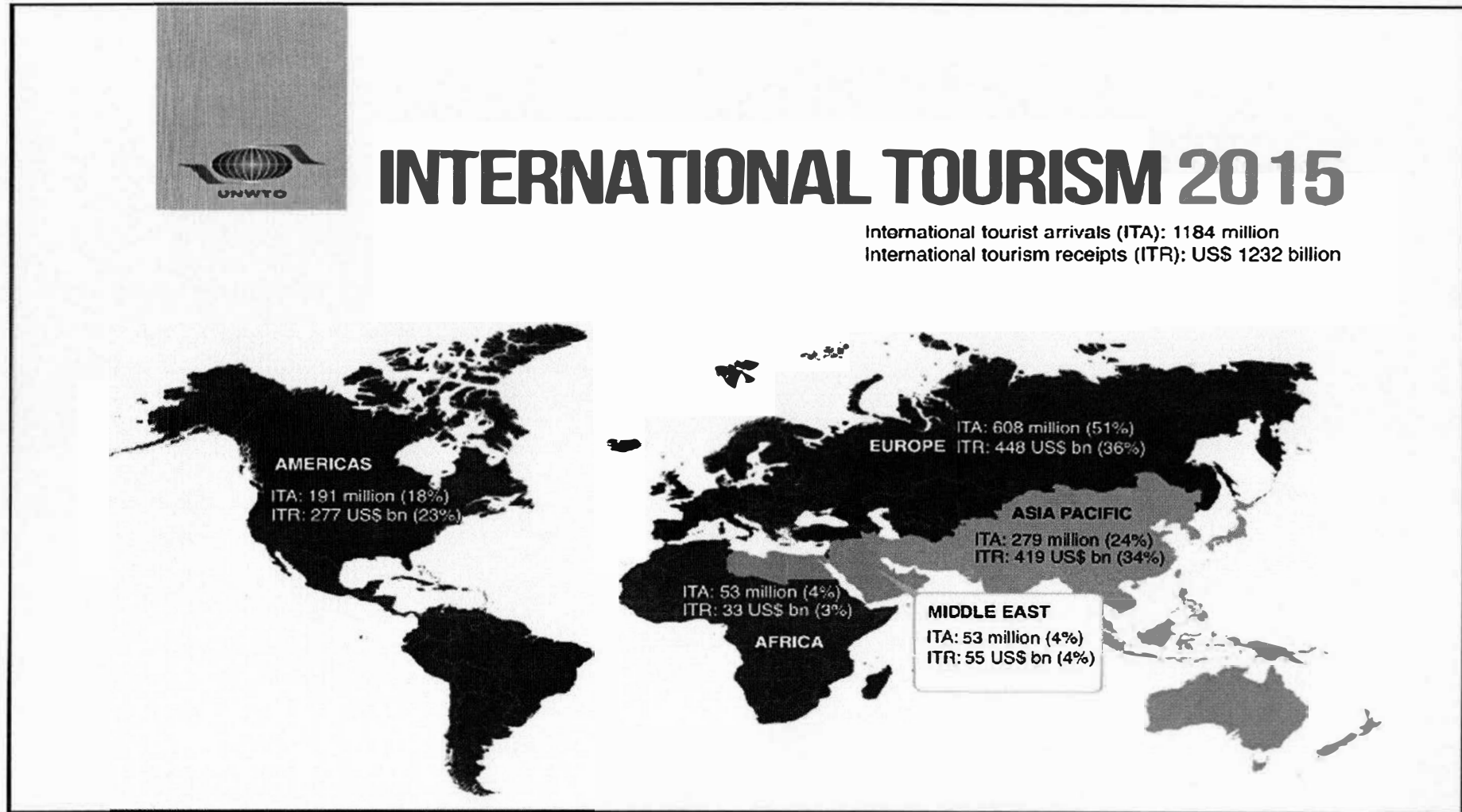


Fig. 6 for Question 3



Copyright Acknowledgements:

- Question 1 Fig. 3 © adapted from IGCSE 2002
 Question 2 Fig. 4 © adapted from <http://www.olicognography.org/drawings/mangroveecosystem.html>
 Question 3 Fig. 6 © <http://cf.cdn.unwto.org/>

Class:	Register No:	Name:
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CRESCENT GIRLS' SCHOOL
SECONDARY FOUR
PRELIMINARY EXAM 2016

GEOGRAPHY

2236/01

Paper 1

23 August 2016
1 hour 40 minutes

Additional Materials: Answer Paper
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Mark Scheme

Copyright Acknowledgements:

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 Question 3 Fig. 5 © adapted from <http://olympics-riodejaneiro2016.weebly.com/> and
<https://www.rio2016.com>

Section A

This question is compulsory.

- 1 A group of students were investigating tourism in Nusa Dua, located on the east coast of the island of Bali, Indonesia. They did their fieldwork during the June holidays. The students wanted to test the following hypothesis:

Hypothesis 1: People of different ages visit Nusa Dua for different reasons

Hypothesis 2: Tourism has a positive effect on Nusa Dua

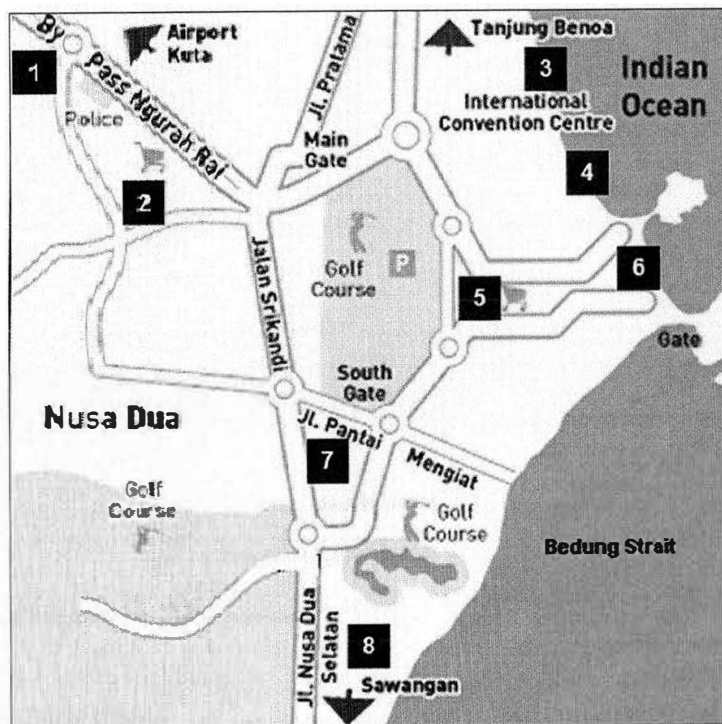


Fig. 1

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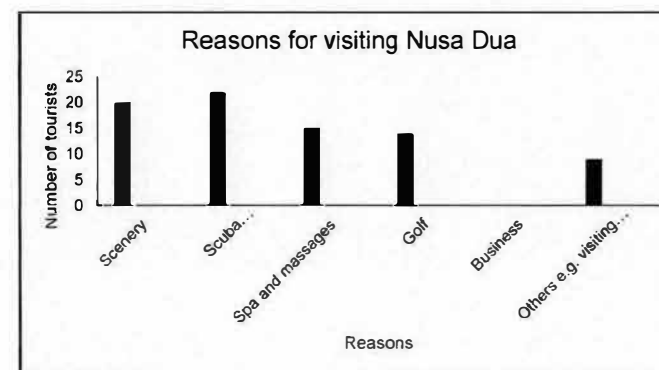
What is the main reason for your visit to Nusa Dua?

Main Reason	Number	Percentage
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Others e.g. visiting friends	9	11

Table 1

Using the graph paper provided, present the data shown in Table 1.

[4]



- (ii) The students produced Table 2 below, in which they compared the reasons for the visit with the ages of the visitors.

Main Reason	Age				Total
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Business	0	0	0	0	0
Others e.g. visiting friends	2	3	3	1	9
Total	18	25	23	14	80

Table 2

With reference to Table 2, assess the validity of Hypothesis 1. [3]

- The hypothesis is true
- People aged 41-over 60 are most interested in playing golf, while there were none under 20
- Scuba diving/snorkelling is most popular with the under 40 age groups
- The scenic beauty of Nusa Dua is popular with all age groups

(iii) Suggest how the visitors' main reason for visiting Nusa Dua, Indonesia may change at different times of the year. [2]

- There is likely to be fewer tourists during the rainy season of Dec
- More tourists would visit in June for scuba diving and snorkelling as there would be less rain

(iv) To find out information for Hypothesis 2, the students decided to conduct an environmental perception survey.

