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- 1 (a) (i) 60/61 years,  
39/38 years. 2 at 1 mark [2]
- (ii) **X** birth rate well above death rate,  
**Y** as above but then reduction in growth,  
increased death rate/declining birth rate,  
**Z** birth rate above death rate, then decline/BR similar to DR. 3 at 1 mark [3]
- (b) (i) tradition,  
religious pressures,  
zeal for son - inheritance,  
ignorance of large sectors of the population on need to reduce B.R/  
low literacy rate/awareness,  
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. 4 at 1 mark [4]
- (ii) **prevent** overpopulation,  
avoid increase in dependency ratio,  
lowering of living standards,  
poverty,  
shortages - water/land,  
**reduce risk of**  
greatly increased demand on resources,  
high levels of 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 4 at 1 mark [4]
- (iii) better medical facilities,  
more food,  
improved diets less malnutrition,  
housing improvements,  
improvements to water/sanitation,  
more spending on older people,  
education/awareness of need to look after the body/exercise etc. 4 at 1 mark [4]
- (c) (i) 5-9 years [1]
- (ii) depend economically on the 15-64 years/working population. [1]

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- (iii) broad based pyramid - progressive,  
large percentage below 15 years,  
small population over 65,  
0-4 narrower than 5-9,  
credit reference to the shape of the pyramid,  
no credit for references to birth rate/death rate.
- 3 at 1 mark [3]
- (iv) narrowing/reduction in youngest age groups –  
lowering of birth rate,  
increase in over 65s -  
increase in life expectancy/reduction of death rate,  
increase in 15-64 year olds -  
reduction in young age groups.
- 3 at 1 mark [3]
- 2 (a)** (i) CBD or rural-urban fringe. [1]
- (ii) land too expensive in CBD,  
planning control in rural-urban fringe/urban area not grown  
out this far yet. [1]
- (iii) superstore - 1,  
district shopping centre - 2,  
row of shops - 5,  
small shops - 8/9. [1]
- (iv) size,  
sphere of influence/threshold differences,  
order of services - convenience/durable goods.
- 2 at 1 mark [2]
- (v) out-of-town/not surrounded by residential areas,  
larger,  
has area around store - parking,  
near major road junction,  
higher order shop/needs large threshold/sphere of influence,  
room for expansion.
- 3 at 1 mark [3]
- (vi) large area,  
spacious layout/large car parking area,  
away from congestion,  
possibly room to expand,  
possibly cheaper land,  
near road junction - outer ring road and road from CBD,  
proximity to large residential area.
- 3 at 1 mark [3]
- (vii) Z - more main roads,  
grid-iron/rectangular pattern. [1]
- (viii) older,  
less planning in area Z. [1]

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- (b) For each choice:  
description 1+1mark  
reason 2+2 marks [3,3]
- (c) (i) *shortage of land in the CBD*  
limited space,  
great demand for location in the CBD –  
shops/offices,  
centre of city – convergence of routes,  
large number of workers,  
rush hours.
- housing shortages*  
large population,  
urbanisation/large numbers of migrants,  
building programmes cannot keep pace with demand.
- traffic congestion*  
increase in urban population,  
preference for private transport,  
commuting,  
rush hours.
- For the chosen problem 2 at 1 mark [2]
- (ii) *shortage of land in the CBD*  
encourage activities to locate away from city centre,  
skyscrapers,  
reclamation,  
urban renewal.
- housing shortages*  
build more houses,  
develop new towns/satellite towns,  
encourage movement away from city.
- traffic congestion*  
encourage traffic away from city centres/by-pass roads,  
promote public transport,  
new public transport developments – mass rapid transport systems,  
stagger working hours,  
urban motorways/freeways,  
encourage out of town parking,  
charges for entry to city centre,  
roundabouts NOT traffic lights.  
Credit reference to actual examples to illustrate MAX. 1 mark  
4 at 1 mark [4]
- 3 (a) (i) material carried by river – sand, stones, mud etc. [1]
- (ii) **three** of:  
suspension,  
solution,  
saltation,  
traction load.  
3 at 1 mark [3]

