JC1 H2 Geography
Common Test Suggested Answers

Section A

Cluster 3 Sustainable Future and Climate Change

1 Resource 1 shows the breakdown of Thailand's plastics end use industries. Resource 2 shows Bangkok's plastics waste management hierarchy (left) and ideal waste management hierarchy (right). Resource 3 shows a photograph of a young dugong who died from infection exacerbated by plastic bits in her stomach. Resource 4 is an extract taken from an article about plastic waste pollution in Thailand. Resource 5 shows Thailand's roadmap to plastic waste management 2018 – 2030.

(a) Cite data from Resource 1 to describe the usage of plastic in Thailand. [4]

Award 1 mark for each description using data from Resource 1 on the usage of plastic in Thailand.
Award a maximum of 1 additional mark for further development of each description, where applicable.

Possible responses include:

- Plastic is heavily used in the packaging industry as it takes up 2,323,000 tonnes and accounts for the highest percentage at 42% compared to other industries. [1 mark]
- The use of plastic in electricals and electronics industry as well as construction industry takes up 16% and 14% each respectively, less than half of the packaging industry. [1 mark]
- Plastic is also used in a variety of industries, such as housewares, safety & security, agriculture, footwear, recreation, medical devices, etc., albeit at a much smaller percentage, ranging from 1 – 4% each. [1 mark]
- The usage of plastic in the top 5 industries, namely packaging, electricals and electronics, construction, automotive, and filament, accounts for 86% of the consumption in Thailand. [1 mark]

(b) Using two examples, describe how single-use plastic is part of everyday urban life. [4]

Award 1 mark for each description using an example on how single-use plastic is part of everyday urban life.
Award a maximum of 1 additional mark for further development of each description, where applicable.
Award a maximum of 2 marks if one example is given only.

Possible responses include:

· Ordering takeaway food is a convenient option for many busy urban residents. [1 mark]

  Whether it is a burger, sushi or noodles, the food is typically placed in in plastic containers, and plastic utensils are provided for eating. These items are designed for single use and are frequently thrown away after a meal, adding to the plastic waste generated in urban areas. [1 additional mark]

· Single-use plastic is part and parcel of grocery shopping in everyday urban life. [1 mark]

  In large supermarkets, many fruits and vegetables also come pre-packaged in plastic bags or containers. Additionally, most supermarkets offer free plastic bags at the cashier, which are used to carry groceries home and thrown away after. [1 additional mark]

· Urban residents rely on various personal care and hygiene products that come packaged in single-use plastic, in their daily routines. [1 mark] Common items used in everyday urban life include shampoo and conditioner bottles, shower gel containers, toothpaste tubes, and plastic razors. These items are typically used and then disposed of, adding to the plastic waste stream in urban areas. [1 additional mark]

(c) Explain whether Bangkok's plastic waste management hierarchy is sustainable in nature as shown in Resource 2. [5]

Award 1 mark for each explanation of whether Bangkok's plastic waste hierarchy is sustainable in nature, to a maximum of 5 marks.
Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

· Bangkok's plastic waste management hierarchy is not sustainable in nature because the hierarchy works in the opposite direction as compared to the ideal waste management hierarchy for plastics. [1 mark]

· According to Resource 2, there is a lack of attempt by Bangkok to prevent the use or reuse of plastic. This is, however, the most preferred method in the ideal hierarchy. [1 mark]

· Only 21% (or 505 tonnes per day) of plastic waste generated in Bangkok is separated at transfer stations to be recycled. This goes contrary to the ideal hierarchy where recycling is the second most preferred method. [1 mark] Although Bangkok has recycling programs and initiatives in place, the overall recycling rate in Thailand is relatively low which makes the hierarchy unsustainable in nature. Challenges include limited recycling infrastructure, lack of recycling awareness, and difficulties in segregating waste properly. [1 additional mark]

· About 6% (or 135 tonnes per day) of plastic waste is sent to the incinerator for energy recovery. This is the second-most preferred method in Bangkok but it ranks lower in the ideal hierarchy. [1 mark] Waste-to-energy and incineration are methods used to generate energy from plastic waste. While these approaches can help reduce landfill space and generate electricity, they are not considered the most sustainable solutions

due to potential negative environmental and health impacts associated with emissions from incineration facilities. [1 additional mark]