Describe how the students could collect the required data. [4]

- Obtain a street map and identify 4-5 possible sites to be surveyed
- Create a template for recording the environmental scores → the survey table should include both positive and negative aspects. Scoring system/ Scale included – at least a 5-point scale (- 2 to +2).
- At least 3-4 relevant criteria to be tested (litter, noise, pedestrian count, tourist adverts and signs, well-kept buildings).
- Total the environmental scores for each of the survey sites

(v) Suggest two possible problems with the perception survey which might affect the reliability of the investigation. [2]

- The sample size may be too small as only 80 tourists were interviewed
- Too few sites chosen for data collection
- The perception survey was focused only on the environment, however hypothesis 2 did not limit the impact of tourism on only the environment. Hence, the data collected may not be enough to prove/disprove the hypothesis
- There is the issue of subjectivity of the criteria. Different tourists may have differing thresholds

(b) Another group of students carried out a field investigation at a beach in Nusa Dua. They wanted to know if there was a relationship between size of beach sediments and distance from low tide mark.

(i) Suggest a suitable hypothesis which the students could investigate. [1]

The further away from the low tide mark, the larger the size of the beach sediments.

(ii) In order to test the hypothesis, the students made use of a quadrat to conduct sediment analysis. They identified a line of transect at the low tide mark and worked inland.

Describe in detail how the sediment analysis was carried out. [5]

- Conduct sampling along line of transect using systematic/random/stratified sampling and sand samples should be obtained at regular intervals along the line of transect.
- Place the quadrat on the beach at fixed intervals (eg. 2.5 m apart along the line of transect).
- Collect a pail (100g) sample of sand and use a set of sieves to sort the sand particles by size.
- Weigh the sand retained on each sieve.
- Calculate the percentage of sand sediments retained from the original sample.

(iii) The students also measured the gradient of the beach. The beach profile is shown on Fig. 3 (Insert).

Describe the relationship between the beach material and the angle of the beach. [4]

- The steeper the gradient, the higher the proportion of pebbles or The gentler the gradient, the higher the proportion of dry sand
- Site 5 with the steepest gradient has 66% pebbles, while Site 6 with the gentlest gradient of 8° has only 8% of pebbles
- Site 5 has the steepest gradient, and a small proportion of dry sand of 1%, while Site 6 which has a gentler gradient has a higher percentage of dry sand of 92%
- Anomaly

Section B

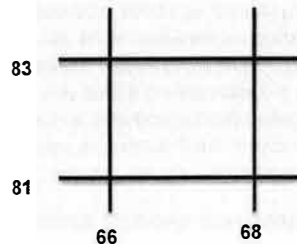
Answer one question from this section.

- 2(a) Distinguish clearly between constructive and destructive waves. [4]

Differences	Constructive	Destructive
Size	Small & gentle	Large & high
Location	Along gently sloping & sheltered coasts	Along steeply sloping and exposed coasts
Wave length & height	Long wavelength & short wave height	Short wave length & high wave height
Work done	Stronger swash than backwash => deposition	Stronger backwash than swash => erosion
Frequency	6 – 8 per min	10 – 14 per min
Energy level	Low energy waves	High energy waves

- (b) Study the map extract of Roseau.

- (i) Identify the coastal landform in the area bounded by Northings 81 to 83 and Eastings 66 to 68 and describe how it is formed. [6]



Headlands and bays

- Headlands and bays develop at an exposed discordant coast where alternate bands of resistant rocks (eg. limestone) and less resistant rocks (eg. sand and clay) are lined at almost right angles to the coast.
- The continual erosion of rocks of different resistance will cause the coast to be eroded unevenly.
- Erosion through hydraulic action and abrasion occurs more effectively and more rapidly on the less resistant rocks.
- The less resistant areas of rocks curve inwards as they get eroded away by the waves, forming bays.
- The areas of more resistant rocks will protrude or stick out from the coastline. These areas are known as headlands.

- (ii) Suggest what could happen to the coastline in future. Explain your answer. [4]

- The coastline is likely to straighten over time
- When waves approach the indented (uneven or discordant) coast with headlands and bays in a parallel manner, wave refraction occurs.
- Waves reach the water off the headlands first and slow down. Energy is concentrated and the headland undergoes more erosion.
- Conversely, the waves diverge or curve out in the bay. Energy is thus diffused, deposition at the bay area occurs.

- (c) With reference to Fig. 4 (Insert), discuss the issues surrounding the destruction of mangroves. [3]

- Land reclamation: Mangroves largely disappear from the environment due to land reclamation which is needed for housing and other uses. "Land clearing for coastal development threatens large areas of mangrove habitat", coastal waters are polluted as a result of human activities.
- Water pollution: Urban and manufacturing activities result in untreated or partly treated urban and manufacturing wastes being dumped into coastal waters. "Sewage nutrients and aquaculture outflow add concentrated nitrogen to mangrove habitats". The pollution of coastal waters can overwhelm the delicate balance of mangrove ecosystems
- Need for more farming areas: Thousands of mangroves are converted into shrimp and fish farms. "Increased erosion from agricultural... results in high sediment and nutrient loads to mangrove habitats." This causes the coasts to become more vulnerable
- Demand for fuel wood and charcoal: "Mangroves are a resource for wood production for building", especially in regions with low technology and income economies. The coasts thus become more open to storm waves
- Rising sea level: Sea levels are rising "Global sea level rise changes the areas where mangroves can grow". Mangroves will have trouble colonising areas further inland as they will be in competition with the construction of sea defences

- (d) "Soft engineering strategies are more effective than hard engineering strategies in an LDC."

To what extent do you agree with this statement? Explain your answer with reference to examples. [8]

Soft engineering

- Beach nourishment
- Planting vegetation & stabilising sand dunes
- Encouraging coral reef growth

Hard engineering

- Seawalls
- Breakwaters
- Groynes
- Gabions
- Tetrapods

A full answer does not need to include all the above points
Candidates at each level will show the following characteristics:

Level 1 (0-3 marks)

- At the level, answers will lack detail
- A basic answer that has little development
- There may be little or no attempt at assessment of factors
- An example may or may not be given

Level 2 (4-6 marks)

- Some details provided, but support is patchy so that the answer is not full
- Assessment may be given but this usually amounts to simple declarations which are general in nature
- An example will be presented to support answers in at least one place in the answer

Level 3 (7-8 marks)

- Answers will be comprehensive and supported by sound knowledge
- There will be assessment of the extent to which stakeholder plays the largest role
- Examples to support answers can be found in most places in the answer

- 3(a) Study the map extract of Roseau.

Explain why swimming near grid reference 7081 is risky and not recommended. [4]

- There is the presence of cliffs along the coast, there is the danger of being hit by debris from the collapse of the cliff
- There may be shore platforms which are submerged during high tides
- As it is along an exposed coast, there would be presence of destructive waves. Which may overpower and overwhelm swimmers
- The terrain is also rocky

- (b) Describe the key ecosystem services which can be obtained from coastal ecosystems. [4]

- Provisioning services: fish, water and building material
- Regulating services: shoreline stabilisation, flood prevention, storm prevention
- Cultural services: recreational, aesthetic and spiritual benefits
- Supporting services: mangroves are important in supporting fisheries due to their function as fish nurseries

- (c) With reference to Fig. 5, assess the impact hosting of the 2016 Olympics will have on Brazil. [6]

In 2016, the Olympics is going to be held in Rio de Janeiro. This is the first time Rio is ever holding the Olympics. 205 nations are expected to come to the Olympics. Holding the 2016 Olympic in Rio will bring significant benefits not only for the city's economy, but also for the state and country. According to a study, the expected impact of the Games in the Brazilian economy could reach R\$ 102 billion. Rio's Guanabara Bay which will be the venue for the sailing and windsurfing events is badly polluted, and the Brazilian government has promised to clean up the bay. Construction of the Olympic sites have resulted in families losing their homes. To ensure that everything will be ready by the time the Games open on 5 August 2016, the government has spent over R\$ 25.6 billion.

Fig. 5

Positive impact:

Economic

- Employment opportunities: increase in tourism related jobs
- Growth in income: expected tourism receipts of R\$ 102 billion
- Increase in foreign exchange: the large amount of money earned from the hosting of the Games would allow Brazil to purchase goods and services from elsewhere in the world

Environment

- Conservation of natural environments: To ensure the smooth running of the Games, the government has promised to clean up Guanabara Bay which is badly polluted

Negative impact:

Economic

- **Underuse of facilities:** since the Olympic Games is considered a form of seasonal tourism, the facilities which have been built specifically for the event may be underused when the event is over. When this happens, the facilities may be costly to maintain, as a result, some of these facilities may become neglected when there are few tourists
- **Shortage of services:** The building of the Olympic sites requires the use of large amounts of land. This has resulted in "families losing their homes".

Environment

- **Increased carbon footprint:** "205 nations are expected to come to the Olympics". These tourists may be travelling there by planes and many tour buses would be required to ferry the athletes to the various competition venues. All these activities would increase carbon footprint

(d) With reference to Fig. 6 (Insert) only, describe the trend of international tourism in 2015. [3]

- Europe received the highest amount of ITR of 448 US\$ bn (36%)
- Africa received the lowest amount of ITR of 33US\$ bn (3%)
- The ITA in Europe made up slightly more than half the total number of ITA (51%)
- Both Africa and Middle East received the lowest number of ITA at 53 million (4%)

(e) "Planning authorities are the only ones responsible to ensure that sustainable tourism is being carried out in the country."

