Section A – Tropical Environments

Answer **one** question from this section.

1 (a) Explain how seasonal variations in wind direction affects tropical climates. [12]

Indicative content:

- Seasonal variations in wind direction refer to monsoons.
- The effects of such variations on tropical climates generally revolve around rainfall seasonality.
- An explanation of how such seasonal variations in wind direction occur should be provided: change in position of the overhead sun across the months; shifts of the ITCZ.
- Explanation of how these variations then affect rainfall patterns in the tropics should also be provided: effect of variations in land/ sea surfaces on rainfall patterns; other local factors – such as orographic barriers.
- A higher level response will offer detailed explanations of both how the seasonal variations in wind directions occur, as well as their resultant effects on rainfall patterns in the tropical climates. An understanding of context will also be shown, perhaps through discussing/ comparing the effects of the Asian and African monsoons.

Levels marked using H2 generic level descriptors for 12m SEQ sub-part (a)

(b) To what extent do you agree that variations in rainfall only exist between climatic zones in the tropics? [20]

Indicative content:

- Variations in rainfall can be seen between climatic zones: total amount; seasonality
- Variations in rainfall can also be seen within climatic zones, in different locations with location-specific factors/ conditions: orographic barriers; local heating; ocean currents; continentality
- A higher level response will have a clear statement of degree of agreement with the perspective offered. Responses should provide justification for their stand.

Possible links to other topics include:

- Occurrence of tropical cyclones leading to higher than average rainfall in some parts of the tropics (Topic 1.2)
- Climate change leading to effects on rainfall patterns or changes in rainfall within a climatic zone over time (e.g. wet places getting wetter, dry places getting drier) (Topic 3.1)

Levels marked using H2 generic level descriptors for 20m SEQ sub-part (b)

2 (a) Explain the variations in surface runoff generation within the tropics. [12]

Indicative content:

- In essence, students are required to discuss **how variations in surface runoff are a result of variations within the tropics.** Therefore, in order to address the question, students are required to do the following:
    - Identify the two different types of surface runoff (overland flow) in the tropics – Hortonian overland flow and saturation overland flow.
    - Identify variations within the tropics that would result in differences in surface runoff generation – in this case, differences in precipitation between the humid and arid tropics.
    - Explain why such differences in precipitation would result in Hortonian overland flow and saturation overland flow respectively.
- A higher level response might include the following:
    - Detailed explanations of the differences between Hortonian overland flow and saturation overland flow
    - Consistent and explicit relevance of the response to the context - e.g. contrasting between humid and arid tropics with relevant examples

Levels marked using H2 generic level descriptors for 12m SEQ sub-part (a)

(b) "Man is solely to blame for flooding hazards in the world today."

To what extent do you agree? [20]

Indicative content:

- Students should discuss both natural and anthropogenic causes of flooding, and provide a comparison of the **relative** importance of human activities in causing flooding hazards in the world today.
    - In the case of natural causes of flooding, students may particularly want to discuss the role of heavy rainfall in causing flooding hazards.
    - In the case of human causes of flooding, students could discuss the roles of deforestation and urbanisation in causing flooding hazards. The role of climate change in intensifying rainfall events, leading to greater frequency and/or magnitude of flooding hazards could also be raised.
- Students could argue that human activities are largely to blame for flooding hazards, especially given current urbanization trends and the trend of global warming.
    - Fully agreeing with the given statement, which requires evidence that natural factors do *not* have a part to play in causing flooding hazards at all, is generally not a recommended stand to take.
    - However, it is possible for students to discuss the role of humans in mitigating flooding hazards to support arguments of how human activities are not completely to blame for the

occurrence of flooding hazards.

- Students should, where possible, make reference to case studies that demonstrate the relative importance of human activities / natural factors in causing flooding hazards.
- A higher level response might include the following:
    - A clear statement of degree of agreement with the perspective offered, with justification for their stand.
    - Consistent use of case studies to support arguments within the essay.

