

Mark Scheme (Results) Summer 2007

GCE

GCE Geography (6462) Paper 1

6462/01 Summer 2007

1. (a) Study Figure 1 which shows population pyramids for the United Kingdom in 1961 and 2001.

(i) Estimate the total number of people:

1. aged 40 in 1961

c. 750,000 (allow anything in the range 720,000 - 790,000 inclusive)

2. aged 80 by 2001

c. 330,000 (allow anything in the range 300,000 - 360,000 inclusive)

Must be in thousands.

(2)

(ii) Suggest two possible reasons why the 1961 pyramid has relatively low numbers of people in the age range 42 to 46.

- Low births
- High mortality/ deaths among this group
- Accept migration as a possible reason

One mark for each process, does not require justification. Credit two similar points (e.g. if both explain low births) if good reasons are given.

(2)

(iii) Describe how the number of children aged 10 years and under changed between 1961 and 2001.

Numbers have fallen overall (1) and quotes supportive data or makes a qualification(1) (e.g. "not as much change for tens as newborns"). *Do not credit explanation.*

(2)

(iv) Explain the main reasons for this change.

Births / fertility rates have fallen (*point mark this explicit remark if it is made*) due to:

- women's careers (equal numbers now attend university)
- contraception ('60s)
- legal abortion ('60s)
- cost of children (health, education, mobiles, etc.)
- economic recession ('73 oil crisis)
- also credit some 'older' ideas, such as falling infant mortality and decline of traditional / dangerous industry (but not "decline of subsistence farming" since the 1960s!)

1 mark for each stated idea (eg "women are working") up to a total of 4.

Or an additional 1 mark can be given for each useful extension / example / data (eg "therefore they leave child rearing until later"). Two extended ideas would give 4 marks.

(4)

(b) Outline how some countries have a high density of population despite having limited natural resources.

- Human resources used instead (NICs)
- Trade (services such as banking provide revenue for imports)
- Aid for imports
- Population keeps growing but malnutrition observable
- Technology / efficiency improvements maximise what they have

Any two ideas, clearly linked to the circumvention of the problem = four marks. Award three marks for a single idea, if the detail and explanation are good.

NB The argument that "lack of resources means they are poor and poor countries have high population numbers" is acceptable if justified (e.g. they cannot pay for education so cannot learn about birth control). Award maximum 2 marks for this approach.

(4)

(c) Describe and explain the variations in population density within a named urban area.

- Low in CBD: bid-rent processes have pushed population out of CBD since 1850, leaving inner city as the de facto maximum.
- High in inner city - MEDCs have historically cramped conditions / tower blocks/ Victorian mansion or conversion flats / lack of gardens and drives. LEDCs have apartments and high-rise (Sao Paulo)
- Variable near suburbs - accept any reasonable argument
- Role of planners and green belt

5-6	More than two aspects of density explained in some depth and placed in a recognisable context.
3-4	Attempts to answer the question. May struggle to explain more than the basic aspects of density variation or is thin on explanation; but it is a valid answer that refers to variations within in a named area.
1-2	Question not answered. Density may be ignored, the answer merely provides a couple of vague comments about where people live. Location quite unclear.

(6)

(Total: 20 marks)

2. (a) Study Figure 2 which shows the age at death for three generations of a Yorkshire family.

(i) Calculate the age at death of Andrew Crew.

75 or 74

(1)

(ii) Compare the children and grandchildren in terms of infant mortality.

There are two acceptable ways of answering this question depending on whether the candidate thinks infant mortality refers to under age 5s or under age 1s.

- More infant deaths amongst the children (actual numbers)/ or numbers stay the same
- 3 of the children die at one or under (or says 2 children die under age 1); only 2 of the grandchildren die young
- It's a much higher percentage of the children (as a proportion)

Two marks for any two points (most likely route is "stays the same" and adds data)

(2)

(iii) Outline two possible reasons for the increasing life expectancy shown.

Improvements in:

- Healthcare (previously untreatable diseases can now be dealt with better or may mention vaccination)
- Hygiene (and education about it)
- Sanitation (better infrastructure e.g. water or sewage)
- Dietary improvement / food supply / lifestyle (eg smoking)
- Risk ideas(hazard management improvement and better governance - seat belt laws, fire doors and so forth)
- Older generation had harsher conditions (may give details of war, disease, famine, or very dangerous working which are all historically acceptable)

First mark for basic statement ("medicine has improved"), second mark for extension / example ("e.g. vaccinations more available").

