

Page 1	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	01

- 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]

Page 2	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	01

- (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]

Page 3	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	01

- (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]

Page 4	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	01

- (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]

Page 5	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	01

- (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]

Page 6	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	01

- (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]

Page 7	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	01

	(ii)	A cheaper production/skilled labour.		[1]
		B reduce transport costs.		[1]
		C assembly line/mass production, storage of raw materials, finished vehicles, parking for workers, room for possible expansion.	<u>2 at 1 mark</u>	[2]
		D 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 three 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. n.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)	A wind not constant, noise.	<u>1 mark</u>	
		B sun's energy varies, difficult to store. allow cost/visual pollution in either A or B	<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]

Page 8	Mark Scheme	Syllabus	Paper
	IGCSE – June 2003	0460	01

- (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]