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MARKSCHEME

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GEOGRAPHY

Higher Level and Standard Level

Paper 1

9 pages

Core Theme – Patterns and Change

SECTION A

1. Populations in transition

(a) Describe the relationship shown on the graph. ***[4 marks]***

There is a positive relationship/life expectancy at birth increases as GDP *per capita* increases ***[1 mark]***, but it is non-linear/levels off ***[1 mark]***. Award ***[1 mark]*** for identification of an anomaly. Reserve ***[1 mark]*** for quantification.

(b) Suggest *two* possible reasons for the relationship described in (a). ***[2+2 marks]***

Award ***[1 mark]*** for identifying a valid reason and ***[1 mark]*** for further development and/or exemplification.

E.g. higher GDP *per capita* implies a higher standard of living – this will impact upon diet/hygiene/sanitation/water supply/access to health care *etc.* which will impact upon longevity ***[1+1 marks]***.

A reason for an anomaly/anomalies or the levelling off could also be developed.

(c) Explain *two* economic effects of a youthful population structure. ***[2+2 marks]***

Award ***[1+1 marks]*** for each valid **economic** effect, provided that it is developed by means of explanation or detail.

E.g. the demographic dividend – a youthful population if combined with a falling fertility rate ***[1 mark]*** can result in a future bulge in the economically active group/labour force ***[1 mark]***.

Other possible **economic** effects that could be explained:

- potential increased unemployment in the future if jobs are not created
- burden on tax payers – increases due to increased state spending on child-related services such as schools.

2. Disparities in wealth and development

(a) Describe the pattern of human poverty shown on the map. ***[3 marks]***

The highest values are in the North/North West ***[1 mark]***, the lowest values are in the centre ***[1 mark]***, some quantification ***[1 mark]***.

(b) Explain *one* strength and *one* weakness of using the Human Development Index (HDI) as a way of measuring disparities. ***[2+2 marks]***

Award ***[1 mark]*** for identifying a valid strength and ***[1 mark]*** for a developed explanation.

Possible strengths could be:
- composite indicator, mention the three components
- some comment on the value of the components is possible: GNI *per capita* (PPP) / school enrolment / life expectancy
- it allows for comparison between regions and countries
- has been in existence since 1990 and allows for analysis of change over time.

Award ***[1 mark]*** for identifying a valid weakness and ***[1 mark]*** for a developed explanation.

Possible weaknesses could be:
- does not take into account environmental cost of development
- could be based on unreliable data
- is an average and does not show internal disparities
- does not measure human rights, levels of corruption, gender equality, *etc.*

BE AWARE HDI CHANGED SLIGHTLY IN COMPOSITION IN 2011 SO ALLOW FOR OLD AND NEW VERSION.

(c) Explain the inequalities resulting from ethnicity in a named country. ***[4 marks]***

Award ***[1 mark]*** for identifying a valid country and ***[1 mark]*** for accurately describing the ethnic inequality that exists in that nation.
The other ***[2 marks]*** are reserved for an explanation of the origin/nature of the inequality.

3. Patterns in environmental quality and sustainability

(a) Identify which country or region has the lowest emissions of CO_2 per person. ***[1 mark]***

India.

(b) Explain why some countries have higher CO_2 emissions per person than others. ***[4 marks]***

Emissions are related to factors such as industry, manufacturing, energy demands, economic growth, standard of living, sources of energy, transport needs, climate (heating/cooling) and levels of consumption.
Award ***[1 mark]*** for each valid idea with a further ***[1 mark]*** for development and/or exemplification, up to the maximum ***[4 marks]*** available.
Full marks should only be awarded if it is clear that the response is talking about *per capita* emissions.

(c) Explain the relationship between atmospheric greenhouse gases and the temperature of the Earth's surface. ***[5 marks]***

Greenhouse gases in the atmosphere include carbon dioxide, water vapour, methane, nitrous oxide, and tropospheric ozone. Award ***[1 mark]*** for correctly identifying two or more greenhouse gases. Award a further ***[1 mark]*** for correctly identifying the relationship between greenhouse gasses and the Earth's surface temperature. Award ***[3 marks]*** for an accurate explanation of how the greenhouse effect works: incoming solar/short wave radiation; outgoing terrestrial/long-wave radiation; absorbed/trapped by the greenhouse gases.

There may be alternative valid approaches *e.g.* a historical analysis of the relationship, or an annotated diagram. These should also be awarded marks appropriately.