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- (iii) loss of energy,  
insufficient water/small volume,  
especially during dry season, shallowing of channel/braiding,  
inner/convex bank of meander,  
river enters still water of lake/sea,  
decrease in velocity,  
lessening of gradient –  
below waterfall,  
river carries more load than it can transport. [1]
- (b) (i) straighten its course. [1]
- (ii) **Q**  
cliff at **A**, slip-off slope at **B**,  
opposite at **R**,  
symmetrical channel at **P**.  
4 at 1 mark [4]
- (iii) **outer/concave bank** – more volume, greater velocity,  
more erosion – undercutting, bank collapse – steep slope.  
**inner/convex bank** – less volume, less velocity,  
deposition – slip-off slope.  
2 at 1 mark [2]
- (c) (i) west/NW/WNW. [1]
- (ii) 2 km. [1]
- (iii) **three** of:  
waterfall – resistant rock/cap rock,  
level topped,  
high,  
river splits over waterfall,  
river shallow above waterfall,  
deposition above the waterfall/islands with vegetation,  
turbulence,  
gorge/very steep sides/cliff,  
gorge meanders,  
deposited rock fragments – side of gorge,  
gullies.  
3 at 1 mark [3]
- (iv) interruption of river transport – waterfall,  
problem of bridging the gorge,  
road bridge carrying main road from settlement of Victoria Falls,  
tourism – hotels,  
employment,  
contributed to growth of settlement,  
hydro-electric power.  
3 at 1 mark [3]

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- (d) (i) resistant cap rock,  
underlying softer rock eroded,  
eddying/plunge pool,  
undercutting,  
by splashback. 3 at 1 mark [3]
- (ii) unsupported,  
collapse,  
retreat leaving gorge 2 at 1 mark [2]
- 4 (a) (i) **temperatures:**  
high temperatures all year/every month 20° C - 30° C,  
low annual range 6° C,  
highest temperature - May 29° C. 2 at 1 mark [2]
- rainfall:**  
high annual rainfall,  
highest Dec. 270-280mm,  
lowest rainfall Feb, May and Sept. about 180 mm,  
no dry season. 2 at 1 mark [2]
- (ii) **A** emergents/upper layer,  
**B** canopy layer,  
**C** lianas,  
**D** buttress roots/undergrowth/shrubs. 4 at 1 mark [4]
- (iii) lack of sunlight. [1]
- (iv) **three of:**  
tall trees compete for sunlight,  
little undergrowth – lack of sunlight,  
heavy rainfall/high temperatures – prolific growth,  
evergreen – no seasonal rhythm,  
drip tips/waxy leaves/allow water to flow off quickly,  
shallow roots – high rainfall – water in top layer of soil. 3 at 1 mark [3]
- (b) (i) 14% [1]
- (ii) timber,  
farming/cattle ranching,  
roads. 2 at 1 mark [2]
- (iii) no – marks for **two** reasons  
trees gone,  
empty fields,  
pasture overgrown,  
decline in cattle rearing,  
farming unprofitable. 2 at 1 mark [2]

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- (iv) increased run-off,  
rivers – more volume – flooding  
nutrient cycle broken/interrupted,  
no roots to absorb nutrients from soil,  
no replacement of nutrients with leaf fall and decay,  
loss of nutrients to soil,  
leaching by heavy rainfall,  
higher rate of surface run-off with loss of nutrients,  
loss of species,  
animals die – loss of habitats,  
may become extinct,  
burning – contributes to global warming.
- 4 at 1 mark [4]
- (c) **n.b.** other natural environments acceptable as well as tropical rain forest,  
with economic developments natural areas becoming less,  
preserve the ecosystem,  
prevent loss of species – plant and animal,  
tourist potential,  
control problems –  
flooding,  
soil erosion,  
global warming etc.
- 4 at 1 mark [4]
- 5 (a) (i) **A** 9/8%,  
**B** 60%.
- 2 at 1 mark [2]
- (ii) **X** more in tertiary,  
more in secondary/manufacturing,  
less in primary.
- 3 at 1 mark [3]
- (iii) **X** developed countries – **Y** developing,  
**Y** greater dependence upon agriculture,  
agriculture in **X** more mechanised,  
**X** developed manufacturing C19-C20, **Y** developing manufacturing,  
**X** more developed economies – greater demand for services,  
**X** greater amount of skill/educated/trained labour force,  
**X** more capital for investments.
- 3 at 1 mark [3]
- (b) (i) vehicle constructed by adding components on an assembly line,  
inputs – what goes into assembly  
- components and raw materials, labour etc.
- 2 at 1 mark [2]

