Mark scheme
January 2004

GCE

Unit GSB3

Unit 3   Space

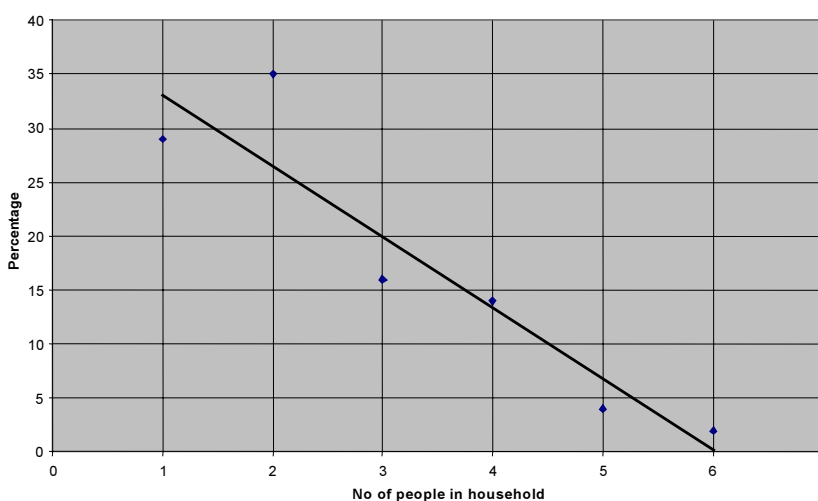**1**   **Total for this question: *30 marks***

Look carefully at Tables 1 and 2 opposite. Table 1 shows the percentage of households by size. Table 2 shows the 1991 Census results on housing in Camden, London.

Having studied the tables answer all of the following questions:

(a)   Using Table 1, construct a scatter diagram for the year 2000 showing the number of people in a household and the percentage of households. Draw a line of best fit.   *(4 marks*)

(b)   (i)   What trends in household sizes might be identified from Table 1?
                                                                 (2 marks)

         (ii)   Table 2 shows the projection for 2011. What is the percentage increase from 1991 to 2011 for all residents?   *(2 marks)*

(c)   Why might the data in Table 2 be of limited value?   *(4 marks*)

(d)   Using Tables 1 and 2 and your knowledge, what problems might arise from the need to provide extra housing?   *(8 marks)*

(e)   The growth in the number of households means an inevitable return to high-rise housing in inner-city areas. How far is this a matter of *fact* and how far a matter of *opinion*?   *(10 marks)*

1   (a)

1 mark for labelling axes and scales.
2 marks for plotting points
1 mark for line of best fit.   4 marks

(b) (i)   Examples of points:

- Overall the trend is to small households
- There are more households with 2 people in for every year in the table
- 'One person' households have doubled
- Three and above have decreased.

Credit any other valid comments.   2 marks

(ii) (204800 – 170440) / 170440 x 100 = 20.1595, 20.16, 20.2, 20 %
2 marks for correct answer.
1 mark for correct working out if answer is incorrect.

2 marks

(c)   Examples of points:

- It is only of value to Camden
- The age groups present a problem, 16 – 59 is a very wide range
- There are no figures for 2001
- There is no information about households with more than one car
- The table does not give any information about the type of housing, or its location.

Credit any other valid comments.   4 marks

(d)   Mark Bands

Band One   7 – 8   A good to excellent response showing a clear to full
                          understanding of the issues. Expression is clear.

Band Two   4 – 6   A competent average response showing some
                          understanding. Expression is satisfactory.

Band Three   1 – 3   A limited response, either barely addressing the issues or
                          showing little understanding. There will be a lack of clarity
                          and inaccuracy of style.

Band Four   0   No response, or no relevant points.

Examples of points:

- The cost implications for both authorities and the individual
- The further use of the Green Belt
- The increase of housing especially near airports
- Transport links may suffer in a particular area
- Lack of available land for business use
- As the population increases there is an increase in the number of smaller housing
  units required.

Credit any other valid comments.   8 marks

(e)   **Mark Bands**

Band One   8 – 10   A very good to excellent response showing a high level of understanding of the limitations of knowledge and of the issues which may arise from the distinction between fact and opinion. Expression is clear and logical with virtually no errors of significance in style and grammar.

Band Two   4 – 7   A competent to good response showing a level of understanding of the limitations of knowledge, though dependent on it. At the lower end of the band there will be a lack of distinction between fact and opinion. Expression will be satisfactory, with some weaknesses in style and grammar.

Band Three   1 – 3   A limited response barely addressing the source of the issues arising. There will be very little understanding of the limitations of statistical knowledge or of the distinction between fact and opinion. There will be a lack of clarity and significant errors in style, expression and grammar

Band Four   0   No response, or no relevant points.

Fact:

(n)   The population growth shown in the tables suggests we need to plan for the future

(o)   The government has allocated extra funds (2002) to encourage building

(p)   High rise housing cuts down on travel times for workers in cities

(q)   Some cities and towns do not have as much room for expansion as others.

(r)   There are many undeveloped and derelict sites in major cities and high-rise housing makes the most efficient use of this space.

Opinion:

(n)   Families would probably prefer not to live in high rise housing

(o)   Although there may be empty spaces in cities, it may not be possible from a planning viewpoint to build in that location

(p)   Local groups in the city/town centres may petition against the proposed build

(q)   Some people prefer to commute to work, rather than live in the centre

(r)   High-rise flats are out of scale with older buildings

(s)   High-rise estates are associated with crime and social deprivation.