4. Patterns in resource consumption

(a) Define *ecological footprint*. ***[2 marks]***

An ecological footprint is the theoretical measurement of the amount of land/water a population requires to produce the resources it consumes ***[1mark]*** and to absorb its waste under prevailing technology ***[1 mark]***.

(b) Describe how the ecological footprint of this country has changed. ***[3 marks]***

Overall increase ***[1 mark]***, anomaly/fluctuation in the 1980's/rate of increase increases after 2005 ***[1 mark]***, quantification ***[1 mark]***.

(c) Suggest reasons why this country's ecological footprint decreased in the 1980s. ***[2 marks]***

Recession, economic crisis, natural hazard, recycling, substitution, fuel costs go up. Award ***[1+1 mark]*** for each identified valid reason. Do not accept population change.

(d) Explain the anti-Malthusian view of the relationship between population and resources. ***[5 marks]***

Responses should describe the anti-Malthusian view ***[1 mark]***.
e.g.:
Resources will keep pace with population growth.
Carrying capacity will increase as human population increases.

Responses should explain the arguments used by anti-Malthusians ***[4 marks]***.
e.g.: Technology = higher yields.
Resource substitution will overcome resource depletion.
Recycling will conserve existing resources.

Award ***[1 mark]*** for each basic explanation, with an additional ***[1 mark]*** for extension or exemplification.

SECTION B

5. "Migration reduces disparities in wealth and development." Discuss this statement. ***[15 marks]***

There are many possible approaches to this question.

It is likely that answers will offer some introductory definition of migration and an explanation of disparities in wealth and development. Allow a broad interpretation of disparities. Responses may look at how particular migrations reduced and/or increased disparities both between the origin and destination and/or within these two regions themselves. A good answer would be driven by the examples used and may focus on some of the following.

Disparities at origin:
Increasing: brain drain, gender/education level/age of those remaining.
Reducing: remittances, skilled returnees.
Disparities at destinations:
Increasing: residential (migrants living in slum areas), incomes, education levels, job opportunities.
Reducing: higher income from point of origin, demographic indicators improve.

It is possible for a good response to disagree with the statement and/or to focus on how disparities are created within the destination/origin between the migrants/returnees and those that were there previously.

Direct reference must be made to disparities to move beyond band C. The strongest answers, accessing bands E and F, will need to make effective use of a relevant example/s and reach a conclusion regarding the statement.

Marks should be allocated according to the markbands.

6. Examine the relationship between energy consumption and environmental sustainability. ***[15 marks]***

There are many possible approaches to this question.

Sustainability should be explained – it is achieved when resources are used at a rate which does not deplete them for future generations.

In the context of sustainability, energy use includes not only the total amount of energy required by a society but also the sources of energy required. Renewable power, such as wind and solar power, are usually sustainable sources, whereas traditional non-renewable sources of power such as coal and oil are not physical, human and socio-economic environments can all affect the choice of energy sources.

It is possible that responses may outline specific features of energy consumption and look at their impacts on the environment. Other approaches may review developments in renewable energy and examine how they decrease the impact on the environment. Some responses may take a case study approach and review energy consumption in one or more areas to emphasise contrasts.

Reference must be made to sustainability to move beyond band D – this may be implied.

Responses that fully examine the relationship and that arrive at a clear conclusion are likely to be awarded band E or above.

Marks should be allocated according to the markbands.

7. Examine the view that population change is responsible for water scarcity. ***[15 marks]***

There are many possible approaches to this question.

Responses should understand the term water scarcity, both economic and physical. In terms of population change it can be broadly interpreted and could refer to a growth/decline and/or a change in structure.

Population growth is expected to be the change that is most commonly discussed. Population growth causes increased demand for water. In areas where water resources are under pressure this is likely to be a significant factor increasing water stress. Population growth causes increased demand for agricultural production and an associated demand for water. Population growth may be associated with increased industrial and domestic water demand. Areas that are resource poor are less likely to be able to support larger populations and are more susceptible to overconsumption of the limited resource (*e.g.* Australia).

Responses could argue that demographic change alone has little impact on water scarcity and that other factors are more important such as the growing affluence of a population, as this determines levels of consumption. Affluent societies are likely to have a higher *per capita* water consumption and are thus more likely to lead to physical water scarcity. Affluence increases demand because of lifestyle (dishwashers, washing machines, showers/baths) and diet (water used in meat production). The relationship between supply and demand should be addressed. Another factor (other than population change) that could be addressed could be changes in supply *e.g.* drought.

The strongest answers, accessing bands E and F, will need to make effective use of a relevant example/s and reach a conclusion regarding the statement.

Marks should be allocated according to the markbands.