To what extent do you agree with this statement? Explain your answer with reference to examples. [8]

- Planning authorities (**must be discussed**)
- Local communities
- Visitors
- Tour Operators
- Non-Governmental Organisations

A full answer does not need to include all the above points
Candidates at each level will show the following characteristics:

Level 1 (0-3 marks)

- At the level, answers will lack detail
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- There will be assessment of the extent to which stakeholder plays the largest role
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Class:	Register No:	Name:
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CRESCENT GIRLS' SCHOOL
SECONDARY FOUR
PRELIMINARY EXAM 2016

GEOGRAPHY

2236/02

Paper 2

18 August 2016

1 hour 30 minutes

Additional Materials: Answer Paper
 1 Insert

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Section A

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Section B

Answer **one** question.

Start each question on a fresh sheet of paper.

Candidates should support their answers with the use of relevant examples.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

The Insert contains Fig. 1 for Question 1 and Fig. 6 for Question 3.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

Section A

Answer **one** question from this section.

- 1(a)** Study Fig. 1 (Insert), which shows the location of the Mojave Desert, and Fig. 2, a graph showing its climate.

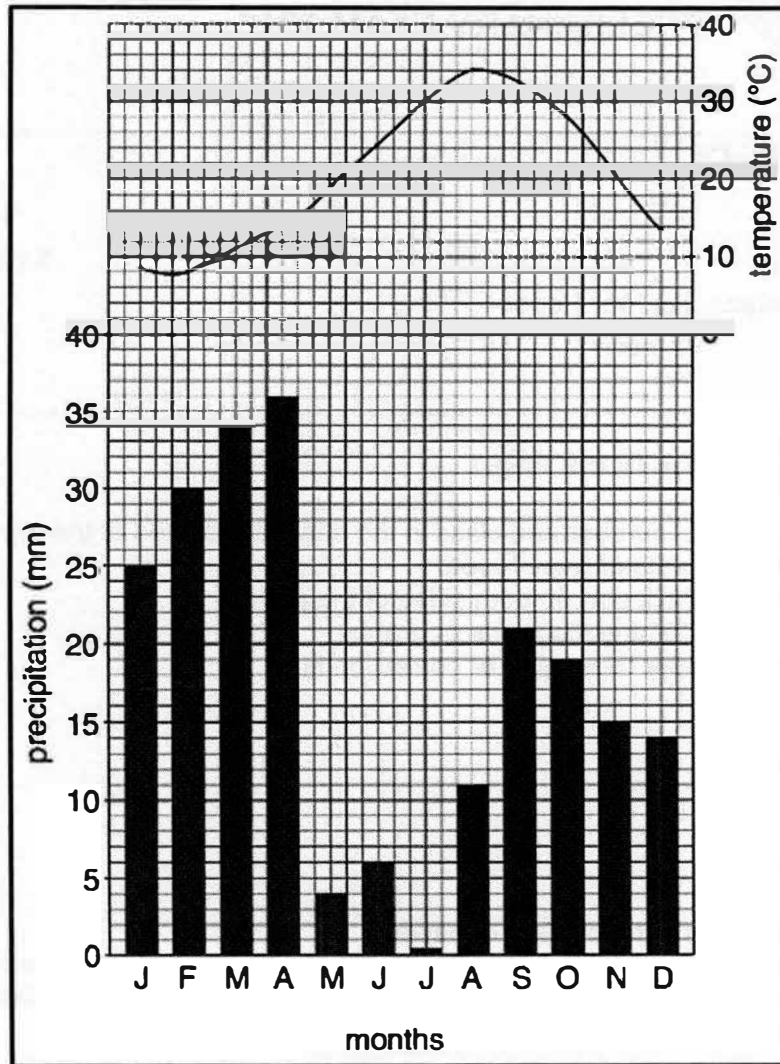


Fig. 2

- (i) Describe the climate experienced in the Mojave Desert. [4]
- (ii) Account for the temperature experienced in the Mojave Desert. [4]

- (b) Study Fig. 3 which shows a regional wind system experienced between the months of June to September.

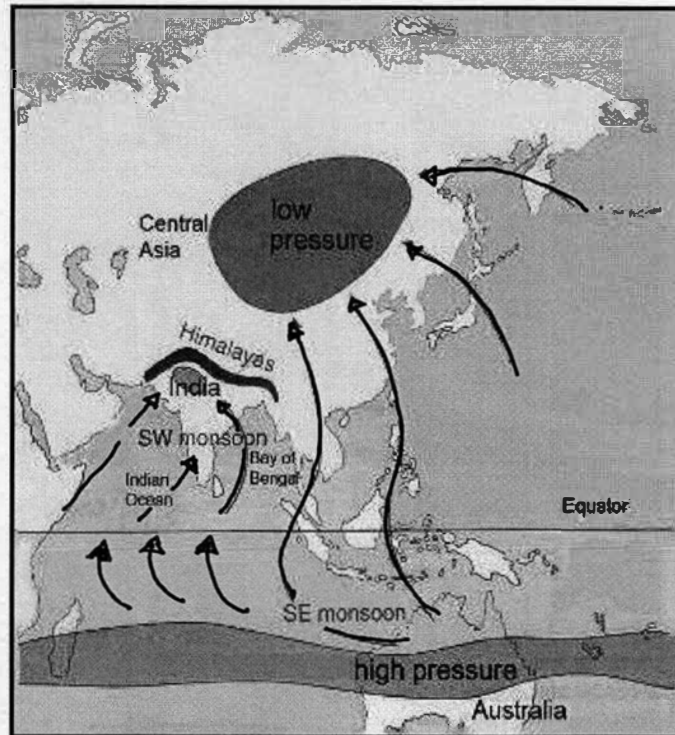


Fig. 3

Account for the precipitation experienced by the west coast of India during the months of June to September. [4]

- (c) Draw an annotated cross section of a volcano. [5]
- (d) Assess the ways which people respond to an earthquake event. Use examples you have studied to support your answer. [8]

2(a) Study Fig. 4 which shows the Great African Rift Valley.

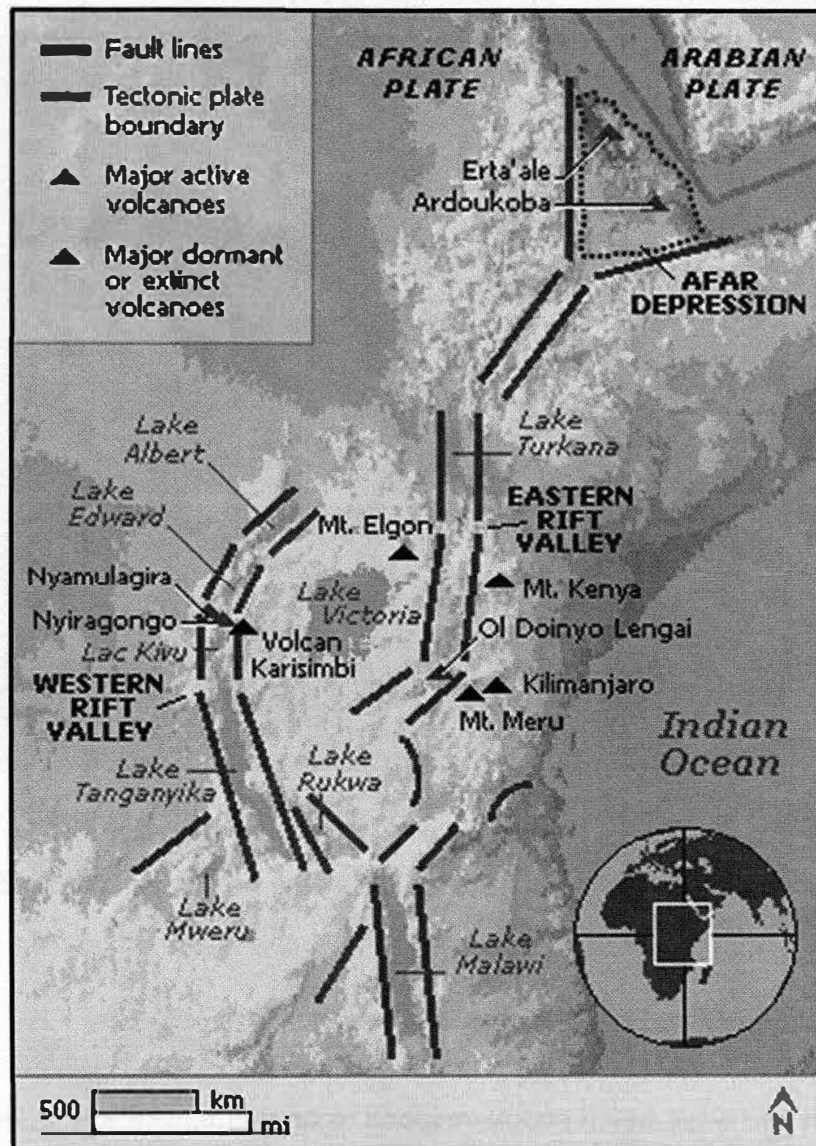


Fig. 4

- (i) Describe the main features of the rift valley shown. [3]
- (ii) With the use of well-labelled diagrams **only**, explain how it may have been formed. [5]
- (b) Using named example(s), explain why many dangerous volcanic areas in the world are often populated. [5]

- (c) Study Fig. 5 which shows an extract on a major earthquake which occurred in India in September 1993.