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	(ii)	<b>A</b> cheaper production/skilled labour.		[1]
		<b>B</b> reduce transport costs.		[1]
		<b>C</b> assembly line/mass production, storage of raw materials, finished vehicles, parking for workers, room for possible expansion.	<u>2 at 1 mark</u>	[2]
		<b>D</b> mass production, some skilled labour - component production, semi-skilled/unskilled - assembly work, office work, transport.	<u>2 at 1 mark</u>	[2]
(c)	(i)	named example - crop/system.		[1]
	(ii)	for each of <b>three</b> of transport, capital, labour, markets additional marks	<u>Reserve 1 + 1 + 1 marks</u> <u>2 marks</u>	[5]
	(iii)	processes - e.g. sowing, transplanting seedlings etc. <b>n.b.</b> for a general account allow 3 MAX for processes ONLY	<u>3 at 1 mark</u>	[3]
6 (a)	(i)	20%		[1]
	(ii)	coal.		[1]
	(iii)	less pollution, both are renewable sources of energy.	<u>2 at 1 mark</u>	[2]
	(iv)	<b>A</b> wind not constant, noise.  <b>B</b> sun's energy varies, difficult to store. allow cost/visual pollution in either <b>A</b> or <b>B</b>	<u>1 mark</u> <u>1 mark</u>	[2]
	(v)	high cost, oil/natural gas provide more energy, competition with renewable forms of energy, declining reserves, non renewable, pollution - allow development up to <u>2 marks</u>	<u>3 at 1 mark</u>	[3]
(b)		plentiful supply, transportable – supertankers/pipelines.	<u>2 at 1 mark</u>	[2]

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- (c)           **advantages**  
less pollution than coal,  
large reserves of uranium,  
low running cost.
- Reserve 2 marks
- problems**  
concerns over safety/possible accidents,  
Chernobyl,  
radio-activity - health problems,  
difficulty of storing/disposing of nuclear waste,  
nuclear power stations take a long time to build,  
expensive to dismantle,  
competition with renewables.
- Reserve 2 marks
- additional mark for either 1 mark [5]
- (d) (i)    named region/country - reference only (no marks for name)  
income,  
employment directly,  
other related employment - building, transport etc.,  
diversifies economy,  
preservation of cultural heritage,  
improved standard of living,  
better cultural understanding,  
preserves natural environment,  
tourist facilities can be used by local people,  
prestige for country.
- 5 at 1 mark [5]
- (ii)    **A** area ( allow national parks in general) [1]
- B** publicity,  
education/awareness,  
planning control,  
develop nature tours,  
encourage activities which are compatible with nature –  
bird watching, jungle trekking, rafting etc.  
establish national parks/forest parks etc.
- 3 at 1 mark [3]



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- 1 (a) (i) steep rise in population up to 1999,  
constant/steady growth,  
almost trebled 1950-99,  
varied estimates over the next 50 years,  
high estimate will almost double again,  
low estimate will level out at about 7 billions from 2020.  
3 at 1 mark [3]
- (ii) **X** birth rate well above death rate,  
continues to grow rapidly.  
**Y** as above but then reduction in growth,  
increased death rate/declining birth rate.  
2 at 1 mark [2]
- (iii) **Z** birth rate above death rate,  
then decline - lowering of birth rate,  
reasons for low birth rate.  
2 at 1 mark [2]
- (b) (i) **A** reduction in birth rate –  
birth control/contraceptives,  
abortion,  
sterilisation,  
education about family planning/awareness/advertisements,  
reward examples e.g.  
China's one-child policy,  
salary bonus - 10%,  
priority in education/health facilities/employment/housing,  
fines - 2nd child/annual tax, 1 mark details - one child policy,  
death rate higher than birth rate in some countries,  
emancipation of women etc.  
fall in birth rate - ageing population.  
credit references made to rise in birth rate also.
- B** fall in death rate –  
better medical facilities,  
more food,  
improved diets less malnutrition,  
housing improvements,  
more spending on older people,  
education/awareness of need to look after the body/exercise etc.  
increase in death rate in some countries -  
aids etc.,
- For each of **A** and **B** Reserve 3 + 3 marks  
Additional mark for either 1 mark [7]