Limit to max. three marks if the two ideas are very similar (e.g. 2 different types of medicine).

Answer asks for TWO reasons only - if multiple reasons are offered mark the best given for each sub-section.

(4)

(b) Explain the decline in average family size in the UK in recent decades.

Award 1 mark if explicit reference to family size is made.

- Women's careers (equal numbers now attend university)
- Economic recession ('73 oil crisis)
- Contraception ('60s)
- Legal abortion ('60s)
- Cost of children (health, education fees, mobiles, etc.)
- Social acceptance of gay / lesbian partnerships
- More single-parents / divorced (thus smaller households)

1 mark for each stated idea (eg "women are working") up to a total of 4. Or an additional 1 mark can be given for each useful extension / example / data (eg "therefore they leave child rearing until later"). Two extended ideas would give 4 marks.

(4)

(c) Describe and explain how one physical factor influences population distribution within the UK.

Climate, relief, lithology, soils, water supply, coast. Does not have to write this on the line, as long as chosen factor is clear.

2-3	Refers to named locations. Uses appropriate AS-level geographical terminology to support an explanation of distribution.
1	Simple statement asserting the factor's importance, using everyday common-sense words such as 'hilly' or 'too cold'

(3)

(d) With reference to named countries or regions, describe and explain the positive and negative consequences of rapid population growth.

Positive: growing labour force attracts inward investment, helps with multiplier effect, etc. (Boserup view: it's a stimulus for innovation)

Negative: underemployment, malnutrition; population policies needed (China); low per capita spending on social services.

Better answers are likely to be empirically-based (may provide facts about investment in NICs) or may even be theoretically-driven ('Malthus vs. Boserup'). Allow either approach to reach maximum 6/6 if arguments impress.

5-6	Good coverage of both P and N. May volunteer good supporting details or mention theories/models. May comment on "rapid".
3-4	Simple P and N recognised, but little or no variety or development: for instance, China needed a policy ("bad thing") whereas lots of workers make money for the country ("good thing"). Weak location details. Do not expect reference to "rapid".
1-2	Focuses almost entirely on P or N and lacks any real supporting detail or location. Might make some assertions about famine and death.

(6)

(Total: 20 marks)

SECTION B

3. (a) Study Figure 3 which shows the predicted populations of large cities in Europe, Africa and Asia for the year 2015.

(i) Name the predicted largest city in Asia.

Lagos
(accept incorrect spellings)

(1)

(ii) Name the continent that will have the fewest cities with a population greater than 10 million.

Europe
(accept incorrect spellings)

(1)

(iii) Describe the distribution pattern of large cities named on Figure 3.

- Uneven / similar overview
- Asia (can say S.E. or S.W.) very high (also accept "high in East")
- Only a few in Europe and Africa (accept "lower in west")
- Coastal high (except: east Africa and northern Eurasia)
- Interiors low (except: Kabul, Baghdad)
- Asian cities are highly clustered
- Uses data to support OR recognises Tokyo is largest

Point mark for each valid generalisation and credit "anomalies" where offered. For 4 marks there must be a reference to Asia / Asian nations included.

(4)

(iv) Outline three reasons why many large cities in LEDCs are currently experiencing high rates of population growth.

- Lower urban mortality
 - Health care
 - People are younger
- Higher urban fertility
 - People are younger
- Migration from rural areas
 - Agricultural modernisation (rural push)
 - Employment (urban pull)
 - Amenities (urban pull)
 - Natural hazards or war in rural areas
 - Transport improvements allow migration
 - Internet / satellite / radio links bring knowledge to rural areas, (heightening sense of relative deprivation)
 - Government planning
 - Step migration (families are following pioneers)

1 mark for stating a generic idea (eg "birth rates are higher in LEDCs"- but does not make specific urban connection eg "higher in LEDC cities because of younger population"). Award the second mark for extension / example, so two marks for "migration from rural areas after the Green Revolution."

*If candidate specifies a process e.g. migration in the first answer and then writes continually on this theme, do not penalise if process is not explicitly returned to.

* if candidate produces three factors but does not specify a process (e.g. more jobs in the cities). Limit to maximum 3/6.

