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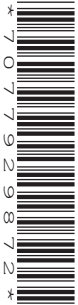
GCSE (9–1) Geography B (Geography for Enquiring Minds)

J384/03 Geographical Exploration

Resource Booklet

Monday 11 June 2018 – Afternoon

Time allowed: 1 hour 30 minutes



INFORMATION FOR CANDIDATES

- The questions tell you which resources you need to use.
- This document consists of **8** pages. Any blank pages are indicated.

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Fig. 1 – GIS map of Rio de Janeiro



Fig. 2 – Photographs and Reviews of three coastal areas in Rio de Janeiro




<p>Copacabana Beach</p> 	<p><i>‘Brilliant beach’</i> <i>We had a fantastic day at Copacabana beach. The water was warm and clean and it is an amazing place for families. Lots to do including beach football and beach volleyball. The best beach in Rio!</i></p> <p><i>‘Beautiful but unsafe’</i> <i>Copacabana is a beautiful beach with golden sand and is much cleaner than others, but there are so many people! We went on a Saturday and you could barely find any room for your towel. There were so many people selling things, some very forcefully. We had our camera stolen from our beach bag. Very unsafe.</i></p>
<p>Marapendi Lagoon</p> 	<p><i>‘Wildlife in the city’</i> <i>Marapendi Lagoon, or Lagoa da Marapendi is situated in Barra da Tijuca to the west of Rio de Janeiro. You feel like you are out of the city with a wide, sheltered lagoon surrounded by lovely trees and lots of birds and wildlife. There are lots of water sports activities and fantastic bike rides around the area.</i></p> <p><i>‘So polluted, you smell it before you see it’</i> <i>Marapendi Lagoon should be one of the must see attractions in Rio but, unfortunately, it is so polluted, we could smell the awful stench before we even saw the lagoon. The sewage from several squatter settlements (favelas), north of the lagoon, drains straight into the water. We saw several dead fish.</i></p>
<p>Botafoogo Beach</p> 	<p><i>‘Picture perfect location’</i> <i>Botafoogo could be the most photographed beach in Brazil as it is in the middle of the two big tourist attractions – Sugar Loaf Mountain and the Christ the Redeemer statue. The bay is most popular with the wealthy sailing community as the sheltered Botafogo Cove allows yachts to be moored very close to the beach. Some excellent restaurants and clubs cater perfectly for those seeking the finest things life has to offer.</i></p> <p><i>‘Mainly used by locals’</i> <i>Ever wondered why the postcards don’t show anyone swimming? The water is too polluted to go into! The views are fantastic but the beach is only visited by locals trying to make some money by selling tourists rubbish, and many of the kids from the local squatter settlements hang around and play football there. I suggest you come to take a photo and leave quickly.</i></p>

Fig. 3 – Beach Management strategies used in Brazil

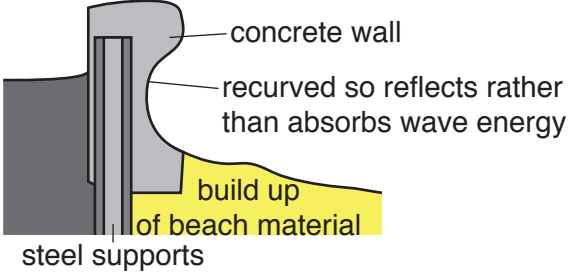
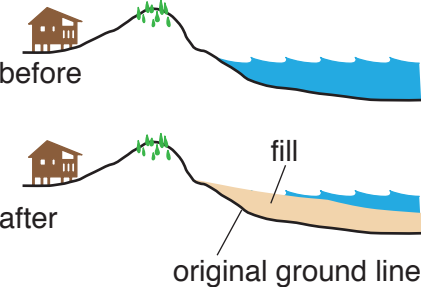
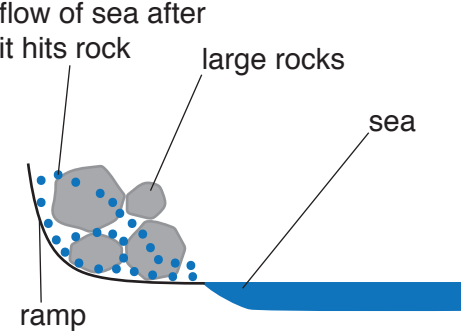
<p>Sea Walls</p> <p>recurved sea wall</p>  <p>concrete wall</p> <p>recurved so reflects rather than absorbs wave energy</p> <p>build up of beach material</p> <p>steel supports</p>	<p>Description: Concrete wall alongside the coastline that can absorb or reflect the energy in the waves.</p> <p>Cost: £5000 per metre</p> <p>Lifespan: 100 years</p> <p>Positives: Very strong and effective at protecting cliffs. Can stop flooding. Can be built into a promenade walk beside beach areas.</p> <p>Negatives: Unattractive in lots of places. Can lead to a big drop down to the beach or sea. Expensive to maintain and repair.</p>
<p>Beach Nourishment (Beach Replenishment)</p>  <p>before</p> <p>after</p> <p>fill</p> <p>original ground line</p>	<p>Description: Sand is added to beaches artificially to maintain a wide beach needed to reduce the impact of waves.</p> <p>Cost: £10 per metre</p> <p>Lifespan: 2 years average</p> <p>Positives: Looks natural and attractive. Can also make sure that the beach is replaced with clean sand regularly, helping to attract tourists.</p> <p>Negatives: Erosion and transportation of material continues along the beach so nourishment needs to be maintained or redone very regularly.</p>
<p>Rock Armour</p>  <p>flow of sea after it hits rock</p> <p>large rocks</p> <p>sea</p> <p>ramp</p>	<p>Description: Large rocks or boulders are piled up at the base of a cliff or on the beach.</p> <p>Cost: £100 per metre</p> <p>Lifespan: 100 years</p> <p>Positives: Looks natural and attractive. Effective at absorbing wave energy so it has less impact on the coast. Allows a beach to be built up.</p> <p>Negatives: This can make access to the beach very difficult. The rocks will eventually erode.</p>