India's worst earthquake for fifty years occurred on 30 September 1993 at 3.56am local time. The last earthquake in the region was in 1967. The 1993 earthquake measured 6.2 on the Richter Scale and the focus was shallow at 10 km.

More than 25,000 people died, and many thousands more were unaccounted for. The worst-hit areas were Khilari (75 km from the epicentre) where 10,000 were feared dead or injured and Umargao where another 10,000 were feared dead with thousands more injured. The local hospitals were packed with people from the local villages.

Fig. 5

With reference to Fig. 5 **only**, explain why the effects of the earthquake were so severe. [4]

- (d) Discuss the impact of earthquakes on people living in areas prone to this natural hazard. [8]

Section B

Answer **one** question from this section.

- 3(a)** With reference to examples, differentiate between degenerative and infectious diseases. [4]

- (b)** Study Table 1 which shows population statistics for Mali, Africa between 2000 and 2005.

Year	Birth Rate	Death Rate	Life Expectancy (years)
2000	49.23	19.10	46.66
2001	49.79	18.71	47.02
2002	48.37	18.32	47.39
2003	47.79	19.21	45.43
2004	47.29	19.12	45.28
2005	46.77	19.05	45.09

Table 1

Describe and suggest reasons for the changes in life expectancy in Mali, Africa between 2000 and 2005. [5]

- (c)** Study Fig. 6 (Insert) which shows the relationship between GDP and the percentage of population with access to safe drinking water in ten countries.

Describe the relationship between GDP per capita and the percentage of population with access to safe drinking water. Provide evidence from Fig. 6 to support your answer. [3]

- (d) Study Fig. 7 which shows the prevalence of HIV/AIDS among young people aged 15-19 in eastern and southern Africa.

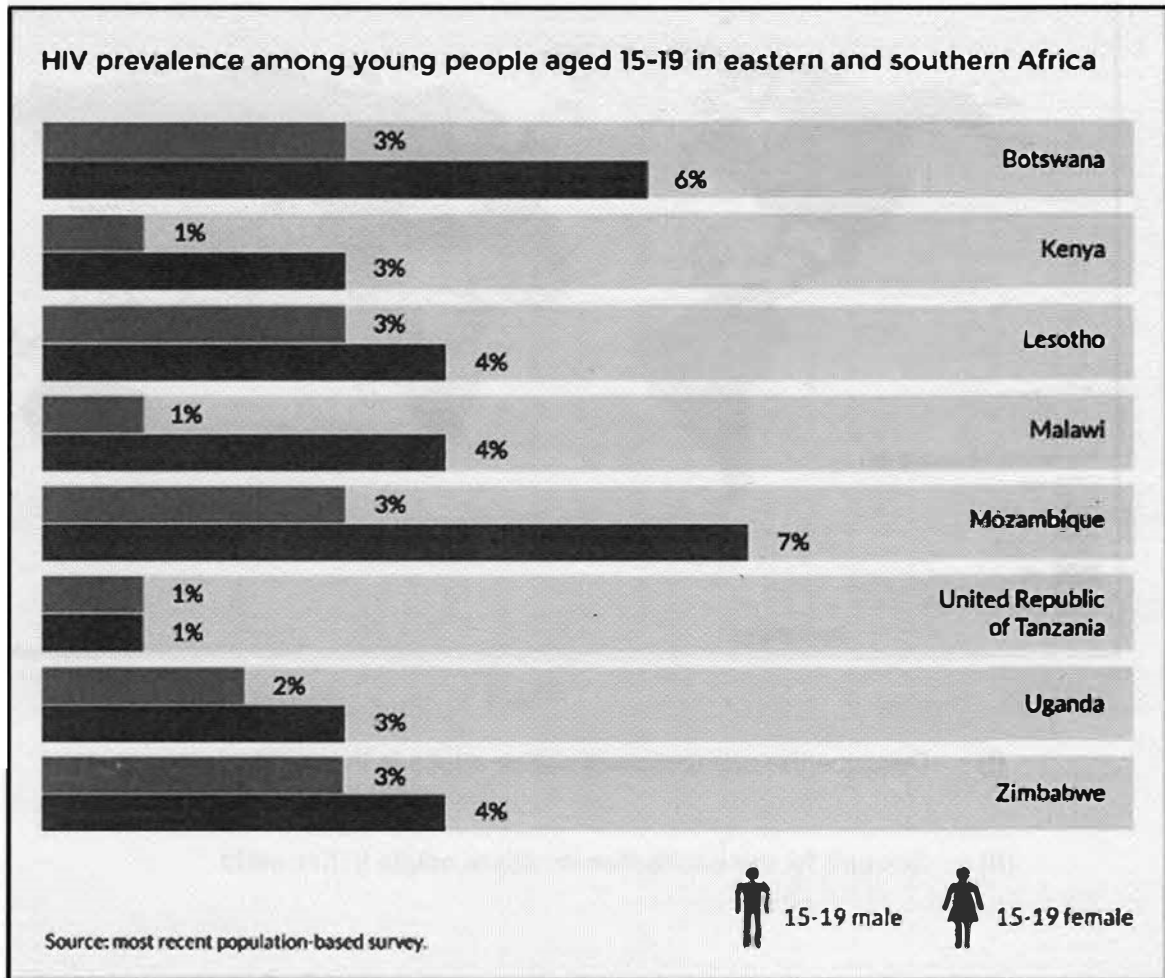


Fig. 7

Describe and account for the variation of prevalence of HIV/AIDS between males and females aged 15-19 in eastern and southern Africa. [5]

- (e) With reference to a named case study, discuss the impact of HIV/AIDS. [8]

4(a) Study Fig. 8, which shows the percentage of obesity amongst adults in the world.

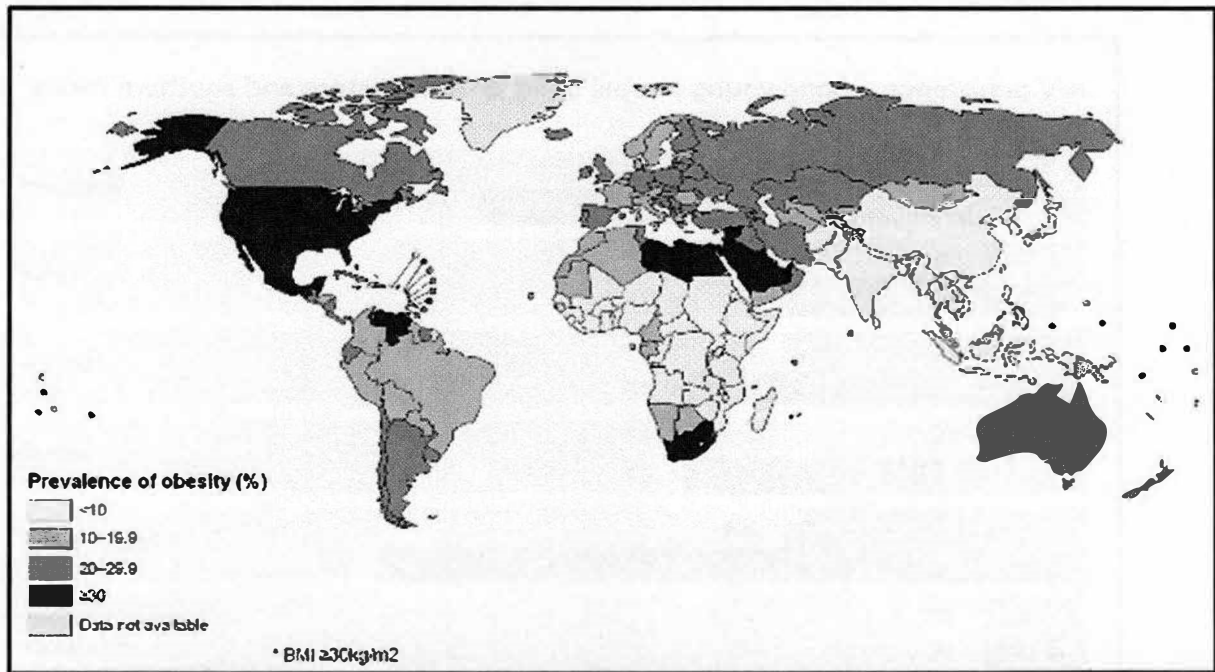


Fig. 8

- (i) Describe the distribution of obese adults in the world. [4]
- (ii) Account for the distribution of obese adults in the world. [4]

(b) Study Fig. 9 which shows the trends of areas growing GM crops in the world.