Possible links to other topics include:

- The influence of climate on rainfall patterns and thereby the occurrence of flooding hazards in the tropics (Topic 1.1)
- The influence of climate change in influencing rainfall patterns (e.g. changes in precipitation intensity and influence on frequency of tropical cyclone occurrence) (Topic 3.1)
- The influence of urbanisation on flooding hazard occurrence (e.g. pluvial flooding) (Topic 3.2)

Levels marked using H2 generic level descriptors for 20m SEQ sub-part (b)

Section B – Development, Economy and Environment

Answer **one** question from this section.

3 (a) Explain the different perspectives on how development may be achieved for countries at various levels of development. [12]

Indicative Content:

- Different perspectives on how development may be achieved include:
  - Core-periphery model: Shows how the core regions become more economically developed than the periphery regions. Beneficial effects can spread from the developed, core regions to the less developed, peripheral regions due to increasing deconcentration from the core, increasing interactions between core and periphery and development of transport and communications infrastructure. These thus lead to economic growth and diffusion to the peripheral regions.

  - Dependency theory: proposes that the development of the richer nations was attained at the expense of the poorer ones, hence accounting for the persistent poverty or low levels of development of the developing countries. While richer countries were able to develop from the profits reaped by importing primary commodities from the poorer nations and selling manufactured products, the poorer countries constantly faced a situation of trade deficit where the price of primary commodities were always lower than the price of manufactured products they had to purchase from the richer nations.

  - Bottom-up development: Shifted the focus away from an economic understanding of development. Hence it emphasized self-reliance, meeting people's basic needs, being ecologically sensitive as aspects of development that should be attained/ considered. Involved greater public participation in contextualizing nature of development.

- A higher level response will offer detailed explanations of how each of the perspectives offered insights as to how development is achieved. Responses might also discern how these perspectives differentiated the development pathways of developed vs developing countries.

Levels marked using H2 generic level descriptors for 12m SEQ sub-part (a)

(b) Evaluate the usefulness of existing approaches in measuring development and its progress. [20]

Indicative content:

- Existing approaches in measuring development: economic measures; Human Development Index (HDI); Multi-dimensional Poverty Index (MPI)
- Existing approaches in measuring development progress: MDGs; post-2015 Development Agenda and SDGs

- Responses should include a discussion of the extent of usefulness of these measures in measuring developing development and its progress.
- A higher level response will specify criteria in evaluating the usefulness of the approaches. These could include: comprehensiveness; comparability; relevance over time; ease of use for specific groups (e.g. governments, policymakers, etc.).

Possible links to other topics include:

- Indicators that measure sustainable urban development (Topic 3.2)

Levels marked using H2 generic level descriptors for 20m SEQ sub-part (b)

4 (a) Discuss the impacts of extractive industries on countries at low levels of development. [12]

Indicative content:

- Students should explain the **environmental** impacts of extractive industries, although related social and economic impacts of extractive industries will also be accepted and will in fact enhance the quality of the answer. Explanations should include the identification of impacts, details of these impacts, and why these impacts would occur, particularly in the context of countries at low levels of development (LDCs).
- A higher level response might include the following:
    - Well-elaborated case studies situated in LDCs to elaborate on identified impacts of extractive industries.

Levels marked using H2 generic level descriptors for 12m SEQ sub-part (a)

(b) "The key to escaping the resource curse is the diversification of the economy."

Evaluate the validity of the given statement. [20]

Indicative content:

- Students should discuss the extent of importance of one economic policy – diversification of the economy – in escaping the resource curse. This could possibly include the following elements:
    - A clear explanation of the resource curse theory
    - A discussion of strategies / characteristics of good governance that would help countries escape the resource curse, with diversification of the economy as one required point of discussion.
    - An assessment of the importance of diversification of the economy, through analyzing its strengths and/or weaknesses, and/or through contrasting this strategy with other strategies and/or characteristics of good governance.
- Responses which focus mostly on the **reasons** for the resource curse, rather than on how countries might **escape** the resource curse will not be able to attain a high level of marks
- A higher level response might include the following:
    - Use of weighing criteria to evaluate how crucial the diversification is to escaping the resource curse.
    - Consistent use of case studies to justify arguments being made (e.g. the case study of Botswana)

<u>Possible links to other topics include</u>:

- The role of different actors – e.g. TNCs and the state – in facilitating countries' escape from the resource curse (Topic 2.1)

Levels marked using H2 generic level descriptors for 20m SEQ sub-part (b)

Section C – Sustainable Development

Answer **one** question from this section.