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- (ii) overpopulation,  
increase in dependency ratio,  
pressure on services - electricity/gas/sanitation etc.,  
lowering of living standards,  
poverty,  
greater demand on resources,  
high levels of unemployment,  
famine/food shortages,  
malnutrition,  
decline of infrastructure - e.g. roads,  
inadequate housing/squatters,  
shortages - water/land,  
exhaustion of soil,  
lowering of educational facilities,  
lack of health facilities,  
possible civil unrest etc.
- 5 at 1 mark [5]

- (c) broad/wide based pyramid - progressive,  
large percentage below 15 years,  
small population over 65,  
0-4 narrower than 5-9,  
reference to shape,  
high dependency ratio.
- Reserve 2 marks
- high birth rate,  
low life expectancy/high death rate,  
lowering of birth rate.
- Reserve 2 marks

MAX reference to reasons for high BR and high DR  
additional marks 1 mark  
2 marks [6]

- 2 (a) (i) **A** large area,  
spacious layout/large car parking area,  
away from congestion,  
possibly room to expand,  
possibly cheaper land,  
near road junction - outer ring road and road from CBD,  
proximity to large residential area.
- 4 at 1 mark [4]

**B** junction of roads,  
in large residential area,  
away from CBD.

3 at 1 mark [3]

- (ii) more local stores - convenience goods,  
small sphere of influence/low threshold,  
fewer district shopping centres - competition,  
need larger threshold,  
most of local shops - in older residential areas.
- 3 at 1 mark [3]

	(iii)	Area Z older, grid-iron/rectangular layout, less planning.	<u>2 at 1 mark</u>	[2]	
	(b)	description/location reasons additional mark For each choice	<u>Reserve 1 mark</u> <u>Reserve 2 marks</u> <u>1 mark</u> <u>4 + 4 marks</u>	[4]	
	(c)	to prevent urban sprawl, protect agricultural land, provide open space around town/city - recreation, prevent joining up of neighbouring towns/cities, formation of conurbations, credit reference made to measures such as green belts, towns/cities in developing countries - prevent development of squatter settlements. no credit for examples.	<u>5 at 1 mark</u>	[5]	
3	(a)	(i)	description of – suspension, solution, saltation, traction load. 2 names only without description	<u>1 mark</u> <u>4 at 1 mark</u>	[4]
		(ii)	loss of energy, insufficient water/small volume, especially during dry season, shallowing of channel/braiding, inner/convex bank of meander, river enters still water of lake/sea, decrease in velocity, lessening of gradient – below waterfall. river carries more load than it can transport,	<u>4 at 1 mark</u>	[4]
	(b)	(i)	waterfall - resistant rock/cap rock, level topped, high, river splits over waterfall, river shallow above waterfall, deposition above the waterfall/islands with vegetation, turbulence, rapids, gorge/very steep sides/cliff, gorge meanders, deposited rock fragments - side of gorge, gullies.	<u>6 at 1 mark</u>	[6]