Answer asks for THREE reasons only - if multiple reasons are offered, mark the best given for each sub-section.

(2 + 2 + 2)

(b) Describe the process of suburbanisation.

Growth or outward expansion of cities / leaving of, or movement out of, inner city to suburb or edge = 1 mark

Additional mark for comment about the nature of the urban growth (low density, semi-detached etc.), or gives a specific example of a suburb.

(2)

(c) With reference to a named inner city area, describe and explain the impact of a redevelopment scheme on its land use and population characteristics.

Accept zone-in-transition or CBD as "inner city". In very large cities (eg London or Rio) be flexible in interpretation (eg allow Wembley). Accept any managed/ planned urban scheme. Maximum 4 marks for inappropriate account of change or choice of area if the Human Geography is good.

Land use: post-industrial uses include offices, retail, leisure, heritage.

Population characteristics: income or SEG; ethnicity; age profile. Higher level explanation involves mechanisms / processes of change being set out: migration, gentrification, bid-rent, multiplier ideas may well feature. Whereas mid-band explanations will probably assert that changes occurred because nebulous agents of change ("they") made it so.

5-6	Attention given to both LU and PC. At this level, there should be explanation of how human geography processes were triggered by the initial injection of capital (thus gentrification began once the area had seen some investment, etc.). Recognisable location.
3-4	Simple LU and PC changes described but without real explanation ("they" made it happen): poor people can't live there anymore, shops and offices have replaced factories. Or covers one aspect well but entirely ignores the other. Scheme may be indistinct.
1-2	Cannot develop one of the categories at all, probably PC. Might grasp factories have been replaced by shops. May wander off into social impacts.

(6)
(Total: 20 marks)

4. (a) Study the Ordnance Survey map extract (1:25,000) of part of the Welsh Borders.

(i) Name and give the grid reference for a hamlet

Accept any of the following answers:

Walton	256597	New Street	337566
Walton Green	265599	Lyonshall	334560
Burlingjobb	253583	Barton	299754
Upper Hergest	263549	Bredward	285551
Lower Hergest	275553	Woodbrook	302549
Bradnor Green	293576	Dunfield	273584
Rushock	307584	Holme Marsh	339547
Titley	331597	Elsdon	322546
Nextend	334575		

One mark for the name (accept mis-spellings), one for the reference. Award the mark if the 3rd and 6th digit are within +2 or -2 of the figure given above (e.g. accept Walton as anywhere between 254595 and 258599).

(2)

(ii) Describe the distribution of settlements

- Overall is uneven distribution - seems random or dispersed
- Kington is in the middle /centre
- Kington is next to river Arrow
- Some linearity along roads
- Relief matters: none are found on the highest ground e.g. Bradnor Hill
- There are generally more settlements to the south of Kington
- Some smaller settlements appear to be wet point sites (Titley), but not all by any means
- Some settlements are along the valley floors

Point mark any three valid ideas - they do not have to be included in the list above. Do not credit explanation.

(3)

(iii) Outline how one physical feature might affect the future expansion of Kington

- Relief (accept "Bradnor Hill") - likely to expand south, or south-west, rather than north due to flatter land. Steep slope immediately to the north.
- River Arrow - flood risk might prevent southern expansion, clearly this is a flood plain.
- Back Brook - there is also evidence of ribbon development along Beck valley, this might continue in future
- Accept any other sensible suggestion

Point mark the correctly identified factor. 2nd mark for clarity of explanation (may state compass direction where growth is constrained / allowed or why growth is made difficult) or applied use of map evidence.

(2)

(b)

(i) Outline the central place functions of large towns and cities.

- Industrial - including heavy industry
- Offices - including headquarters of major firms
- High-order shops and services
- Specialist shops and services (treat as separate point)
- Education - universities and large colleges
- Leisure - cinemas, clubs, parks
- Religious - cathedrals
- Administrative - government buildings, major hospitals
- Transport terminals

“Outline” is asked for; only award one mark if a list of words is supplied that could equally well apply to a village (i.e. “houses, shops and industry”). Restrict an account of buildings (rather than functions) to 1 or 2 marks.

(3)

(ii) Describe two ways of identifying a settlement’s sphere of influence.