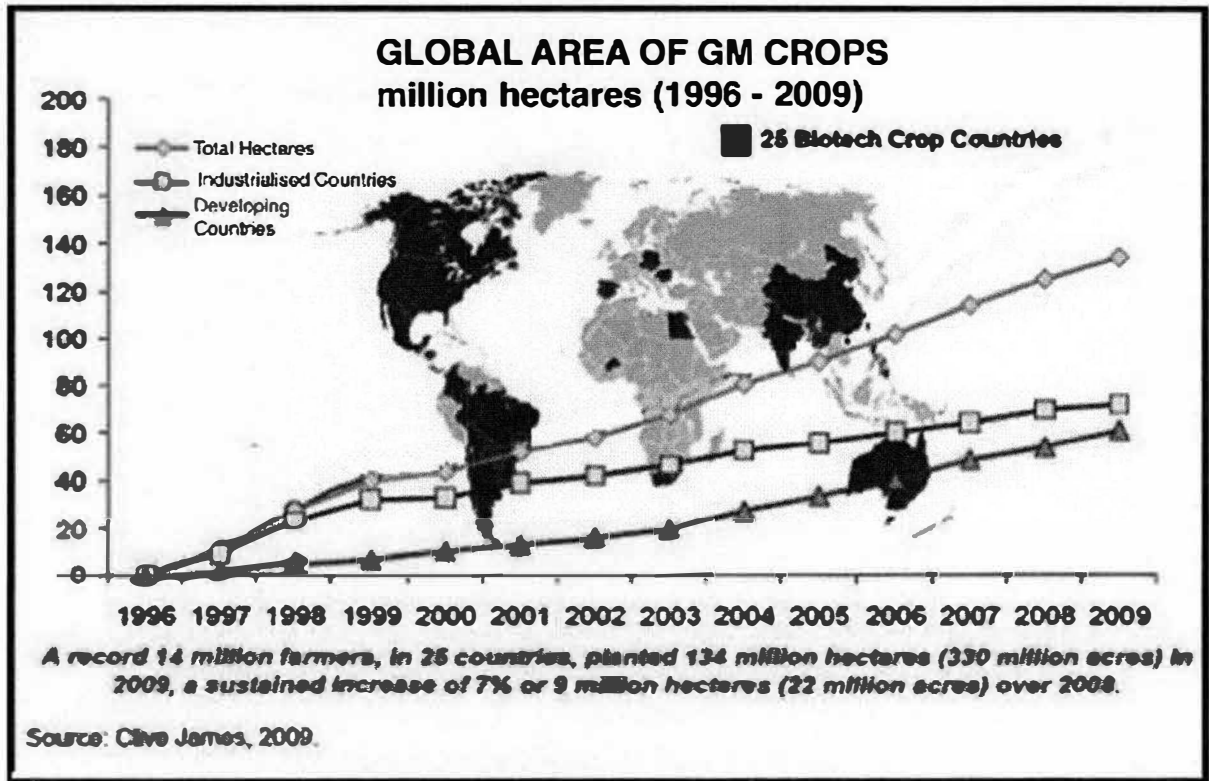


Fig. 9

- (i) Describe the trends in the growth of areas growing GM crops as shown in Fig. 9. [5]
- (ii) Account for the trend of growing GM crops. [4]
- (c) With reference to named example(s), discuss if technological strategies are more effective than international strategies in alleviating food shortage and hunger. [8]

Copyright Acknowledgements:

Question 1	Fig. 2	© IGCSE 2016 Specimen Paper
	Fig. 3	© adapted from Nagle, G. and Spencer, K., 2003. <i>AS & A Level Geography Through Diagram</i>
Question 2	Fig. 4	© http://people.eku.edu/davisb/Africa/RiftValley.htm
	Fig. 5	© adapted from Nagle, G. 1998. <i>Hazards</i>
Question 3	Table 1	© adapted from IGCSE 2016 Specimen Paper
	Fig. 7	© http://www.avert.org/
Question 4	Fig. 8	© http://www.worldgastroenterology.org/
	Fig. 9	© adapted from http://www.isaaa.org

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**CRESCENT GIRLS' SCHOOL
SECONDARY FOUR
PRELIMINARY EXAM 2016**

GEOGRAPHY

2236/02

Paper 2

18 August 2016

Insert

1 hour 30 minutes

READ THESE INSTRUCTIONS FIRST

This insert contains Fig. 1 for Question 1 and Fig. 6 for Question 3.