5 (a) Explain the challenges in attaining sustainable development over space and time. [12]

Indicative content:

- Political challenges: lack of political commitment and will; tedium of negotiation and lack of consensus; protection of self-interests; lack of "hard laws" and legally-binding limits; lack of clarity on how to implement actions
- Economic challenges: differences in level of development across countries; high costs of implementation
- A higher level response will offer detailed explanations of how these challenges can be observed through the obstacles and outcomes of the Rio Earth Summit and Rio+20.

Levels marked using H2 generic level descriptors for 12m SEQ sub-part (a)

(b) "Climate change is the most significant challenge to achieving sustainable development."

To what extent do you agree with this statement? [20]

Indicative content:

- Responses should include a discussion on the correlation between climate change and the achievement of sustainable development – generally, the effects of climate change would lead to setbacks in the economic, environmental and social domains of societies, hence potentially hindering sustainable development.
- An alternative approach would also consider how the effects of climate change might trigger mitigation/ adaptation responses that would aid in achieving sustainable development in the long run.
- Responses could also consider the role of other factors in affecting sustainable development, for instance on a more local scale: e.g. waste, poor housing conditions; traffic congestion
- Reasons as to why these other factors are deemed more/ less significant compared to climate change could also be provided.
- A higher level response will have a clear statement of degree of agreement with the perspective offered. Responses should provide justification for their stand.

Possible links to other topics include:

- Issues in Sustainable Urban Development (Topic 3.2)
- Increased frequency in El Nino events due to global warming (Topic 1.1)
- Increased occurrence of tropical cyclones and flooding events due to global warming (Topic 1.2)
- Causes and effects of tropical deforestation which illustrate the difficulty in achieving sustainable development (Topic 1.2)

- Environmental impacts of TNC (Topic 2.1)
- Impacts of extractive industries (Topic 2.2)

Levels marked using H2 generic level descriptors for 20m SEQ sub-part (b)

6 (a) Explain the factors that affect liveability in cities at low levels of development. [12]

Indicative content:

- Responses should include a discussion of **<u>at least</u>** two different categories of factors that affect urban liveability: political, social, economic and environmental factors. Explanations should identify the respective factors and explain what they entail.
- A higher level response might include the following:
    - Choice of factors & relevant examples that reflect characteristics of cities at low levels of development (i.e. LDC cities) – the context of the question. One example would be war-torn cities in the Middle-East and their low ranking in liveability indexes, which reflects safety and stability as part of political factors that affect urban liveability.

Levels marked using H2 generic level descriptors for 12m SEQ sub-part (a)

(b) Assess the effectiveness of strategies used to enhance liveability in cities. [20]

Indicative content:

- Responses should discuss the extent to which strategies used to enhance liveability are effective, using a criterion/ a set of weighing criteria. More than one strategy needs to be discussed.

- Strategies discussed must include a clear explanation on how the strategy is meant to address issue(s) affecting liveability in cities (in order to enhance urban liveability). Students can discuss strategies used to reimage a city and/or manage the effects of pluvial flooding on liveability, but are not restricted to this. Students may discuss strategies to achieve sustainable urban development *only if there are clear links made to how strategy could enhance urban liveability.*

- A higher level response might include the following:
    - *Consistent* application of a set of criteria or criterion to evaluate the effectiveness of different strategies.
    - Recognition that the effectiveness of strategies would vary according to context – e.g. between developed and developing cities, between different social groups in a city.

<u>Possible links to other topics include</u>:

- With reference to strategies used to mitigate pluvial flooding to enhance urban liveability, students might make links to flooding in the tropics more generally (Topic 1.2) and the influence of climate change on urban liveability (Topic 3.1)

Levels marked using H2 generic level descriptors for 20m SEQ sub-part (b)