- Survey / information about people’s travel distances (this could be targeted at either commuters or shoppers)
- How far deliveries are made from the settlement (e.g. by a retailer)
- Newspaper circulation or other media (local radio)
- Use of breakpoint theory
- Public transport map analysis
- Could possibly be inferred from high-order services present

Point mark any appropriate data source, research method or technique that is stated. 2nd mark for detail of either the methodology (e.g. who the survey is given to) or recognition that the data will subsequently be used to map out an area of land or establish a dividing line between two settlement areas.

(4)

(c) For a named town or city, describe and explain the pattern of residential land use.

- Differentiation by social class of housing most likely
- Patterns of ethnicity (South Africa apartheid city e.g. Pretoria; or Chicago in the Burgess model)
- Explanation might be related to land markets / ownership
- Explanation might also be related to physical factors of site

Only two aspects of the pattern need be described if there is good quality of explanation.

5-6	<u>Either</u> offers a sound explanation of at least two aspects of a named distribution pattern. <u>Or</u> has thinner explanation but impresses with the locational detail (named areas / has variety).
3-4	Limited description of only two types of residential use accompanied by narrow or no explanation (at 3 marks). Location recognisable.
1-2	Very basic description. Location indistinct.

(6)

(Total: 20 marks)

SECTION C

5. (a) Study Figure 6 which is a model of population migration into and out of rural areas in MEDCs.

(i) Suggest one additional bullet-point entry for Box 1 and Box 2.

Box 1 Coastline; low relief / flat land; tectonic or other risk; agricultural / good soils; any other sensible suggestion

Box 2 Schools; public transport; any other sensible suggestion that seems government sponsored (do not simply accept "housing" - should specify council/social housing or estates)

Accept any other sensible suggestions, they do not have to be included in the lists above.

(2)

(ii) Outline how government spending (Box 2) might help rural areas to attract more:

1. migrants of working age

- Start-up grants for new business
- Reliable transport networks (commuting)
- Public sector jobs (teaching, healthcare)

2. migrants of retirement age.

- Subsidies for public transport
- Reliable health care (GP surgery or hospital)

Mark the idea and the link to the needs of the group (thus "more spending on roads makes it easier to commute to work from there") is worth two marks in the first subsection).

(2 + 2)

(iii) Suggest reasons why improving technical capacity in rural areas (Box 3) might increase urban-rural migration.

- New businesses may not survive without broadband & mobile
- Families with young children will want ICT for schooling
- ICT, radio and TV are integral to most people's use of leisure - lack of it will be a disincentive to migrants

Point mark any idea and each useful extension /example. Allow a well-sustained argument about tele-working to reach 3/3. For three marks, at least one idea must link with migrant characteristics or working/ lifestyle needs. Limit generic "people like TV, people like internet, people like..." responses to 2/3

(3)

(b)

(i) Outline the main features of a gravity model of migration.

- Migration depends on population /settlement sizes
- Migration decreases with distance
- Provides illustration/ diagram
- The model simplifies reality
- Mentions any of the names of Reilly, Ravenstein, Zipf or Stouffer
- Migration is squared in the proper version
- "Borrowed" from Physics
- Provides formula

Point mark from this list only. Do not credit Lee model.

(3)

(ii) State two limitations of your model.

- Generic limitations: models are simplifications, we can't predict behaviour and preferences / perceptions of people
- Measures are too crude especially population characteristics, we don't know if people are wealthy or free to move
- Gravity conception of distance as straight-line is naïve
- There might be physical barriers
- There might be political barriers
- Intervening opportunities could exist
- Prohibitive costs of travelling
- Any other sensible suggestion

Brief statements only are needed. Do not worry if limitations refer to Lee Model etc if they would also work for gravity. Do not penalise candidates in this question for something they answered in the previous.

(2)

- (c) Using examples, describe and explain how international migration can provide both challenges and opportunities for MEDCs.

Do not credit answers that are not focusing on international migration e.g. internal/commuting.

Challenges: managing transition to multiculturalism; protecting minority rights; ensuring equal opportunities; limiting conflict between ethnic groups; accommodating belief-systems within established legal frameworks (current debates over blasphemy laws and religious clothing at schools, etc.).

Opportunities: cheap labour underpinning national growth, especially for nations with declining populations; direct recruitment of key government workers e.g. Philippine nurses and Indian doctors; cultural diversity can stimulate service industry, arts, music and media; migrants may bring capital to invest in businesses; migrants may be famous / glamorous / have unique skills (sports, acting, music).

