OCR ADVANCED SUBSIDIARY GCE
IN GEOGRAPHY B (3833)

OCR ADVANCED GCE
IN GEOGRAPHY B (7833)

Specimen Question Papers and Mark Schemes

These specimen assessment materials are designed to accompany the OCR Advanced Subsidiary GCE and Advanced GCE specifications in Geography B for teaching in September 2000.

Centres are permitted to copy material from this booklet for their own internal use.

The GCE awarding bodies have prepared new specifications to incorporate the range of features required by new GCE and subject criteria. The specimen assessment material accompanying the new specifications is provided to give centres a reasonable idea of the general shape and character of the planned question papers in advance of the first operational examination.

Advanced Subsidiary GCE

GEOGRAPHY SPECIFICATION B

Unit 2687: Physical Systems and their Management

SPECIMEN PAPER

1 hour 30 minutes
Maximum mark 90

TIME   1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Answer **two** questions in Section A and **one** question from Section B.

INFORMATION FOR CANDIDATES

The marks available for each question are given in brackets [   ].

Even where not specifically asked for, credit will be given for sketch maps, diagrams, and examples of places which you have studied, provided they serve to illustrate your answer.

You are reminded that marking will take account of the quality of written communication and the orderly presentation of your answers.

This question paper consists of 6 printed pages.

Section A

Answer **two** questions.

1 Atmospheric Systems and People

Fig. 1 shows an occluded front over the British Isles.

(a) Describe and explain the weather being experienced at station A. [9]

(b) What changes in precipitation would you expect at A in the next 24 hours? [9]

(c) For an extreme weather event in the British Isles, describe its impact and explain whether steps could have been taken to reduce its effects. [12]

2 Landform Systems and People

(a) Fig. 2a is a photograph of a small river valley in an area of high rainfall in upland Britain. Describe, using evidence from the photograph, how **two** of the following may have contributed to its landforms:

(i) slope processes;

(ii) fluvial processes;

(iii) an increase in the number of sheep and cattle.

[9]

(b) For a named river basin outside Europe draw a sketch hydrograph for a typical twelve month period. Add annotations to explain how the hydrograph reflects the climate of the basin. [9]

(c) Fig. 2b shows urban development on the flood plain of a river. Suggest why this may lead to increased flood damage and how planning could help to reduce the problem. [12]

3 Coastal Systems and People

Fig. 3 shows part of the Holderness coast of East Yorkshire where coastal protection works have been completed recently.

(a) Explain how the schemes in Fig. 3 protect the coastline. [9]

(b) Explain why there are conflicting views about whether eroding coastlines should be protected. [9]

(c) For **either** a coastal dune system **or** wetland you have studied explain how human activities are affecting the ecosystem. [12]

Section B

Answer **one** question.

4   'In the future, water resource management in the United Kingdom may have to pay as much attention to controlling demand as increasing supply'.

Why this is so. Refer to a region of the UK which you have studied.   [30]