Fig. 1 for Question 1

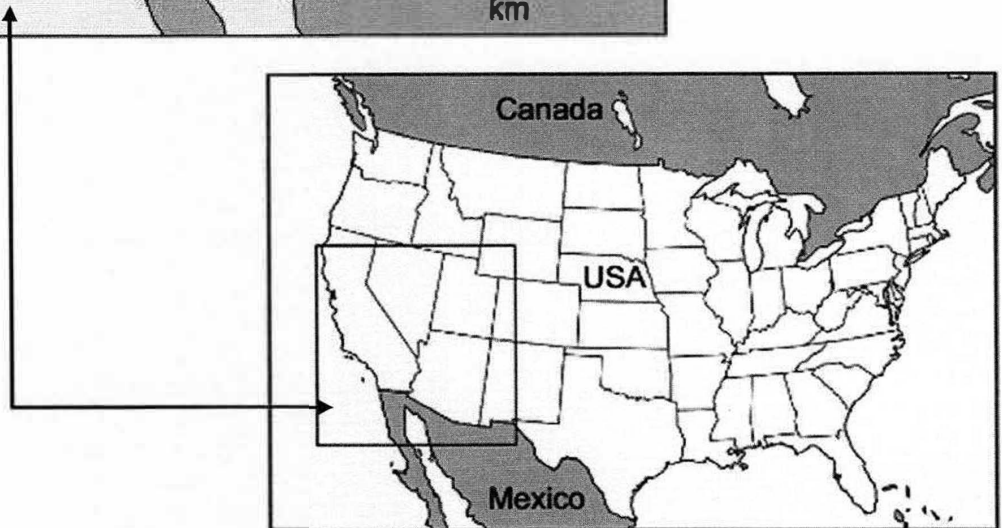
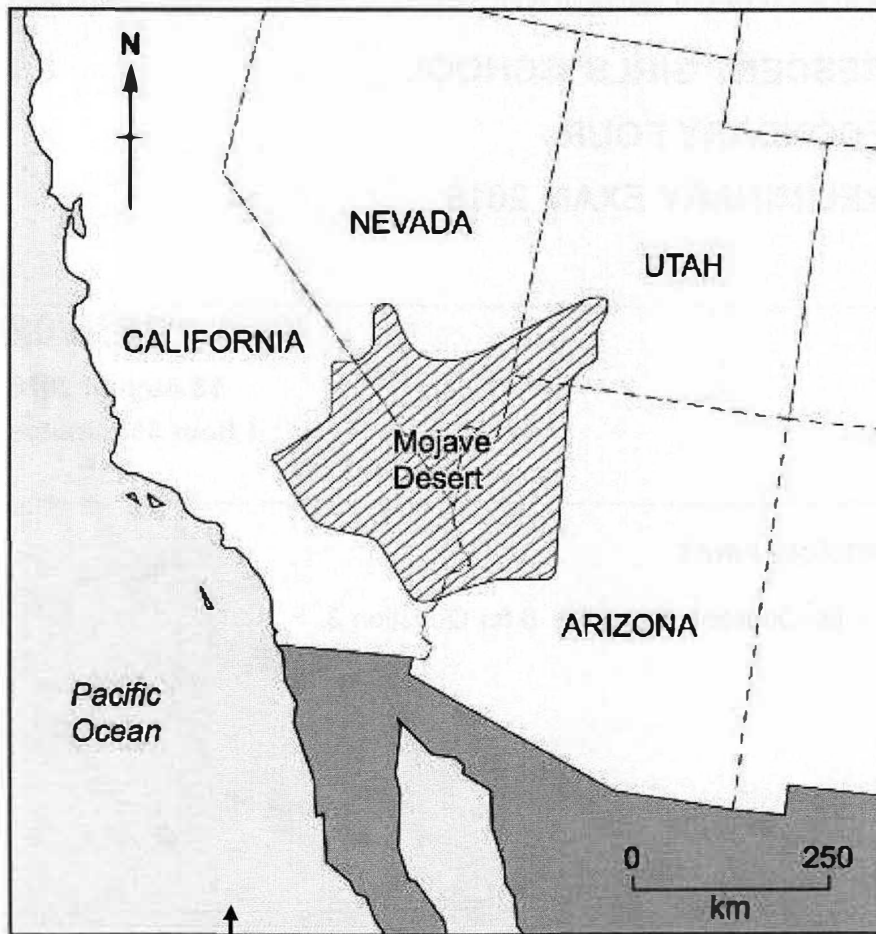
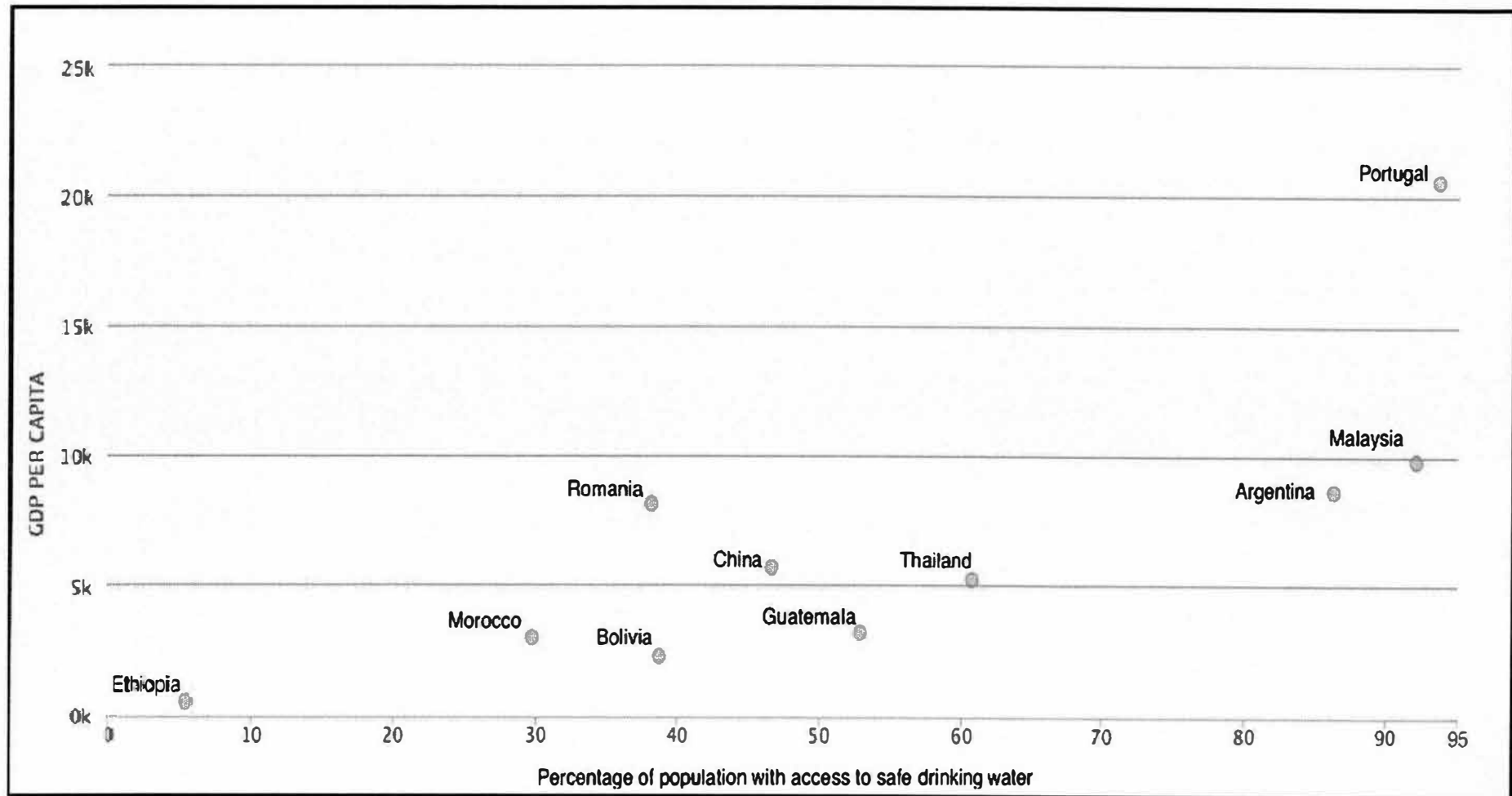


Fig. 6 for Question 3



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 Question 3 Fig. 6 © <http://archive.epi.yale.edu/>

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CRESCENT GIRLS' SCHOOL
SECONDARY FOUR
PRELIMINARY EXAM 2016

GEOGRAPHY

Paper 2

Additional Materials: Answer Paper
 1 Insert

2236/02

18 August 2016
1 hour 30 minutes

Mark Scheme

Section A

Answer one question from this section.

- 1(a) Study Fig. 1 (Insert), which shows the location of the Mojave Desert, and Fig. 2, a graph showing its climate.

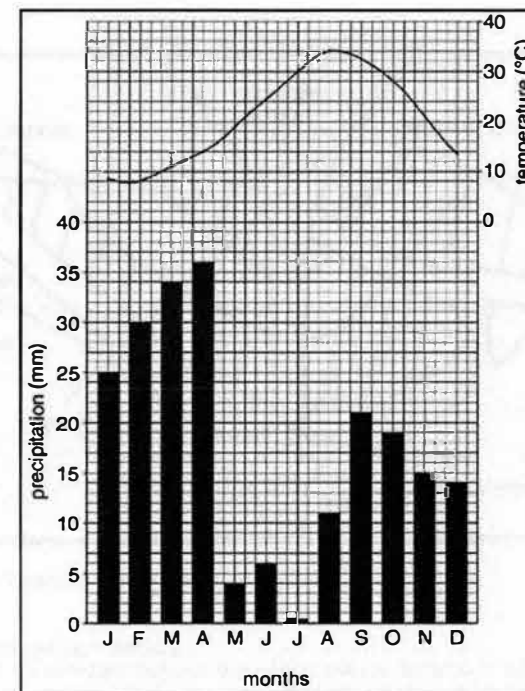


Fig. 2

- (i) Describe the climate experienced in the Mojave Desert. [4]
- Temperature:
- Large temperature range of 26 °C
 - Mean monthly temperatures are warm/hot at 20 °C
- Precipitation:
- Very low total annual precipitation of 220mm
 - Precipitation can be in the form of rain and snow
 - Uneven distribution of precipitation, with the wettest months from Sept – April and drier between May – July

(ii) Account for the temperature experienced in the Mojave Desert. [4]

- The Mojave Desert is located about 220 km away from the Pacific Ocean, hence it experiences the continental effect
- There is the absence of the moderating influence of the Pacific Ocean to reduce temperatures during the summer
- During the summer, temperatures are high due to the land heating up very quickly, while in the winter, the land will lose heat quickly, hence resulting in low temperature
- Temperatures in day are likely to be very high due to the absence of cloud cover

(b) Study Fig. 3 which shows a regional wind system experienced between the months of June to September.

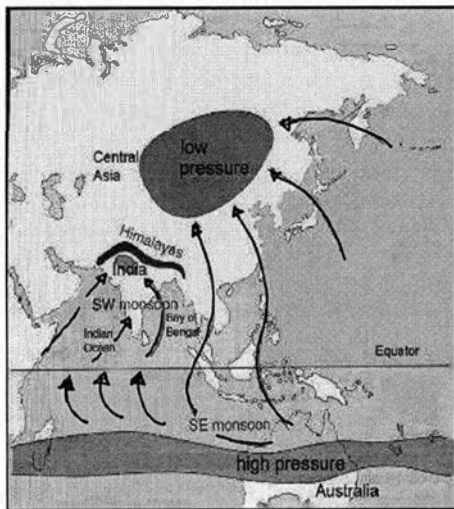
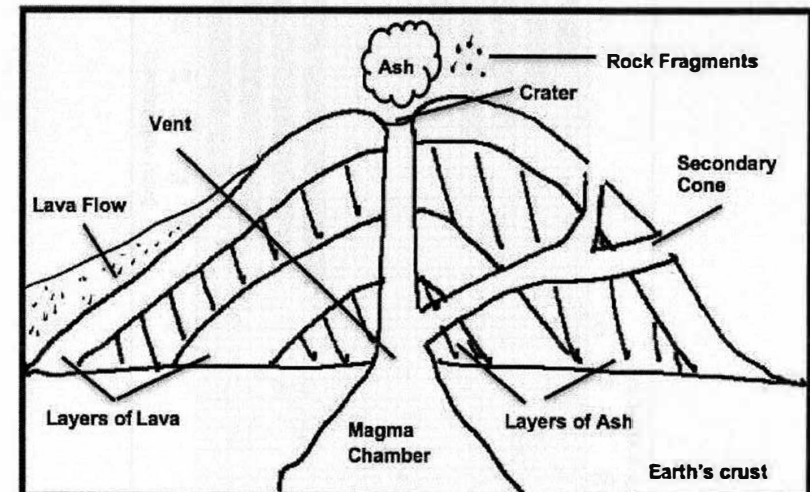