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- (ii) interruption of river transport - waterfall,  
problem of bridging the gorge,  
road bridge carrying main road from settlement of Victoria Falls,  
tourism - hotels,  
employment,  
contributed to growth of settlement,  
hydro-electric power.
- 5 at 1 mark [5]
- (c) resistant cap rock,  
underlying softer rock eroded,  
eddy/plunge pool,  
undercutting,  
erosional processes MAX 1 mark  
by splashback,  
unsupported,  
collapse,  
retreat leaving gorge.
- 6 at 1 mark [6]
- 4 (a) (i) high temperatures all year/every month 20° C - 30° C,  
low annual range 6° C,  
highest temperature - April 29° C,  
high annual rainfall,  
highest Dec. 270-280 mm,  
lowest rainfall Feb, May and Sept. about 180 mm,  
no dry season.
- 4 at 1 mark [4]
- (ii) emergents 40-45m,  
canopy layer 30m +,  
crowns interlock,  
lianas,  
epiphytes attached to branches/trunks,  
tall trees,  
straight trunks,  
first storey 15-20m,  
bark smooth,  
little leaf litter/undergrowth,  
trees close together,  
buttress roots,  
ferns, herbs and low growing plants, fungi,  
trees have broad leaves,  
drip tips,  
waxy/leathery leaves,  
shallow roots,  
evergreen forest.
- 5 at 1 mark [5]
- (iii) tall trees compete for sunlight,  
little undergrowth - lack of sunlight,  
heavy rainfall/high temperatures - prolific growth,  
evergreen - no seasonal rhythm,  
drip tips/waxy leaves/allow water to flow off quickly,  
shallow roots - high rainfall - water in top layer of soil.
- 4 at 1 mark [4]

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(b) (i) **A** loss of forest,  
 14% Amazonia last 10 years, usable timber trees gone,  
 empty fields,  
 pasture overgrown,  
 decline in cattle rearing,  
 farming unprofitable.

3 at 1 mark [3]

**B** less interception,  
 more percolation,  
 increases flow into rivers by throughflow,  
 increased run-off,  
 rivers - more volume – flooding,  
 nutrient cycle broken/interrupted,  
 no roots to absorb nutrients from soil,  
 no replacement of nutrients with leaf fall and decay,  
 loss of nutrients to soil,  
 leaching by heavy rainfall,  
 higher rate of surface run-off with loss of nutrients,  
 loss of species,  
 animals die - loss of habitats, may become extinct,  
 burning - contributes to global warming.

4 at 1 mark [4]

(ii) **n.b.** other natural environments acceptable as well as tropical rain forest.  
 with economic developments becoming less,  
 preserve the ecosystem,  
 prevent loss of species - plant and animal,  
 tourist potential,  
 control problems -  
 flooding,  
 soil erosion,  
 desertification,  
 global warming etc.

5 at 1 mark [5]

5 (a) **Y** greater dependence upon agriculture,  
**X** developed countries, **Y** developing countries,  
 agriculture in **X** more mechanised,  
**X** developed manufacturing C19-C20, **Y** developing manufacturing,  
**X** more developed economies - greater demand for services,  
**X** greater amount of skill/educated/trained labour force,  
**X** more capital for investments.

5 at 1 mark [5]

(b) **labour** - large labour force required,  
assembly line,  
skilled/semi-skilled,  
**components** - large number,  
central location - assembling from many subsidiary factories,  
raw materials - availability of sheet steel etc,  
**siting factors** - large area –  
large factory, storage, parking,  
level land,  
**capital** - large-scale production,  
factory,  
purchase/storage large quantities of components/raw materials,  
large labour force – salaries,  
**transport** -  
bringing components,  
vehicles - markets,  
assembling of large number of workers,  
**markets** -  
home/regional,  
export details.  
named location 1 mark  
for each of 4+ factors 9 at 1 mark [10]

(c) credit crop names/locations if given, RES and MAX 1 mark  
for each of natural inputs, human inputs, outputs/markets,  
processes, capital. Reserve 2 + 2 + 2 marks  
crops/outputs MAX 3 marks [10]

6 (a) (i) cost,  
concerns over safety/radio-activity,  
difficulty of storing/disposing of nuclear waste,  
nuclear power stations take a long time to build,  
expensive to dismantle,  
limited life of power stations,  
competition with renewables. 4 at 1 mark [4]

(ii) decline in reserves,  
competition with oil/natural gas,  
competition with alternative sources of energy,  
high cost,  
pollution - if developed up to 2 marks. 5 at 1 mark [5]