Fig. 4 – Sketch showing impacts of Beach Nourishment (Beach Replenishment) at Copacabana Beach

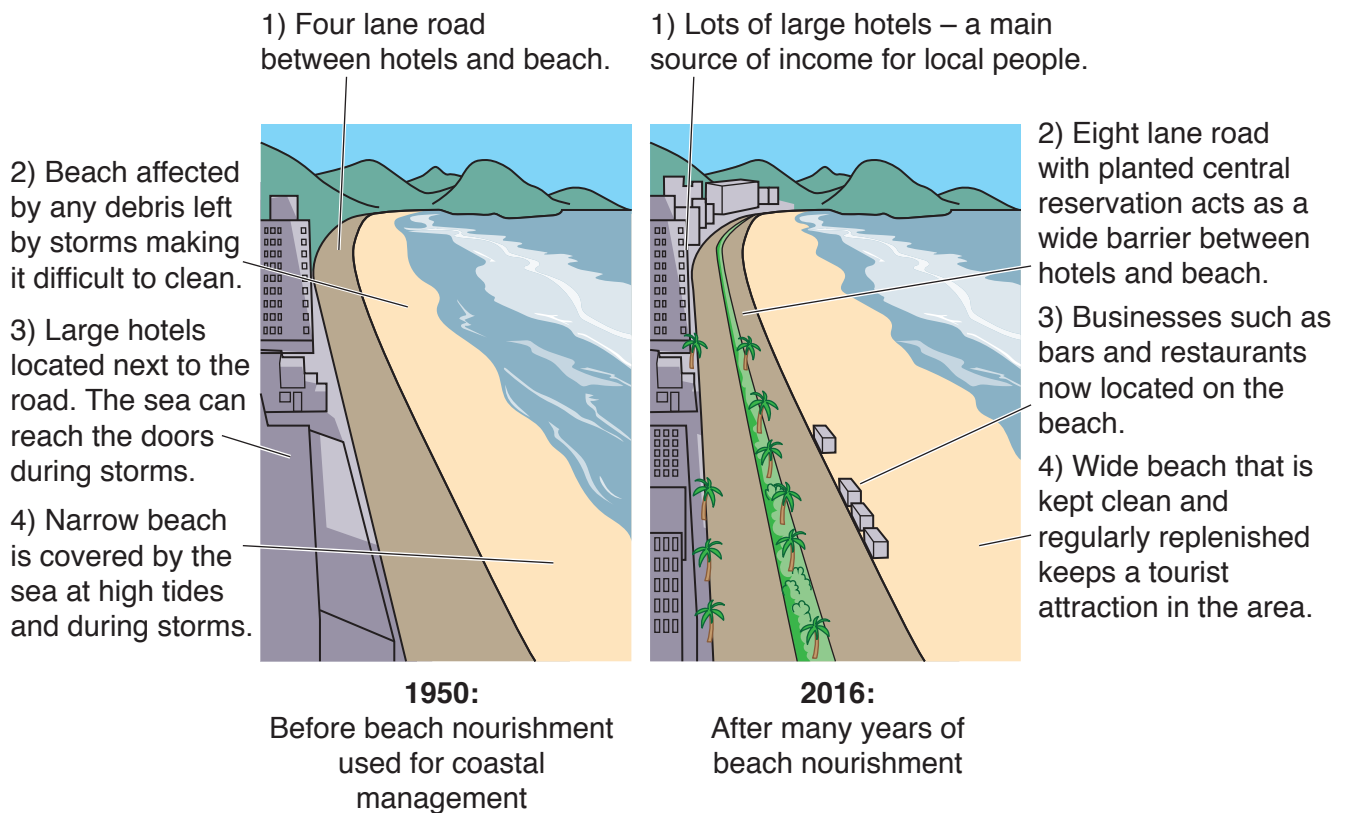


Fig. 5 – Statistics for Rio de Janeiro and Brazil

Statistics	Rio de Janeiro	Brazil
Average monthly income (per person)	\$563	\$375
Literacy rate (% of population)	94.8%	92.9%
Access to safe drinking water (% of population)	100%	98.1%
Access to improved sanitation facilities (% of population)	88%	82.8%
Number of doctors (per 1000 people)	2.56	1.89
Unemployment rate (% of population)	6.8%	12.6%