Fig. 3

Account for the precipitation experienced by the west coast of India during the months of June to September. [4]

- Between June to September, it is summer in the Northern Hemisphere and winter in Southern Hemisphere. The difference in air temperature and air densities form an area of high pressure over the Australian continent and an area of low pressure over Central Asia.
- The difference in pressure results in the cold air to blow from the Australian continent to blow towards Central Asia (from an area of high pressure in the Southern Hemisphere to an area of low pressure in the Northern Hemisphere). While the winds blow, they are deflected towards the left due to the Coriolis Effect. As the winds originate from the southeast, they are termed as the Southeast Monsoon.
- As the Southeast Monsoon winds cross the Equator and enter into the Northern Hemisphere, they are subject to the Coriolis effect and are deflected to the right to blow as Southwest Monsoon winds
- As the deflected winds blow over the Indian Ocean and the Bay of Bengal, they pick up abundant moisture and unload them in the form of heavy torrential rain once they blow onshore

(c) Draw an annotated cross section of a volcano. [5]



- (d) Assess the ways which people respond to an earthquake event. Use examples you have studied to support your answer. [8]

Response strategies

- Handling status of affected area
- Search and rescue
- Providing medical aid, food and water
- Setting up emergency shelters
- Calling for humanitarian aid
- Improving infrastructure
- Compensating people who lose their land and property
- Ensuring the affected area recovers economically
- Improving health options

A full answer does not need to include all the above points
Candidates at each level will show the following characteristics:

Level 1 (0-3 marks)

- At the level, answers will lack detail
- A basic answer that has little development
- There may be little or no attempt at assessment of factors
- An example may or may not be given

Level 2 (4-6 marks)

- Some details provided, but support is patchy so that the answer is not full
- Assessment may be given but this usually amounts to simple declarations which are general in nature
- An example will be presented to support answers in at least one place in the answer

Level 3 (7-8 marks)

- Answers will be comprehensive and supported by sound knowledge
- There will be assessment of the extent to which stakeholder plays the largest role
- Examples to support answers can be found in most places in the answer

- 2(a) Study Fig. 4 which shows the Great African Rift Valley. [3]

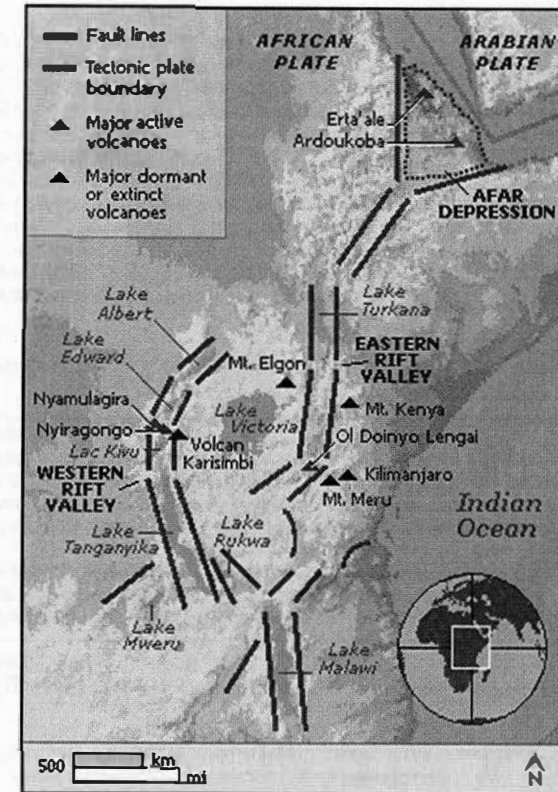
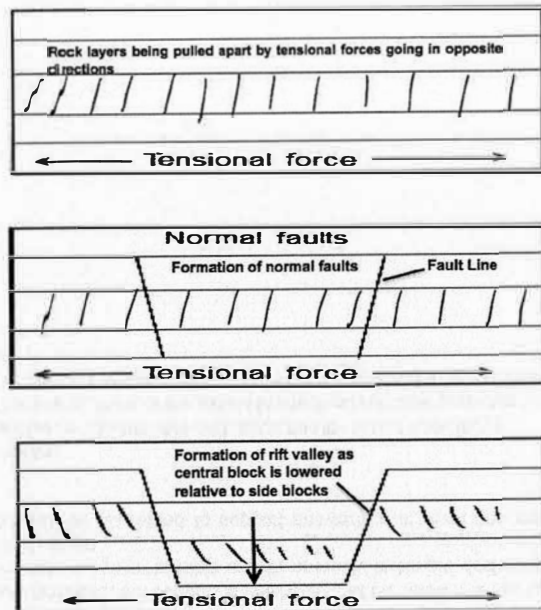


Fig. 4

- (i) Describe the main features of the rift valley shown. [3]
- Contain a few elongated lakes e.g. Lake Tanganyika and Lake Malawi
 - 2 branches of the rift valley flanking Lake Victoria
 - Contains a number of active volcanoes e.g. Nyamulagira, Ol Doinyo Lengai
 - The width of the rift valley is about 192 km
 - The length of the Western Rift Valley is about 2115 km
 - The length of the Eastern Rift Valley is about 1615 km

- (ii) With the use of well-labelled diagrams **only**, explain how it may have been formed. [5]



Labels:

- Tensional force
- Fault lines
- Rift valley

- (b) Using named example(s), explain why many dangerous volcanic areas in the world are often populated. [5]

Explanations:

- Fertile volcanic soils on slopes that result in high yields and hence significant income for farmers
- Some dormant volcanoes may not have erupted for many years and many think that it may not erupt in their lifetime
- Volcanic areas are often developed for tourism and tourism-related infrastructure and facilities are already developed in the area
- Volcanic areas are also areas of rich mineral resources which are rich mining grounds
- Volcanic areas are also tapped for its geothermal energy to produce a cheaper and clean source of electricity

Examples:

- Hot springs and hot sand bath in Japan, Old Faithful in Yellowstone National Park, USA
- Copper mining in Bougainvillea, Papua New Guinea
- Geothermal energy is used in New Zealand, Iceland and Japan

- (c) Study Fig. 5 which shows an extract on a major earthquake which occurred in India in September 1993. [4]

India's worst earthquake for fifty years occurred on 30 September 1993 at 3.56am local time. The last earthquake in the region was in 1967. The 1993 earthquake measured 6.2 on the Richter Scale and the focus was shallow at 10 km.

More than 25,000 people died, and many thousands more were unaccounted for. The worst-hit areas were Khilari (75 km from the epicentre) where 10,000 were feared dead or injured and Umargao where another 10,000 were feared dead with thousands more injured. The local hospitals were packed with people from the local villages.

Fig. 5

With reference to Fig. 5 **only**, explain why the effects of the earthquake were so severe. [4]

- Shallow focus, 10 km deep, hence there is greater impact on the land as the seismic waves reach the land surface more quickly resulting in more deaths
- Earthquake occurred at 3.56 am and many people were caught unaware as the it happened when majority of them were asleep. Thus they could not escape
- The buildings are likely to have collapsed during the earthquake as they were not up to code and were not earthquake resistant since the last earthquake was more than 30 years ago
- Lack of medical supplies and attention due to the high number of casualties which may have rendered the local hospital being unable to cope with the numbers
- The people were not prepared for an earthquake since the last earthquake had occurred almost 30 years ago, hence they may not have evacuation plans or trained rescue workers available

- (d) Discuss the impact of earthquakes on people living in areas prone to this natural hazard. [8]

Impacts:

- Threat of tsunamis
- Disruption of services
- Fire
- Landslides
- Destruction of properties
- Destruction of infrastructure
- Loss of lives

A full answer does not need to include all the above points
Candidates at each level will show the following characteristics:

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Section B

Answer one question from this section.

- 3(a) With reference to examples, differentiate between degenerative and infectious diseases. [4]

Degenerative:

- Non communicable diseases where function of tissues and organ changes over time and deteriorates.
- E.g. coronary heart diseases, strokes, high blood pressure

Infectious diseases:

- Communicable – caused by pathogenic organism virus or bacteria, parasites. Diseases spread through vectors, sexual transmission etc
- E.g. HIV/AIDS, Malaria

- (b) Study Table 1 which shows population statistics for Mali, Africa between 2000 and 2005.

Year	Birth Rate	Death Rate	Life Expectancy (years)
2000	49.23	19.10	46.66
2001	49.79	18.71	47.02
2002	48.37	18.32	47.39
2003	47.79	19.21	45.43
2004	47.29	19.12	45.28
2005	46.77	19.05	45.09

Table 1

Describe and suggest reasons for the changes in life expectancy in Mali, Africa between 2000 and 2005. [5]

Description	Reasons
• Overall decrease in life expectancy by 1.57 years from 2000 to 2005	• Spread of diseases such as AIDs • Shortage of food due to changes in weather e.g. drought
• Increase in life expectancy between 2000 and 2002 by 0.73 years	• Improvement in health care facilities • Improved access to health care • Improved diet • Improved clean drinking water or proper sanitation

- (c) Study Fig. 6 (Insert) which shows the relationship between GDP and the percentage of population with access to safe drinking water in ten countries.