· A majority of 73% (or 1743 tonnes per day) of plastic waste generated in Bangkok is sent to the landfills for disposal. This is unsustainable because valuable land in the capital city would have to be used for landfills and Bangkok has already faced challenges with limited landfill space. [1 mark] Disposal is the least preferred option in the waste management hierarchy. When plastic waste is improperly disposed of, it can end up in natural ecosystems, including oceans and waterways, where it can persist for hundreds of years. This leads to environmental degradation, harm to wildlife, and the disruption of delicate ecosystems. [1 additional mark]

(d) With reference to Resource 3 & 4, explain the demand placed on the natural environment due to plastic waste. [5]

Award 1 mark for each explanation of the demand placed on the natural environment due to plastic waste, to a maximum of 4 marks.
Award a maximum of 1 additional mark for further development of each explanation, where applicable.
Award a maximum of 3 marks for explanation with reference from either Resource 3 or Resource 4 only.

Possible responses include:

Resource 3

· Plastic waste placed a lasting demand on the natural environment as it breaks down very slowly into microplastics, which are less than 5 millimeters in size. Microplastics are pervasive in the environment, such as the oceans. These tiny particles when ingested by marine organisms can cause health issues and even death. [1 mark]

· The young dugong Marium shown in Resource 3 did not survive after an infection was exacerbated by bits of plastic lining her stomach. The microplastics could have been ingested while the dugong was grazing on seagrasses in the shallow coastal waters near to shore. [1 additional mark]

Resource 4

· Plastic waste places a significant demand on the natural environment because the improper disposal of plastic waste leads to pollution of both land and water environments. [1 mark] According to Resource 3, the dumping of hazardous waste, including scrap plastic and used oil, has caused the rubber trees to stop growing. The plastic litter can degrade natural landscapes, harm wildlife, and leach chemicals into the soil, affecting plant and animal life. [1 additional mark]

· Plastics that are littered or inadequately managed can end up in water environments causing water pollution. Plastic waste can entangle and suffocate aquatic life and

disrupt ecosystems. [1 mark] As shown in Resource 3, approximately 1,500kg of rubbish, including plastic food and beverage containers, were dumped daily into the Lat Phrao canal since the pandemic and have caused the freshwater snails and small prawns to disappear. [1 additional mark]

· Food waste, which accompanied the plastic food and beverages containers, would have contaminated the water in the canal such that it cannot be used to water the surrounding trees. [1 mark]

· When plastic waste is dumped in waterways, they can obstruct the natural flow of water by forming a barrier. As a result, the water cannot flow freely, leading to increased water levels and potentially causing flooding. [1 mark] According to Resource 3, waste in canals traps other debris and more sediment. They narrow the width or cross-sectional area of the waterways, reducing their overall flow capacity. With reduced capacity, canals become less capable of accommodating high volumes of water during heavy rainfall or periods of increased water flow. This restriction can contribute to subsequent flooding. [1 additional mark]

(e) With reference to Resource 4 and 5, explain the possible challenges faced by Thailand in meeting her vision of sustainable plastic management by circular economy. [6]

Award 1 mark for each explanation of the possible challenges faced by Thailand in meeting her vision of sustainable plastic management by circular economy, to a maximum of 6 marks.
Award a maximum of 1 additional mark for further development of each explanation, where applicable.
Award a maximum of 3 marks for explanation with reference from either Resource 4 or Resource 5 only.

Possible responses include:

Resource 4

· Implementing and enforcing regulations related to plastic waste management can be challenging because repeat industrial offenders are not properly monitored on a regular basis by a central authority. [1 mark] This is shown in Resource 4 where “factories are allowed to reopen after they fix the problem, even if they repeat the offence more than 20 times”. The lack of a central agency with oversight of the offenders poses a challenge for Thailand to meet her vision. [1 additional mark]

· Another challenge faced by Thailand is the limited collection and recycling facilities, as well as the lack of a comprehensive waste management system. [1 mark] According to Resource 4, NGO worker Sumniang Boonlue did not blame consumers for the tonnes of rubbish fished out of the waterways because he felt that the state did not provide enough facilities to manage the amount of waste that has ballooned since the

start of the pandemic. [1 additional mark]

Resource 5

· Thailand has a significant demand for plastic products, leading to high levels of plastic consumption. The use of single-use plastics, such as plastic bags, cups, and food packaging, remains prevalent. [1 mark] Addressing the target of reducing plastic consumption and shifting to environmentally friendly products that are more sustainable as shown in Resource 5 requires concerted efforts from both consumers

and manufacturing businesses. Ensuring compliance from manufacturing industries can be difficult. [1 additional mark]

