

CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

MARK SCHEME FOR the November 2002 question papers

0460 GEOGRAPHY

0460/1	Paper 1 (Written), maximum raw mark 75
0460/2	Paper 2 (Written), maximum raw mark 75
0460/3	Paper 3 (Written), maximum raw mark 60
0460/5	Paper 5 (Alternative to Coursework), maximum raw mark 60

These mark schemes are published as an aid to teachers and students, to indicate the requirements of the examination. They show the basis on which Examiners were initially instructed to award marks. They do not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the *Report on the Examination*.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

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N.B. normally one line in mark scheme equals 1 mark, oblique symbol signifies alternatives, there may be other acceptable answers where candidates are encouraged to give descriptions / reasons or views

1	(a)	(i)	123 years.	[1]
		(ii)	47 years	[1]
		(iii)	continues to increase, period between each billion extends, 6-7 billion - 14 years, 7-8 billion - 15 years.	[2]
			<u>2 at 1 mark</u>	[2]
	(b)	(i)	3	[1]
		(ii)	India, 547 million.	[2]
		(iii)	A more countries with 100 million, rapid increase within countries - e.g. India, China, Indonesia, Brazil.	[2]
			<u>2 at 1 mark</u>	[2]
			B slower growth, even decline - e.g. Russia, Japan.	[2]
			<u>2 at 1 mark</u>	[2]
		(iv)	A high birth rate, falling death rate, reasons for high birth rate / falling death rate.	[2]
			<u>2 at 1 mark</u>	[2]
			B little difference between birth and death rate, both are low, in some countries death rate higher than birth rate.	[2]
			<u>2 at 1 mark</u>	[2]
	(c)		slow growth / decline of population, labour shortages, more spending - pensions / retirement homes / medical expenses, under-use of some resources - e.g. schools.	[4]
			<u>4 at 1 mark</u>	[4]
	(d)		employment, better paid jobs, political freedom, escape from poverty, flight from natural hazards, escape from persecution, better standard of living, educational opportunities, recreation (short term migration) etc., credit examples used to illustrate up to <u>2 marks</u> at 1 mark each.	[6]
			<u>6 at 1 mark</u>	[6]

- 2 (a) (i) X dispersed / scattered,
Y nucleated,
Z linear. 3 at 1 mark _____ [3]
- (ii) X scattered / no pattern,
Y concentrated / around road junction,
Z along roads. 3 at 1 mark _____ [3]
- (iii) X even distribution of water / good soil,
infertile land - settlements need large area to support themselves.
Y accessibility,
meeting of routes from different directions.
Z accessibility / communications. 3 at 1 mark _____ [3]
- (b) (i) great increase in number using motor car,
over twice as many over time period,
little growth - bus / coach & rail,
rail / very low / slight increase. 3 at 1 mark _____ [3]
- (ii) towns - meeting / convergence of routes,
centres of trade,
large numbers of people,
increase in car ownership,
roads often narrow,
high volume of traffic,
rush hours / early morning / early evening,
travel to work / commuters,
school traffic,
shoppers. 5 at 1 mark _____ [5]
- (c) (i) sharp decline in morning traffic following introduction of charges,
decline by 1/4 / over 40000 to just over 10000,
increase since to over 20000
but less than 1/2 1974 level,
evening peak fairly steady below 30000.
drop end of 1980s with introduction of charges. 3 at 1 mark _____ [3]
- (ii) staggered times for work / flexi-time,
decentralisation,
parts of town centre made traffic free,
limited parking,
expensive parking,
urban motorways,
road widening,
clearways on main roads,
tidal flows,
traffic lights controlling traffic from side streets,
ring roads,
large car parks on edge of city - park & ride,
rapid bus services - bus lanes,
improved public transport -

credit references to examples up to 2 marks at 1 mark each
5 at 1 mark

- 3 (a) (i) A bar,
B lake / lagoon,
C marsh,
D headland / cliff. 4 at 1 mark [4]
- (ii) 5 km. [1]
- (iii) straight,
NNE - SSW / NE - SW / N-S. 2 at 1 mark [2]
- (iv) hills - rounded / gently sloping sides,
valleys - wide / flat-floored / gently sloping sides. 2 at 1 mark [2]
- (b) (i) A
deposition offshore,
deposited material moved towards coast
by waves,
possibly some longshore drift.
For A reserve 1 mark
B
coastal water cut off from sea.
For B reserve 1 mark
One extra mark for either A or B 1 mark [3]
- (ii) now marsh,
silting by rivers,
growth of marsh / vegetation. 2 at 1 mark [2]
- (iii) hard / resistant rock. [1]
- (c) (i) line for 20 cms per sec. [2]
- (ii) shaded area. [1]
- (iii) asymmetrical,
concave / outer bank -steep slope / cliff,
convex / inner bank - gentle slope / slip-off slope,
2 at 1 mark [2]
- (iv) **concave bank -**
faster flow,
greater volume,
river has more energy,
undercutting.
1 mark
convex bank -
slower flow,
shallow,
less energy,
deposition.