(iii) renewable,  
little pollution,  
lower running costs,  
improved technology,  
security of supply - countries do not rely on others,  
some units small scale serve local areas - cut down on  
transport costs,  
short construction times,  
countries may cut down on costly oil imports. 4 at 1 mark [4]

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- (b) (i) named natural area 1 mark  
natural attractions 3 at 1 mark  
other reasons e.g. accessibility MAX 2 marks [4]
- (ii) help control: loss of natural landscape, natural attractions of area, up to 2 marks  
prevent over-development of infrastructure - roads, airports, hotels  
etc., up to 2 marks  
cut loss of natural habitats,  
check pollution up to 2 marks  
general benefits e.g. employment MAX 2 marks  
4 at 1 mark [4]
- (iii) publicity,  
education/awareness,  
planning control,  
develop nature tours,  
encourage activities which are compatible with nature –  
bird watching, jungle trekking, rafting etc.  
establish national parks/forest parks etc.  
4 at 1 mark [4]





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1	(a)	(i)	(estate) office.		= 1
		(ii)	187376 or 186376.	(Reversed or wrong square = 0)	= 1
	(b)	(i)	north-east.		= 1
		(ii)	2650 – 2800.		= 1
	(c)		forest, low forest/woodland, scrub, palms.	4 at 1	= 4
	(d)		banana and coconut.		= 1
	(e)		forest, narrow/deep valleys, highland/hilly/mountains, steep slopes, no flat land/all slopes/lack of flat, no/lack of roads/few, scrub/low forest/woodland.	4 at 1	= 4
	(f)		hospital/health, school/education, church/religion, post (office), police (station)/law, cemetery, public works department, water.	2 services = 1 mark 3 at 1	= 3
	(g)		mud/sand/beach, peninsula/point/headland, bay/cove, island/stack, cliffs, river mouth, wave cut platform, blow hole, (extract from place names).	4 at 1	= 4
2	(a)		P – mercury/alcohol, Q – muslin/gauze, R – wick/string/cord, S – water/reservoir/jar/bottle.	2 correct for 1 mark 2 at 1	= 2
	(b)		4°C,	= 1	
			dry bulb temp. minus wet bulb (temp)/25(°C) minus 21(°C).	= 1	= 2
	(c)		70%.		= 1

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	(d)	amount of water (vapour) in air expressed (as a %) of what the air could hold (at a given temperature).		= 1
3	(a)	A = 4 B = 1	2 at 1	= 2
	(b) (i)	low birth rate low death rate, even shaped pyramid, few young many old.		= 1
	(ii)	high birth rate high death rate, wide base narrow top, many young few old, progressive.		= 1
	(c)	Stage 1/Stage 4, death rate higher than birth rate, more die than are born.	Stage and reason	= 1
	(d)	2, biggest difference between birth and death rate.	Both answers	= 1
4	(a)	2 correctly positioned lines.	2 at 1	= 2
	(b)	70(%)		= 1
	(c)	B	= 1	
		more primary/high, less secondary/few/smaller, less tertiary/few.	2 at 1 = 2	= 3
5	(a)	enlarged in size/more buildings/added riding stables.		= 1
	(b)	commuters.		= 1
	(c)	school, shop, post office, bus stop.	(2 services for 1 mark) 2 x 1	= 2
	(d)	riding stables, restaurant, car park.	3 at 1	= 3
6	(a) (i)	section/part of earth's crust/surface layer part of earth floating on mantle.		= 1
	(ii)	Nazca, South American, Antarctic.	Any 2	= 1

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	(iii)	pulling apart/diverging /separating/spreading.		= 1
(b)	(i)	epicentre.		= 1
	(ii)	city, greatest intensity/nearest epicentre/above origin.	2 at 1	= 2
	(iii)	bursting of dam/loss of water supply/damage, flooding, tidal waves, break in communications/motorway, damage to boats/port, landslides, damage to bridge.	2 at 1	= 2
7	(a)	by-pass/motorway, (outer) ring road.	2 at 1	= 2
	(b)	bus lanes.		= 1
	(c)	(light/electric) railway/trains, park and ride, limited access/no private cars, pedestrianised streets, (inner) ring road, multi-storey, car parks.	4 at 1	= 4



