November 2003

INTERNATIONAL GCSE

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<th>MARK SCHEME</th>
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<td>MAXIMUM MARK: 75</td>
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<td>SYLLABUS/COMPONENT: 0460/01</td>
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<td>GEOGRAPHY</td>
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1 (a) (i) 1 high and fluctuating,
2 falling,
3 low,
4 low and fluctuating.  

(ii) Stage 2.  

(iii) birth rate still high,
death rate falling steeply/low death rate,
biggest gap between birth rate and death rate.  

(iv) where death rate rises above birth rate in Stage 1.  

(v) death rate higher than birth rate.  

(b) (i) tradition,
religious pressures,
zeal for son - inheritance,
low literacy rate/awareness/lack of education,
difficulties of instituting family planning policies,
size of country/dispersed nature of population,
expense of introducing family planning policies,
lack of/unpopularity of abortion/sterilisation,
pressure in rural areas - need children to work on farms,
large number of children to look after parents in old age,
high infant mortality - hence large families – falling death rate,
polygamy.  

(ii) prevent overpopulation/demand on resources,
avoid increase in dependency ratio,
lowering of living standards,
poverty,
shortages - water/land,
high levels of future unemployment,
famine/food shortages,
malnutrition,
decline of infrastructure - e.g. roads,
inadequate housing/squatters,
exhaustion of soil,
inadequate educational facilities,
lack of health facilities,
possible civil unrest.  

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(iii) better medical facilities, medicines, more doctors/hospitals, more food, improved diets less malnutrition, housing improvements, improved water supplies/sanitation, development of industries, improved standard of living, education on hygiene/diet.  

up to 2 marks

(iv) underpopulation/underuse of resources, ageing population, increase in dependency ratio, increased spending on older dependents, max 2 marks stagnant/declining population growth, labour shortages, max 2 marks, lack of defence forces.

4 at 1 mark [4]

2 (a) (i) population in towns/cities.

[1]

(ii) A 191, B 977.

[2]

(iii) Latin America.

[1]

(iv) much higher in the developed regions – 73.3 % + developing regions lower - 24-37%.

2 at 1 mark [2]

(v) Australia - New Zealand.

[1]

(b) (i) pull-push factors - no repetition/obverse, max 4 marks high birth rates, rural-urban migration.

5 at 1 mark [5]

(ii) no planning, poor building materials - metal sheeting etc., lack of open spaces, no roads, overcrowding/high density of settlement, open drains/sewers, run into river, waste/garbage/pollution in river, flat roof, single storey, small building/houses, poles for electricity.

5 at 1 mark [5]
(iii) **A** buildings do not regulate temperatures, may not be waterproof, lacking basic facilities - electricity, piped water, sanitation, overcrowding/high density of settlement, large numbers per property, health hazards - disease, untreated sewage, lack of social/medical facilities, unemployment, high infant mortality, low life expectation, inability of squatters to afford better housing, limited availability of alternative housing, unemployment/limited/low incomes of squatter dwellers, social problems - maximum, traffic congestion (credit once in **A** or **B**).  

5 at 1 mark  

**B** loss of land for other uses, pollution, water - waste/garbage in river, air, visual, social problems (credit once in **A** or **B**), fire hazard.  

3 at 1 mark  

3 (a) (i) named parts/areas within  
Circum-Pacific zone,  
S. Europe - Middle East - S.E. Asia.  

2 at 1 mark  

(ii) yes.  

1  

(iii) plate boundaries, unstable areas.  

1  

(iv) mountains formed by folding of rocks, areas where most of earth's earthquakes experienced, volcanoes likely to erupt.  

Reserve 1 mark for each  

3 at 1 mark  

(v) great strength epicentre 7-8/magnitude, up to 150 km. 6-7, affected wide area, including a number of large cities.  

2 at 1 mark  

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(vi) strength,
size of area affected,
population density,
location - rural/urban area,
time of day,
type of buildings,
depth of focus,
emergency services.

2 at 1 mark [2]

(b) (i) E higher,
steeper cone,
F covers wider area.

2 at 1 mark [2]

(ii) F basic - more fluid/low in silica,
flows quickly,
accept obverse -
E acid - viscous/more silica,
moves slowly/solidifies quickly.

2 at 1 mark [2]

(iii) pressure,
magma reaches surface through a fissure/weakness.

2 at 1 mark [2]

(c) fold mountains -
communications difficulties/isolation,
steep slopes difficult for agriculture,
housing,
low temperatures,
high rainfall,
thin soils,
avananches.

4 at 1 mark [4]

active volcanoes –
loss of life,
injuries/toxic fumes,
destruction of property,
loss roads/interference with communications,
loss of agricultural land/crops/forests,
evacuation.

4 at 1 mark [4]

4 (a) (i) A barograph/'aneroid barometer/barometer,
B anemometer,
C wind/weather vane/weather cock.

3 at 1 mark [3]

(ii) metal cylinder (vacuum),
spring contracts/expands - pressure changes, max 1 mark
conveyed to pointer,
rotating drum with paper/barograph,
trace shown.