5   Describe how human activity influences *either* valley *or* coastal landforms.   [30]

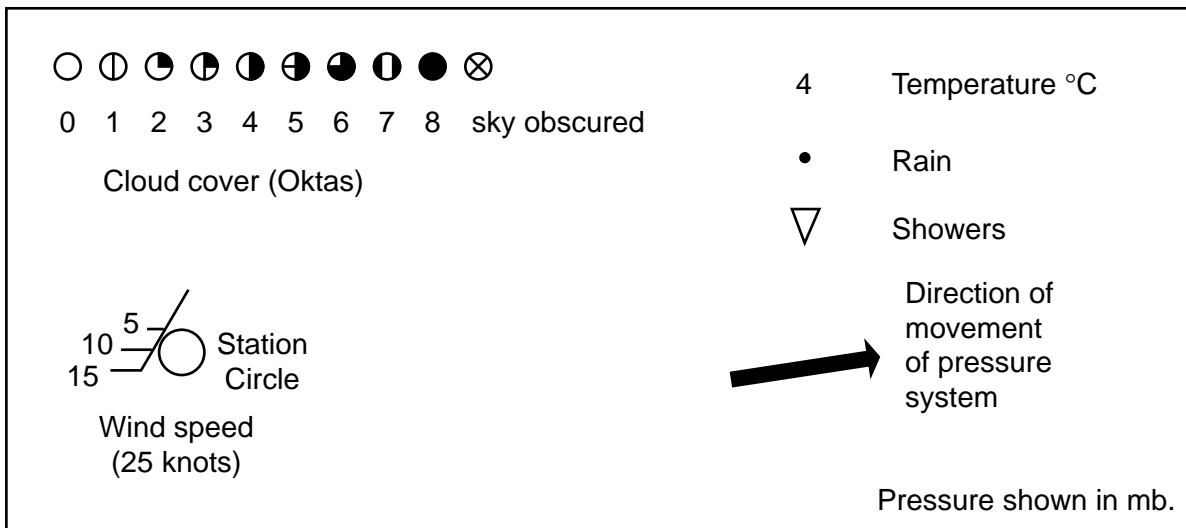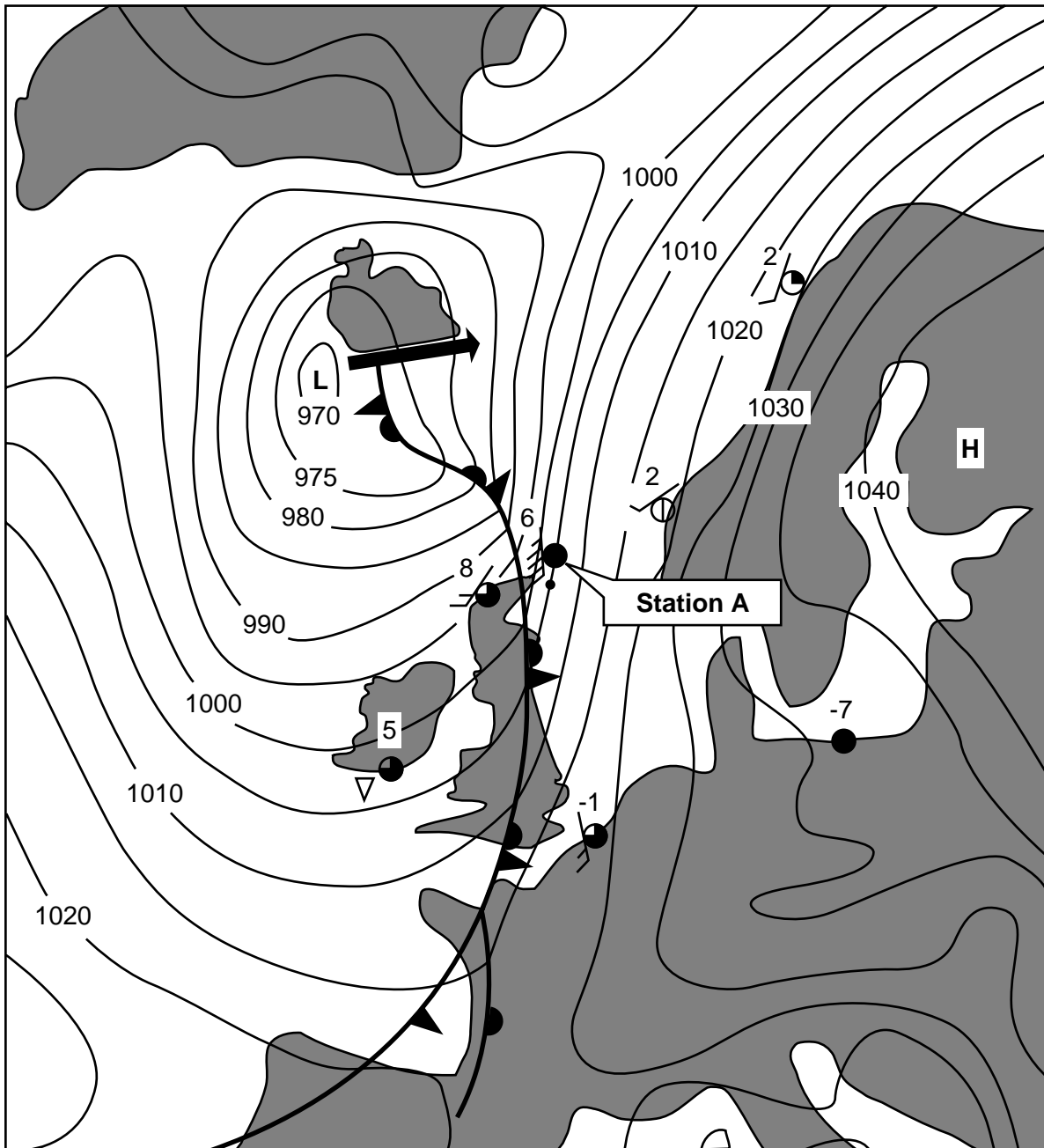# Fig. 1 A weather map for 30 November 1993, 00.00 hours (midnight)