1 mark

- (v) erosion on outer / concave banks,
narrow neck,
straightening of river meander,

sealing of ends with deposition.

break through / straightening,

3 at 1 mark _____ [3]

- 4 (a) (i) strong winds,
floods.

2 at 1 mark _____ [2]

- (ii) strength,
location,
population density in area affected,
time of earthquake,
duration,
number of after shocks.

3 at 1 mark _____ [3]

- (iii) **A location** - location may be a country or region, e.g. Japan,
not a large country only part of which may have earthquakes
and volcanoes e.g. USA , India, China etc.
location may be given as along a plate boundary.
reasons -plate margin / edge of or meeting of plates,
instability,
pressure.
B location- accept country e.g. Ethiopia or region e.g. Sahel
or named desert / semi desert region.
reasons -rains do not occur,
late arrival,
dryness may last for a long time - several years,
high evaporation,
deforestation,
overgrazing.

For each - location
reasons

1 mark
2 at 1 mark _____ [3,3]

- (iv) water shortages,
crops die,
animals die,
famine,
people need to migrate,
depend upon help / aid.

3 at 1 mark _____ [3]

- (b) (i) thunderstorms heavy rainfall,
dense clouds,
violent / strong winds,
calm in centre / eye.

3 at 1 mark _____ [3]

- (ii) *physical reasons* -

extensive flood plains,
limited number of lakes for storage,
concentrated seasonal rainfall,
storms / flash floods,
shallow / narrow channels,
lack of vegetation,
human reasons -
cutting down forest,
ploughing up & down slopes,
lack of investment - flood control.

3 at 1 mark [3]

(iii) huge costs,
developing countries such as Mozambique,
scale involved,
climate unpredictable,
loss of life,
destruction of settlements,
agricultural land / crops destroyed,
communications destroyed / interrupted,
long time to recover,
limited planning to deal with the problem.

5 at 1 mark [5]

5 (a) (i) **A Region I** more produced / 23 million barrels / day more,
B Region I uses more / 47 million barrels / day more,
C Region I 6 million barrels deficit, **M.East** 18 million surplus.

3 at 1 mark [3]

(ii) regions with high production use little,
regions of high use do not produce enough.

2 at 1 mark [2]

n.b. change of sub mark here from that printed on question paper

(iii) transport,
industry,
power - electricity production,
coal declined in many regions,
alternative sources of energy not sufficient for demand.

4 at 1 mark [4]

n.b. change of sub mark here from that printed on question paper

(iv) once used - finished,
derived from animals & plants.

2 at 1 mark [2]

(v) two of -coal, natural gas, peat.

1 mark each [2]

(b) (i) safety,
earthquakes,
surface movements / faults near plant,
last big earthquake 1913 - major earthquake every 100 years.

2 at 1 mark [2]

(ii) radiation,
getting rid of nuclear waste,
pollution of water,
accidents can affect a large area -
e.g. Chernobyl,
effects can last for a long time. 2 at 1 mark [2]

(iii) near large supply of water / cooling water,
firm foundation,
near large transmission system. 2 at 1 mark [2]

(c) clean,
no waste products,
use natural energy sources,
more research needed,
cannot supply large amounts of energy yet,
HEP schemes flood large areas,
people may have to leave area to be flooded,
visual pollution,
wind power noise pollution etc.
n.b. views may be for or against alternative energy development
or may be a mixture of both. 6 at 1 mark [6]

6 (a) (i) increasing temperature,
build up of gases in atmosphere. 2 at 1 mark [2]

(ii) **A** steady increase up to 1950,
rapid increase to 2000. 2 at 1 mark [2]

B low / gradual increase up to 1900,
decline - 1910,
rapid increase to 1940,
levelled off until 1980,
rapid rise - 2000. 2 at 1 mark [2]

(b) (i) 47.1% [1]

(ii) USA large amount per person,
India small amount per person. 2 at 1 mark [2]

(iii) mainly developed regions,
more heavy industry / industrial development,
more transport. 2 at 1 mark [2]

(c) (i) melting of ice. [1]

(ii) E - London, Venice, Hamburg, St. Petersburg.
A - Tokyo, Shanghai, Hong Kong, Bangkok. 1 + 1 mark [2]

loss of agricultural land,
drinking water affected / desalination plants needed,
population movements / evacuations,
destruction of properties.

3 at 1 mark

- (iv) drought,
famine,
floods. [1]
- (d) (i) reduce burning of fossil fuels,
pollution control,
control emissions from transport,
control deforestation -
trees absorb CO₂,
burning vegetation adds CO₂ to atmosphere.
develop alternative energy sources,
international controls. [3]
- (ii) cost,
reluctance by some to recognise the problem,
difficult to reduce road transport,
industry needs to continue to expand,
few alternatives to fossil fuels,
international conferences e.g. Kyoto / Johannesburg produce
agreements but intentions not always
followed through,
forest clearance difficult to control, [4]

3 at 1 mark

4 at 1 mark