METHODIST GIRLS' SCHOOL

Founded in 1887



END-OF-YEAR EXAMINATION 2023 Secondary 3

GEOGRAPHY ANSWER SCHEME

Friday 6 October 2023 **2279** 1 hour 45 minutes

Answer all questions.

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

1	Geog	Seographical Methods				
	A grou Natur more	A group of students investigated the type of visitors that the Singapore Zoo at the Mandai Wildlife Nature Reserve attracts. They were keen to investigate the following hypothesis, "There are more tourists visiting Singapore Zoo than locals."				
	Study	Fig. 1.1 (Insert), which shows a map of the Singapore Zoo.				
	(a)	The students decided to use questionnaire survey to carry out their investigation.				
	(i)	With reference to Fig 1.1, explain how the students could sample the visitors to collect data needed for their investigation. [5]				
		 Students could locate themselves at the entrance of the Singapore Zoo as the entrances of the Singapore Zoo are near carparks, toilets and restaurants. There will be many people frequenting these amenities. Students could use convenience sampling to select the visitors as it is an efficient method to collect data with the volume of visitors. The students could collect data for 2 hours. 3 times a day over a period of 2 				
		 Collecting data over 2 weeks also help to account for the difference in visitor types volume over the weekday and the weekend. The students could collect at least 50 responses from their survey to ensure reliability of their results. 				
		AO2				
		Accept other possible answers.				
	(ii)	Study Fig. 1.2 (Insert), which shows the questionnaire survey that the students used to investigate the type of visitors at the Singapore Zoo. They were also keen to investigate the underlying reasons that account for the trend of visitors visiting the Singapore Zoo.				
		Suggest two improvements that can be made to the design of the questionnaire shown in Fig. 1.2. [2]				
		 Question 1 is irrelevant to the GI objective that the students are investigating as the gender of the respondent does not affect the outcome of the GI investigation. Students should only ask questions that are related to the GI objective. All the questions are open-ended, making it difficult for results collation. Students should include some close-ended questions with options for respondents to choose from. 				
		A02				
	(iii)	Study Table 1 (Insert), which shows the results that students collected based on their questionnaire survey.				
		Use an appropriate data presentation method and present the data in Table 1 on Fig. 1.3 to show how the type of visitors changes across the different months at Singapore Zoo. [3]				
		Award 1 mark for appropriate data presentation method selected. Award 1 mark for accurate plot of data. Award 1 mark for legend, correct axis.				



(b)	 The students wanted to extend their study and test the following hypothesis "Fewer visitors visit the Singapore Zoo during months with high rainfall." The students obtained the rainfall data from the Meteorological Service's website in Singapore to help with their investigation. Study Fig. 1.4 (Insert), which shows the average monthly rainfall in Singapore. Using information from Table 1 and Fig. 1.4, describe how well the data supports the students' hypothesis. [4] Possible responses: The data does not support the students' hypothesis. When average monthly rainfall was at its highest in Dec at 380mm, the number of visitors was at 628, which was the month with the fourth highest number of visitors. There is no clear relationship between the average monthly rainfall and the number of visitors to the Singapore Zoo. When average monthly rainfall in June, July, August and Sep were relatively uniform at approximately 150mm, the number of visitors to Singapore Zoo.
	greatly ranging from the highest in June of 708 visitors to Sep's 531 visitors. Accept other possible responses. AO2

[Total: 20]

2		Tourism		
	(a)	Study Fig. 2.1 (Insert) which shows the international tourist arrivals in millions from 1950 to 2020.		
	(i)	 Describe the international tourist arrival trends from 1950 to 2020 shown in Fig. 2.1. [3] There is an overall increase in international tourist arrival from 1950 to 2020, from approximately 20 million tourist arrivals in the 1950s to 1600 million in 2020. There are generally more international tourist arrivals in Europe and Americas than Asia, Africa and Middle East. In 2020, there are 1000 million tourist arrivals in Europe and Americas which is more than the 600 million tourist arrivals in Asia, Africa and Middle East. However, the tourist arrivals in Asia, Africa and Middle East is gradually increasing over the years. From 1970, 180 million tourist arrivals in Asia, Africa and Middle East, it has increased to 600 million tourist arrivals in 2020. 		
	(ii)	Account for the tourist arrival trends observed in Fig. 2.1 (Insert). [3]		
		 The increasing tourist arrivals in Asia, Africa and Middle East could be due to easy access to information. As technology becomes more advanced, information about these places which were previously unknown gets more available and attracts more tourists to visit these regions. Advancement in technology also enables the easy booking and planning of international trips and made it more convenient for people to travel, leading to an increase in international tourist arrivals globally. Advancement in transportation technologies over the years has allowed for ease of travel. People are able to fly greater distances over shorter periods of time, making more places accessible and convenient to reach. This accounts for the greater increase in international tourist arrivals globally. 		
		Accept other possible answers.		
	<i></i>	AO2		
	(b)	 Suggest how an outbreak of diseases can bring about an economic loss for a country which is highly dependent on tourism. [4] An outbreak of diseases can cause people to cancel their travel plans out of the fear of contracting the disease. When there are less people travelling, there will be less tourists' spending in the affected country, leading to an economic loss. With the demand from tourists greatly reduced due to disease outbreak, the many locals who are employed in the tourist sector of the affected country will start to lose the jobs. Their disposable income will be reduced. The reduction in disposable income will lead to less spending and an economic loss will be resulted. When there is a disease outbreak, governments around the world might issue travel advisories to the affected country, leading to a decline in tourist arrivals. The affected country which is highly dependent on tourist arrivals will suffer an economic loss. 		
	(c)	Study Fig. 2.2, which shows photographs of the Kayan people living in a tourist village in Thailand, located near the Myanmar and Thailand border. The Kayan people originated		
		from Myanmar and took refuge in Thailand due to conflicts happening within their country.		