5-6	Attention given to both C and O, with examples offered for both. May show understanding that migration is managed by governments to suit national economic interests, even if policies are unpopular.
3-4	Sketchy or partial coverage of both C and O; or one well-dealt with but the other neglected. Examples are weak, following populist themes, with broader idea of national economic interests left indistinct.
1-2	Neither C or O are convincing, one category may be entirely absent (probably O). May contain assertions about racism. Examples may be absent.

(6)

(Total: 20 marks)

6. (a) Study Figure 6 which shows the fertility rates for the native-born and foreign-born populations of nine MEDCs.

(i) Name the country with the lowest native-born fertility rate.

Luxembourg

(ii) Estimate the fertility rate of France's foreign-born population.

3.1 (accept range 3.05-3.2)

(2)

(iii) Outline two reasons why foreign-born fertility rates are higher than native-born fertility rates.

- Religious or cultural attitudes amongst migrants
- Lack of knowledge /access to contraception amongst the poorest
- Sons may be favoured by some migrant communities, pushing up births higher
- Children could be an economic asset for poor migrants
- Accept idea that the migrants may be young and fertile (although strictly speaking this would only explain a higher CBR, not the fertility rate amongst women)
- Still living as if they were at home (poorer migrants are used to living with high infant mortality, etc)
- Native born European women now have lower fertility for a variety of reasons

One mark per idea, plus mark for valid extension /exemplar group

If both answers focus solely on reasons why native European women are now having less children, award up to 2/4. Must additionally refer to reasons why foreign-born rates are higher to score more.

Answer asks for TWO reasons only - if multiple reasons are offered, mark the best given for each sub-section.

(4)

(iv) What economic problems might these countries face if the volume of in-migration were to decline?

Point mark the basic idea of a labour shortage.

Award additional marks (either two basic ideas or one extended) for:

- It's made worse by natural decrease amongst native population
- Gives details of sections of the economy most likely to suffer (construction, service & restaurant).
- Has other negative effects (e.g. less spending / negative multiplier effect)
- Native workers must fill the gap and they cost more to hire
- Tax burden must be shared by fewer people
- Restrictions might also curtail movement of migrant professionals - key personnel for financial sector, arts & media
- Any other sensible suggestion.

(3)

(b)

(i) Briefly outline three typical characteristics of people migrating from rural to urban areas in LEDCs.

- Young - typically 15-30
- Male bias in some countries
- Both genders in other countries (e.g. China)
- Poor
- Unemployed
- Lacking skills
- Any other sensible characteristic e.g. ethnicity or occupation or have large family to support

Point mark. Basic outline only is needed. 1 mark for word list.

Do not credit motives (e.g. "moving for work")

(3)

(ii) Outline one social consequence of rural-urban migration in LEDCs.

- Urban social problems include overpopulation or migrants' descent into crime and prostitution
- Rural social problems include disintegration of families or high dependency ratio amongst residual population (with possibility of famine, etc.)
- The spread of disease, notably HIV/AIDS in Africa
- Credit unemployment if a social link is made
- Credit mixed ethnicity/religion consequences

One mark for basic statement, 2nd mark for extension /example

Answer asks for ONE consequence only - if multiple consequences are offered, mark the best given.

(2)

(c) Using examples, describe and explain the physical and economic consequences of high rates of in-migration for rural areas.

Focus is likely to be counterurbanisation in MEDCs. Credit cannot be given to answers that do not focus on rural areas.

- Physical costs: additional house-building and associated habitat loss and extension of impermeable surfaces and thus flood risk (e.g. River Severn in Worcs.). Air pollution from vehicles and commuting.
- Physical benefits might include pressure for conservation measures from incomers (highly effective at lobbying and preservationist attitudes prevail)
- Economic costs: locals forced out of housing market, etc.
- Economic benefits: more money circulating in economy, incomers may start businesses, incomers may lobby for grants, etc. (Lottery money and so forth)

5-6	Attention given to both P and E. May have decent range of ideas or good details of a couple. Both positive and negative consequences may be present at 6/6. Examples are clear and useful.
3-4	Sketchy or partial coverage of both P and E; or one well-dealt with but the other neglected. Examples probably lack detail.
1-2	Neither P or E satisfactorily described. Confusion over meaning of P and E in this context. Simple and unsupported assertions.

(6)

(Total: 20 marks)