Describe the relationship between GDP per capita and the percentage of population with access to safe drinking water. Provide evidence from Fig. 6 to support your answer. [3]

- There is a positive relationship between GDP per capita and percentage of population with access to safe drinking water
- Portugal, GDP per capita is highest at 21k, percentage of access to safe drinking water is also highest at 94%, while Ethiopia has the lowest GDP per capita at 1k, and the percentage of access to safe drinking water is also the lowest at 8%
- However, there is an anomaly. China has a higher than expected percentage of access to safe drinking water than expected for its GDP. Or, Romania has a lower than expected percentage of access to safe drinking water than expected for its GDP

- (d) Study Fig. 7 which shows the prevalence of HIV/AIDS among young people aged 15-19 in eastern and southern Africa.

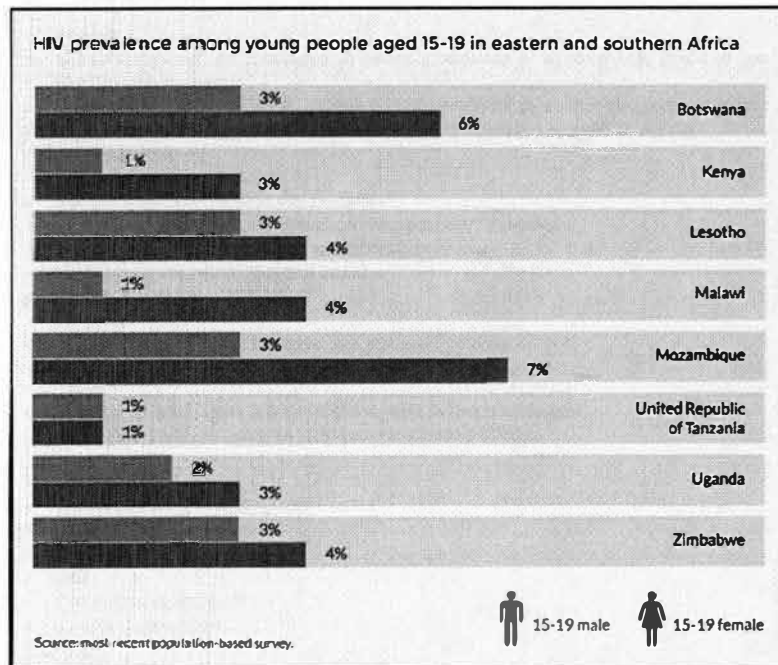


Fig. 7

Describe and account for the variation of prevalence of HIV/AIDS between males and females aged 15-19 in eastern and southern Africa. [5]

Describe:

- There is generally a higher percentage of HIV/AIDS prevalence amongst females than males in eastern and southern Africa. E.g. Botswana 3% points more females, Kenya 2% points more, Mozambique 4% points more
- Mozambique has the greatest disparity in the prevalence of HIV/AIDS between males and females by 4% points
- United Republic of Tanzania is the exception, where there is an equal percentage (1 %) of male and female HIV/AIDS prevalence in the country

Explanation:

- Cultural practices which prevent girls from knowing about sex and sexuality until marriage. Sexuality education may not be conducted for the girls in school, hence they may not know how HIV/AIDS is transmitted
- Females may have limited education and hence are only able to find jobs with low pay and no job security. Therefore, they often resort to commercial sex work due to their lack of viable options

(e) With reference to a named case study, discuss the impact of HIV/AIDS.

[8]

Impacts:

- Life expectancy & infant mortality rate
- Orphan crisis
- Health care expenditure
- Slower economic growth

A full answer does not need to include all the above points

Candidates at each level will show the following characteristics:

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Level 3 (7-8 marks)

- Answers will be comprehensive and supported by sound knowledge
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4(a) Study Fig. 8, which shows the percentage of obesity amongst adults in the world.

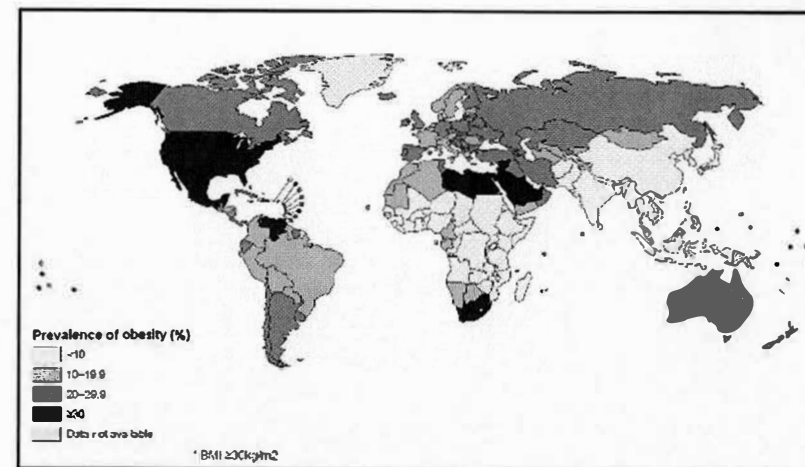


Fig. 8

(i) Describe the distribution of obese adults in the world.

[4]

- Adult obesity is the highest at $\geq 30\%$ in developed countries such as USA
- Adult obesity is also very high at $\geq 30\%$ in developing countries such as South Africa, Egypt and Saudi Arabia
- The lowest prevalence of obesity $\leq 10\%$ are mainly found in the African continent, e.g. Ethiopia and Kenya and Asia, e.g. China and India
- Most of Europe as well as Oceania experience moderate levels of obesity (20% – 29.9%)

(ii) Account for the distribution of obese adults in the world.

[4]

- Disposable income
- Accessibility to food
- Imports
- Lifestyle
- Food preferences
- Changing diets due to globalisation and migration

(b) Study Fig. 9 which shows the trends of areas growing GM crops in the world.

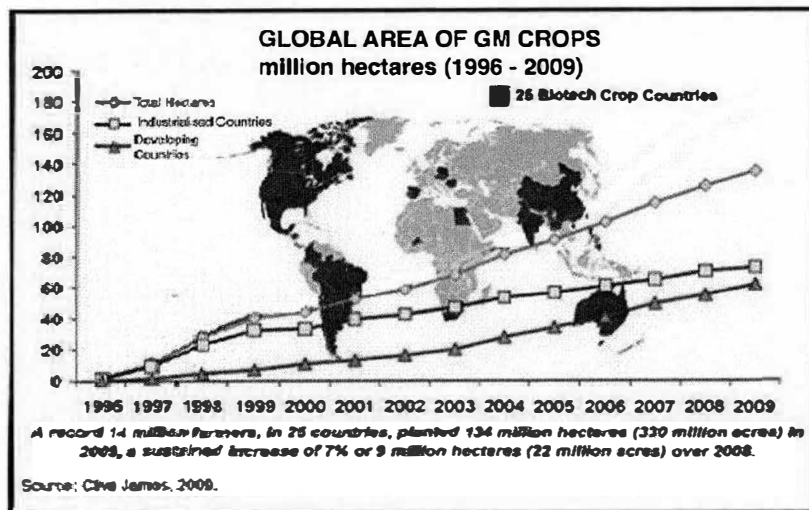


Fig. 9

(i) Describe the trends in the growth of areas growing GM crops as shown in Fig. 9. [5]

- Steady increase in total hectares of areas growing GM crops by 140 million hectares
- Industrialised countries have a head start and already growing about 60 million hectares of biotech crops since 1996 – 2009
- Rapid growth between 1996- 1999 before slowing down a little
- Developing countries however are growing less biotech crops than the Industrialised countries
- The difference between the Industrialised and Developing countries are narrowing.

(ii) Account for the trend of growing GM crops. [4]

- Crops grow better in challenging environments, resistant to pests which provides more crops available for sale, hence increasing farmer's income
- Shorter growth times (150 to 100 days) has resulted in double/ triple cropping, providing more food for the people
- GM crops may contain additional Vitamins like beta-carotene to supplement the lack of Vitamin A in some diets in the LDCs.
- GM crops may be less reliant on additional applications of fertilizers, herbicides and pesticides, thereby reducing potential environmental pollution with the use of it

(c) With reference to named example(s), discuss if technological strategies are more effective than international strategies in alleviating food shortage and hunger. [8]

Strategies:

- Storage
- Farming technology
- Biotechnology
- Food programmes
- Fair trade

A full answer does not need to include all the above points

Candidates at each level will show the following characteristics:

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- Examples to support answers can be found in most places in the answer