· To reach Thailand's target of 100% plastic waste by circular economy, the adoption of advanced technologies and sustainable plastic management practices would be crucial. [1 mark] Such technologies usually require substantial investment and resources which Thailand may not have. Some technologies, such as alternatives to traditional plastics, may still be in the early stages of development or have higher costs compared to conventional approaches. Overcoming technological and financial constraints to support the implementation of sustainable plastic management practices would be a significant challenge for Thailand to meet her vision by 2030. [1 additional mark]

(f) Suggest three possible strategies to help Thailand reduce single use plastic consumption. [6]

Award 1 mark for each suggestion of a possible strategy to help Thailand reduce single use plastic consumption.
Award a maximum of 1 additional mark for further development of each suggestion, where applicable.
Award a maximum of 2 marks for each suggested strategy to help Thailand reduce single use plastic consumption.

Possible responses include:

· Thailand can implement stricter regulations on single-use plastic bags to significantly reduce their consumption. Thailand can consider imposing bans or levies on plastic bags, encouraging the use of reusable bags instead. [1 mark] This strategy has been successful in many countries worldwide and can be coupled with awareness campaigns to promote behavioural change among consumers. [1 additional mark]

· Thailand can launch large scale public awareness campaigns to educate her citizens about the environmental impacts of single-use plastics and the benefits of reducing their consumption. [1 mark] The usage of various channels such as traditional media, social media, schools, and community outreach programs can help to spread the message further and promote sustainable behaviours among consumers. [1 additional mark]

· Thailand can implement more incentives to encourage consumers to choose eco

friendly alternatives over single-use plastic. [1 mark] This can include discounts, rewards, or loyalty programs for using reusable products, participating in recycling initiatives, or supporting businesses that adopt sustainable practices. By providing tangible benefits, consumers are more likely to adopt sustainable behaviours. [1 additional mark]

· The Thai government can collaborate with businesses and industries to reduce single use plastic consumption. [1 mark] The government can encourage them to adopt sustainable packaging practices, provide incentives for using eco-friendly materials, and support initiatives that promote packaging innovation and alternative materials. Voluntary agreements or regulations can be introduced to drive industry-wide changes. [1 additional mark]

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· The Thai government can strengthen waste management infrastructure to support proper segregation and recycling of plastic waste. [1 mark] By increasing the number of recycling facilities, improving collection systems, and investing in technologies that facilitate efficient sorting and processing of plastic waste, more plastic waste can be diverted from landfills and effectively recycled. [1 additional mark]

Section B

2. 'The impacts of urban reimaging are rarely positive.' Evaluate this statement.

[20] Possible Approaches:

Candidates could approach the question by **making a judgement** on whether the **impact of urban reimaging** are indeed **rarely positive**, through a consideration of negative and positive criteria, like the **scale** (local, national) of various impacts (economic, environmental, social) and show how different impacts varies over **space** (countries at different levels of development) and **time**. Candidates could **analyse the contextual factors** such as role and vision of government, involvement of private sector, nature of adopted strategy, soft and intangible qualities of the city, which may have contributed to the variations in the impacts.

Candidates can also approach the question by **making a judgement** on whether the impacts of urban reimaging are rarely positive in some places than others through a **consideration of criteria** such as the political will, allocated budget, choice of strategy and local liveability. Candidates could consider **different groups of people** along the lines of age, gender and income level.

Levels marked using Generic Level Descriptors for H2 essays

3. Evaluate the success of the strategies used to address issues faced by women in the cities. [20]

Possible Approaches:

Candidates could approach the question by **making a judgement** on whether some strategies are more effective than others through a consideration of the **relative strengths and limitations** of the strategies. The strategies could be compared in relation to **criteria** such as **costs, benefits** and **ability to target a wide range of issues**. These strategies could be aimed at addressing different issues related to women such as those related to **economic well-being, social well-being and psychological well-being**. They could also include those implemented at different scales or by different stakeholders.

Candidates could also approach the question by **making a judgement** on whether the **same strategies** have been more effective in some places than others through a

consideration of **two or more case studies**. Candidates could evaluate whether the strategies in each case **achieved the intended aims**. Candidates could also analyse the **unintended negative impacts of the strategies**. Candidates could also analyse the **contextual factors** such as the scale of the issues, the political will of the authorities and the resources available, which may have contributed to the **variations in success** between these places.

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