Fig. 1 A weather map for 30 November 1993, 00.00 hours (midnight)

Legend:

Cloud cover (Oktas): 0 1 2 3 4 5 6 7 8 sky obscured

Wind speed (25 knots) — Station Circle with 5, 10, 15

4 — Temperature °C

• — Rain

▽ — Showers

➤ Direction of movement of pressure system
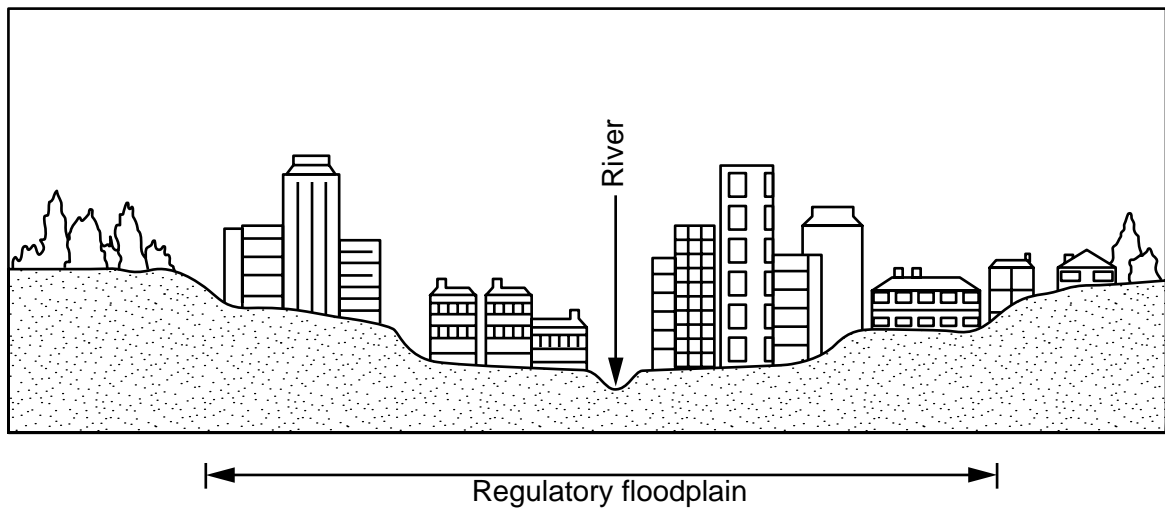
Pressure shown in mb.