Page 1	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	05

<b>1 (a)</b>	Name of student/group; date; time; weather; site number/location of recording	3 at 1 mark	[3]
<b>(b)</b>	e.g. SW Path and NE Path becomes narrower overall; (1.9 – 0.3m) (1.9 – 0.2) – no comparison required	2 at 1 mark	[2]
<b>(c) (i)</b>	Detailed discussion/comparison based on site distance from Information Centre with reference to both paths; comment on the changes across the path	Single point marking Res mark for across site/distance from IC.  Max 4 if no data	[6]
<b>(ii)</b>	Unrepresentative site location; student inaccuracy in measuring/recognising bare ground; location of the centre of the path; no relief detail known	2 at 1 mark	[2]
<b>(d) (i)</b>	The number of visitors will change during the day; to gain a representative sample	1 at 1 mark	[1]
<b>(ii)</b>	Tally counts	1 at 1 mark	[1]
<b>(iii)</b>	400 m; total result highest at 400 m; over 400 m numbers rapidly decline	3 at 1 mark res 1 mark for distance credit data	[3]
<b>(e) (i)</b>	Trampling by feet; reduction in growth; removal of vegetation/plants/roots; roots no longer hold the soil together; susceptible to soil erosion by wind and water	5 at 1 mark	[5]
<b>(ii)</b>	Information Centre – 400 m SW centre of path; use alternative routes to let plants recover; fence off area; put down wooden boards/tarmac	3 at 1 mark res 1 mark for suggestion	[3]
<b>(f)</b>	At each 200 m site; design recording sheet; design environmental survey with scoring system; plenty of litter = high score/little little – low score	4 at 1 mark res 1 mark for location of survey	[4]

**Total 30 marks**

Page 2	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	05

2	(a)	(i)	The order of settlement;	1 mark	[1 mark]
		(ii)	No of services/traffic volume increases/decreases; Population increases; area increases	3 at 1 mark res 1 mark des/exp	[3]
	(b)	(i)	Data which the candidate did not collect/not primary first-hand collected data but collected by someone else e.g. map/census/weather station data	1 mark definition 1 mark example	[2]
		(ii)	e.g. Settlement A has basic services of Church, Postal Agency, School; Settlement B and C have different services in addition to the basic services	2 at 1 mark	[2]
	(c)	(i)	Correct plotting of data on scattergraph: A = 4, 38 B = 7, 76 C = 14, 210	3 at 1 mark for correct plotting	[3]
		(ii)	As transparency best fit Line	2 marks if accurate 1 mark if within 2 mm	[2]
	(d)	(i)	Appropriate route way; appropriate extent of settlement	2 marks for each settlement type Max 1 if no diagram	[4]
		(ii)	Not to miss traffic; reference to linear or nucleated settlement patterns	1 mark for simple credit development	[2]
		(iii)	Different day; different time; different weather; representative sample/true picture/accurate/different traffic volume	2 at 1 mark res 1 mark for when and 1 mark for why	[2]
	(e)		Correct construction and completion of bar graph Axis number/divisions; labelling of both axes; Title appropriate; correct bars (i.e. 2, 10, 56);	5 at 1 mark	[5]
	(f)		Hypothesis true/correct; Comment in support using both traffic and services data concerning Settlements A, B and C focusing on the size of settlements and the number of services not type	4 at 1 mark res 1 mark for decision res 1 mark for traffic and services comment Max 3 mark if no ref to data	[4]

**Total 30 marks**

**Grade thresholds** taken for Syllabus 0460 (Geography) in the June 2003 examination

	maximum mark available	minimum mark required for grade:			
		A	C	E	F
Component 1	75		39	30	20
Component 2	75	50	28	17	
Component 3	60	46	35	27	22
Component 5	60	43	33	19	15

The threshold (minimum mark) for B is set halfway between those for Grades A and C.

The threshold (minimum mark) for D is set halfway between those for Grades C and E.

The threshold (minimum mark) for G is set as many marks below the F threshold as the E threshold is above it.

Grade A\* does not exist at the level of an individual component.