Credit any other valid comments.   10 marks

AQA

2   **Total for this question: *30 marks***

Look carefully at Tables 3 and 4 opposite. Table 3 lists supporters for Greenpeace International from 1992 to 2002. Table 4 shows public attitudes to environmental concerns from 1986 to 2001.

Having studied the tables answer all the following questions:

(a)   (i)   Using Table 3 what percentage of supporters in January 1997 were from the United Kingdom?   *(2 marks)*

          (ii)   Work out the mean of the number of supporters for Austria, Spain, Belgium and France for January 2002.   *(2 marks)*

(b)   Table 4 gives statistical information about the environment. What might be the advantages and disadvantages of publishing information in this format?
                                                                             (4 marks)

(c)   Using Table 4 give reasons for the growing concern about traffic exhaust fumes and urban smog.   *(4 marks)*

(d)   Table 3 suggests both increases and decreases in the number of supporters of Greenpeace International. Why might it be difficult to draw conclusions from this data?   *(8 marks)*

(e)   Some environmental pressure groups have increasingly resorted to various types of direct action. How far do you agree that actions speak louder than words?
                                                                             (10 marks)

2   **(a)**   **(i)**   214800/2628630 x 100 = 8.17, 8.2, 8 %
                      2 marks for correct answer
                      1 mark for correct working out if answer is wrong

                                                                             2 marks

          (ii) $\underline{205400 + 74500 + 89700 + 55900} = \underline{425500} = 106375$
                      $\qquad\qquad\qquad 4 \qquad\qquad\qquad\quad 4$ 2 marks

   (b)   **Advantages:**

- Grey/white columns highlight years
- Highlights a variety of problems
- Figures are often easier to interpret than graphs
- Shows trends across a period of time.

   Disadvantages:

- Too much information/categories
- A more visual approach may be required by the user
- A number of the issues overlap.

   Credit any other valid comments.   4 marks

(c)   **Reasons for growing concern**

Examples of points:

- There are more vehicles in use now; with more congestion there are more idling engines
- We are more concerned because we have been educated to be more aware
- More Acts have been passed and the issue appears in political party manifestos
- Vehicle pollution is cited as one of the causes of increased incidence of asthma among children.

Credit any other valid comments.   4 marks

(d)   **Mark Bands**

Band One	7 – 8	A good to excellent response showing a clear to full understanding of the limitations of statistical knowledge and of the issues which arise from this. Expression is clear.
Band Two	4 – 6	A competent average response showing some understanding of the limitations of statistical knowledge. Expression is satisfactory
Band Three	1 – 3	A limited response, either barely addressing the issues or Showing little understanding of statistical knowledge. There will be a lack of clarity and inaccuracy of style.
Band Four	0	No response, or no relevant points.

Examples of points:

(a)   It is difficult to draw any conclusions about lesser or more concern

(b)   The table does not indicate population size so it is not possible to compare countries by percentage

(c)   The data only gives information on a selection of countries so it is difficult to draw general conclusions

(d)   There is no comparison with other pressure groups

(e)   There is no indication of how the information was collected, and of what 'supporters' might mean.

Credit any other valid comments.   8 marks

(e)   **Mark Bands**

Band One   8 – 10   A very good to excellent response showing a high level of
                            understanding of the limitations of knowledge and of the
                            issues which may arise from the distinction between fact
                            and opinion. Expression is clear and logical with virtually
                            no errors of significance in style and grammar.

Band Two   4 – 7   A competent to good response showing a level of
                            understanding of the limitations of knowledge, though
                            dependent on it. At the lower end of the band there will be
                            a lack of distinction between fact and opinion. Expression
                            will be satisfactory, with some weaknesses in style and
                            grammar.

Band Three   1 – 3   A limited response barely addressing the source of the
                            issues arising. There will be very little understanding of
                            the limitations of statistical knowledge or of the
                            distinction between fact and opinion. There will be a lack
                            of clarity and significant errors in style, expression and
                            grammar.

Band Four   0   No response, or no relevant points.

Agree:

(a)   The actions of some pressure groups e.g. Greenpeace boarding ships or
        scaling chimneys, brings media attention

(b)   Actions and protests may encourage more people to be more involved

(c)   It is not possible to be involved in protests many miles away, so we rely on
        others to speak/act for us

(d)   Possibly only by lobbying MPs do the groups make our voice known

(e)   Some companies/authorities may only listen when a 'noise' has been made.

(f)   We all have the right to freedom of speech

(g)   We need to preserve our planet at all cost for future generations.

Disagree:

(n)   Environmental pressure groups have good media coverage e.g.
        advertisements, leaflets and web sites, they do not need to protest any other
        way

(o)   Sometimes their actions can led to court cases or arrests

(p)   It does not set a good example to future generations if we disobey the law

(q)   If a demonstration or protest leads to criminal damage, it may have a
        detrimental effect on the cause

(r)   There is a cost implication for policing and damage

(s)   The protests about new runways, cutting down of trees etc may also put the
         lives of both the demonstrators and the authorities at risk.

Credit any other valid comments.   10 marks

Approximate distribution of assessment objective marks

Question Numbers		1	2	AO marks per unit
Assessment Objectives	**AO1**	10	10	20
	AO2	4	4	8
	AO3	8	8	16
	AO4	8	8	16
Total marks per Question		30	30	60