Fig. 6 – Map of Botafogo, a suburb of Rio de Janeiro

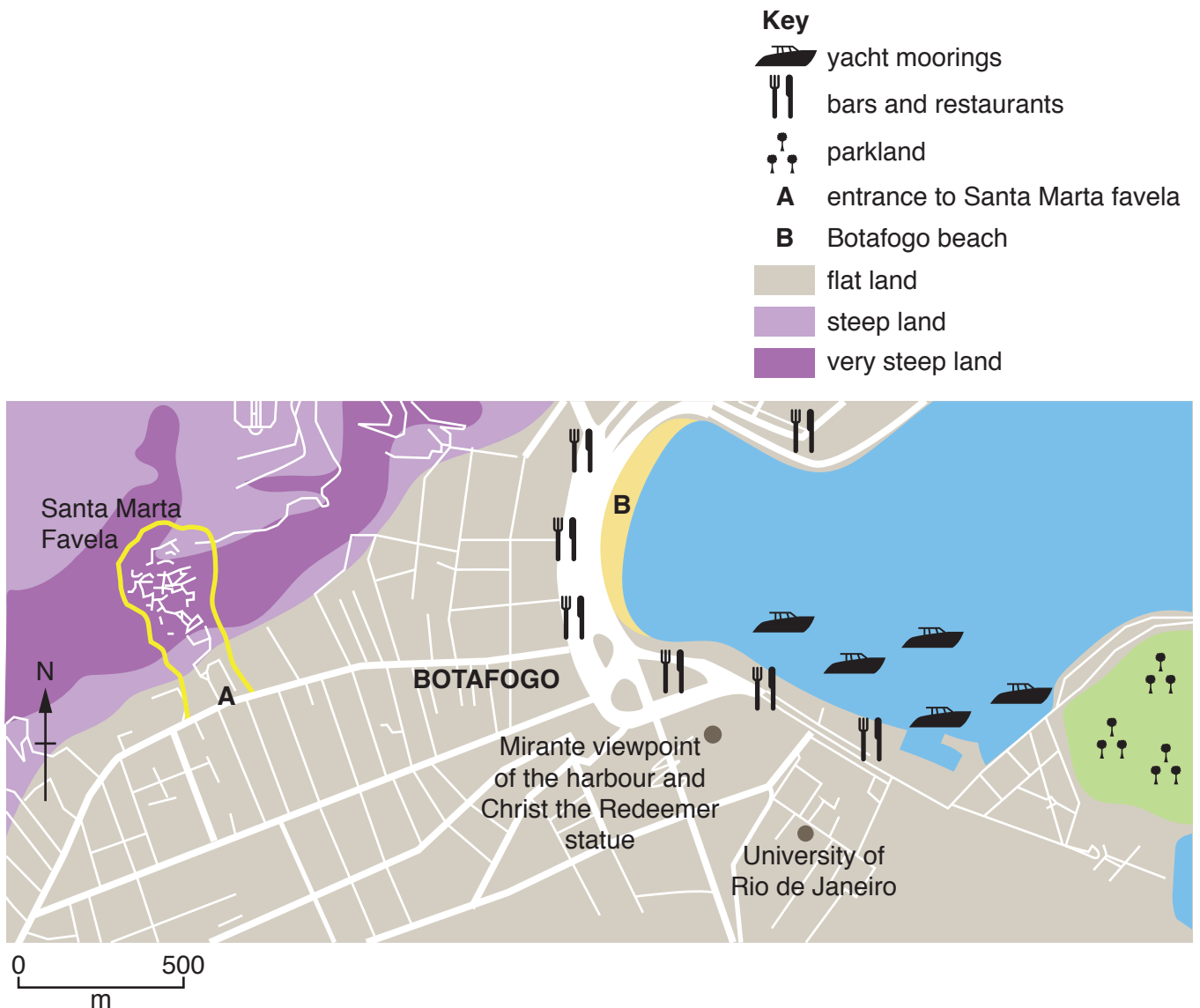


Fig. 7 – Photographs taken in the Santa Marta favela



Photograph A – The school building in Santa Marta favela, looking towards Botafogo suburb and beach



Photograph B – Children showering and waiting with washing, near the communal water tap in Santa Marta favela



Photograph C – Children attending school in Santa Marta favela

A school day is 4 hours, from 8.30am – 12.30pm



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