3 at 1 mark [3]
(iii) B - wind speed,  
    C - wind direction.  
    2 at 1 mark  [2]

(iv) high/on roof/pole,  
    away from buildings/trees/open area,  
    to record free flow of wind.  
    2 at 1 mark  [2]

(b) (i) west coast of continents and continental location,  
    around the two Tropics.  
    2 at 1 mark  [2]

(ii) high temperatures,  
    large annual range,  
    large daily range/high day – low night.  
    2 at 1 mark  [2]

    low rainfall,  
    infrequent erratic,  
    unreliable,  
    heavy/thunderstorms/concentrated.  
    2 at 1 mark  [2]

(iii) many plants dormant for years,  
    quick growing plants,  
    shallow roots - short lived rains,  
    deep roots - underground water,  
    moisture stored in bulbs,  
    thick/hairy/waxy leaves/spiky,  
    thick bark,  
    storage in trunks.  
    2 at 1 mark  [2]

(c) deflation hollow/sand blown away,  
    reaches water bearing rock/aquifer,  
    sloping/dipping (strata),  
    receives water from rainfall outside the desert,  
    water at surface in oasis.  
    3 at 1 mark  [3]

(d) (i) exfoliation/alternate expansion and contraction/onion weathering.  
    [1]

(ii) high temperatures in the day/over 40°C,  
    night falls below 10°C/cools,  
    rock poor conductor of heat,  
    rock surface expands during day,  
    contracts at night,  
    stress - outer part of rock cracks/joints,  
    outer layers peel away,  
    shattered rock fragments fall to floor,  
    main rock rounded,  
    process accelerated with slight amount of rain.  
    2 at 1 mark  [2]

(iii) Results.  
    [1]
5 (a) (i) farmer produces for himself and family, food crops, little or no sales.  
2 at 1 mark [2]

(ii) ploughing - turning soil, making it ready for sowing crops, planting - sowing crops, harvesting - gathering/picking crops/uprooting. 
3 at 1 mark [3]

(iii) cost of newer methods, tradition/culture, lack of education/understanding/knowledge of newer methods, only small plots. 
2 at 1 mark [2]

(iv) farmer does not have to time activities with rainy season, given supply of water/reliable, 2 crops/double cropping, extends growing season. 
2 at 1 mark [2]

(v) HYVs/better yielding seeds, up to 2 marks land reform, fertilisers, pesticides, fungicides, modern machinery - e.g. combine harvesters/rice harvesters, education/training/awareness of new methods, investment, terracing, co-operatives. 
4 at 1 mark [4]

(b) (i) A for 10 years.

B poverty, unequal distribution of wealth, population explosion in developing world.

C there is no food shortage, population and food supply have increased, problem - population growth greatest in developing countries which does not feed all its people, food shortages likely to worsen in the developing world. 
For each of A, B and C Reserve 1 + 1 + 1 mark  
5 at 1 mark [5]

(ii) overpopulation, lack of investment/poverty, outdated methods of production/lack of fertilizer, war/political unrest, natural disasters, credit examples, e.g. drought - Sahel etc. max 2 marks 
4 at 1 mark [4]
(iii) efficient methods,
    large investment,
    subsidies,
    EU/CAP,
    large-scale production,
    extensive use of fertilisers,
    pesticides,
    machinery,
    low increase of population,
    educated labour force/training/modern methods,
    favourable natural inputs,
    surplus for export.

\[ 3 \text{ at } 1 \text{ mark} \quad [3] \]

6 (a) (i) 62-63%.

(ii) mechanised agriculture,
    primary products imported more cheaply.

(ii) greater percentage in primary,
    less in manufacturing,
    less in service sector.

\[ 3 \text{ at } 1 \text{ mark} \quad [3] \]

(iv) developed countries –
    agriculture more mechanised,
    earlier manufacturing – C19-C20,
    developing countries going through industrial development,
    greater demand for services,
    greater amount of skill/educated/trained labour force,
    more capital for investments.

\[ 3 \text{ at } 1 \text{ mark} \quad [3] \]

(v) provide a service, - reserve 1 mark
    teachers,
    lawyers,
    transport workers etc.

\[ 3 \text{ at } 1 \text{ mark} \quad [3] \]

(b) (i) area.

(ii) labour –
    skilled labour,
    well educated/universities/technical colleges,
    expert management,
    different skill levels - subcontracting/division of labour.

transport -
    high speed transport - components and products,
    proximity to/links to airport,
    major road links.
research and development -
research and development/universities,
government support.

siting factors - science parks - planning,
away from congested areas,
possibly low cost land areas.

3 factors

(iii) not tied to location factors, e.g. raw materials,
free location.

(c) (i) greenhouse gases especially CO₂,
traps sun's rays,
burning fossil fuels,
industrial pollution,
increased use of motor vehicles,
burning forests/deforestation,
release from some agricultural activities of greenhouse gases –
wet rice/cattle ranching - methane.

3 at 1 mark [3]

(ii) northern parts of
Europe,
Asia-Northern/Siberia,
N. America/Canada,
Arctic regions.

2 marks [2]

(iii) rise of sea level with increase of temperature,
melting of ice sheets,
loss of low lying areas/river deltas,
many cities - low lying areas - flooding,
flooding of islands,
flooding of coastal installations - storage tanks, piers,
wildlife in salt marshes/coral reefs destroyed,
salination of fresh water supplies,
changes in global climates,
effects on ecosystems,
extinction of some species of animals/plants,
loss in biodiversity,
natural forest fires,
droughts,
crop yields could decline,
present drier areas may experience more rain,
desertification.

4 at 1 mark [4]