With reference to Fig. 2.2, explain how tourism can impact society and culture. [5] Award 1 mark for each explanation of how tourism impacts society and culture, to a maximum of 5 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable.
 Tourism can bring about positive impacts to society and culture through the preservation of traditions because of income brought about by tourism. The Kayan preserved the tradition of decking in rings and traditional costumes as tourist income in the village they stay provides the incentives to do so. As the colourful handloomed cloth can be sold at the tourist booths set up at the village, the tradition of hand looming cloth is preserved. However, tourism can cause commodification of the Kayan culture and authenticity might be lost. Many Kayan women wear the brase rings on their packs as tourists are interested.
 Many Kayan women wear the brass rings on their necks as tourists are interested to take photos with them and helps them to generate income. AO1

3	Climate
(a	 Give reasons to explain why coastal areas experience higher humidity than inland areas during the afternoons. [3] Coastal areas are near ocean/sea, water heats up and loses heat slower than land as water has a higher latent heat capacity than land. Temperature is high during the afternoons but water takes a longer time to heat up, as a result, air over the coastal areas is cooler than air over inland areas. The cooler temperatures over coastal areas causes lesser amount of water vapour that the air can hold as compared to inland areas, this leads higher humidity over coastal areas in the afternoons.
(b	 Explain how volcanic eruptions can affect temperature. [3] Volcanic eruptions releases large volumes of carbon dioxide, water vapour, sulphur dioxide, dust and ash into the atmosphere. The sulphur based particles, dust and ash spread around the lower atmosphere area of the Earth, reflects and absorbs solar energy back into space. This will lead to the lowering of temperature on Earth as lesser incoming shortwave radiation will be absorbed by the earth's surface and lesser emission of long wave radiation to heat up the surrounding air.
(c	 Study Fig. 3.1 (Insert) and Fig. 3.2 (Insert), which show global surface temperature from 1850 to 2020 and an infographic on what climate change is. 'Humans are the main cause of climate change.' With reference to Fig. 3.1 and Fig. 3.2, to what extent do you consider this statement to be true? Explain your answer. [9]
	Relevant content • What climate change is • Anthropogenic and natural causes of climate change A possible approach The answer makes a clear judgement of whether humans are the main cause of climate change with reference to examples and case studies. For instance, the use of fossil fuels increased steeply since the start of the industrial revolution in the 1880s, contributing to more than 35 billion tonnes of carbon dioxide emissions per year. Climate change can occur due to volcanic eruptions; Mount Pinatubo in 1991 leading to a drop in average global temperature of about 0.6°C over 15 months after the eruption. Fig. 3.1 and 3.2 can be quoted to support their argument about anthropogenic and natural causes of climate change. There should be recognition that there are both anthropogenic and natural causes of climate change. Some points that can be considered: • Time: How the climate has changed overtime and whether it coincided with any significant human developments and natural events • Scale: How national and local developments contribute to global changes in climate

END OF PAPER

Table of Specifications

Question	AO1	AO2	AO3
1(a)(i)		5	
1(a)(ii)		2	
1(a)(iii)		3	
1(a)(iv)			6
1(b)		4	
2(a)(i)		3	
2(a)(ii)		3	
2(b)	4		
2(c)	5		
3(a)	3		
3(b)	3		
3(c)			9
Total	15	20	15

Copyright Acknowledgements

Question 1	Fig. 1.1	©	https://www.mandai.com/en/singapore-zoo/plan-your-visit/park-map.html
	Fig. 1.4	©	https://weather-and-climate.com/average-monthly-precipitation-Rainfall,Singapore,Singapore
Question 2 Fig. 2.1 © https://www.coolgeography.co.uk/GCSE/AQA/Tourism/Tourism%20growth/Tou h.htm h.htm h.htm h.htm h.htm			https://www.coolgeography.co.uk/GCSE/AQA/Tourism/Tourism%20growth/Tourism%20Growt h.htm
	Fig. 2.2	©	https://landofsize.com/ethical-travel-the-good-and-bad-about-visiting-long-neck-kayan- tribespeople-in-thailand/
		©	https://commons.wikimedia.org/wiki/File:Kayan_woman_and_tourists.jpg
		©	https://www.frontiermyanmar.net/en/the-safest-way-generations-of-kayan-lahwi-find-security- as-a-tourist-attraction/
		©	https://www.thedailymeal.com/ethical-travel-should-you-visit-thailand-s-long-neck-women- villages/
Question 3	Fig. 3.1	©	https://en.wikipedia.org/wiki/Attribution_of_recent_climate_change#/media/File:Global_Tempe rature_And_Forces_With_Fahrenheit.svg
	Fig. 3.2	©	https://www.nps.gov/goga/learn/nature/climate-change-causes.htm