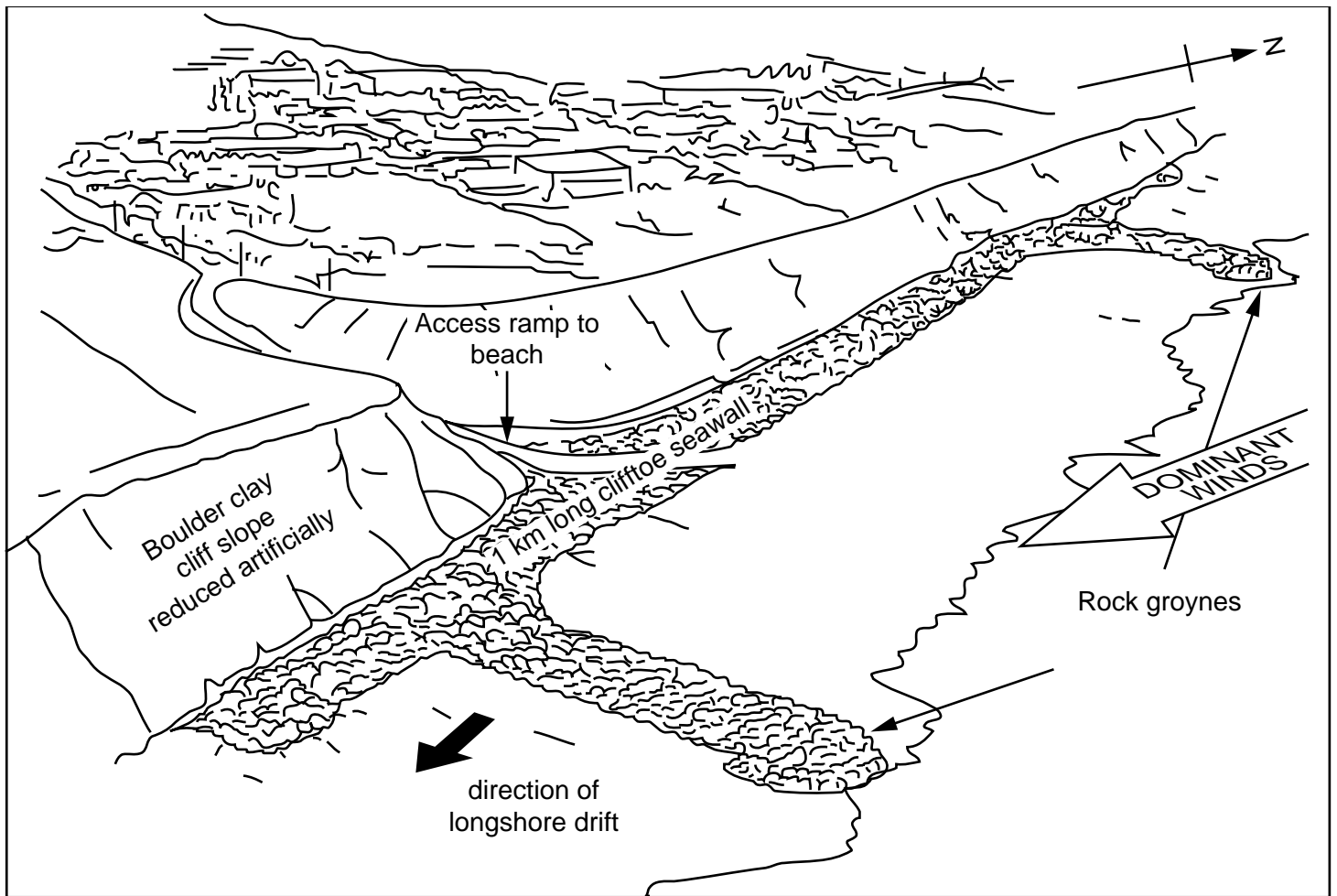## Fig. 2a Conside Beck, Malham, North Yorkshire

Source: K. Orvell

Fig. 2b

Non-regulated floodplain development

After Prosser and Bishop, 1995

Fig. 3

Coastal protection work at Mappleton, East Yorkshire

Access ramp to beach

Boulder clay cliff slope reduced artificially

1 km long clifftoe seawall

N

DOMINANT WINDS

Rock groynes

direction of longshore drift

Advanced Subsidiary GCE

GEOGRAPHY SPECIFICATION B

Unit 2687: Physical Systems and their Management

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   * use the full range of marks;
   * credit unusual but valid responses; and,
   * differentiate between candidates of different abilities.

6. In marking those parts of questions in which the candidates are required to answer in continuous prose attention should be given to the ability of candidates to organise, present and communicate information, ideas, descriptions and arguments, and date in a clear, logical and coherent manner taking into account their use of grammar, punctuation and spelling. These sections will be assessed using levels of response criteria as indicated below.

   In the answers to all of these sections the following levels of response will be applied with regard to the quality of written communication:

   Candidates placed in **Level 1** or above should be generally correct in their spelling, punctuation and grammar

   Candidates placed at **Level 2** or above should be presenting their answer in clearly expressed English

   Candidates placed in **Level 3** should produce a well-structured and presented answer.

Question 1

Fig. 1 shows an occluded front over the British Isles.

(a) Describe and explain the weather being experienced at station A. [9]

Full cloud cover and rain associated with cloud along occluded front. Strong southerly winds a result of steep east-west pressure gradient, relatively high temperatures for November linked to southerly air stream.

Level 3 (7–9 marks)

Refers to four conditions and clearly links them to pressure /frontal system.

Level 2 (4–6 marks)

Refers to two or three conditions and correctly links them to pressure/ frontal conditions.

Level 1 (1–3 marks)

Links only one condition correctly to pressure/frontal system or gives partial explanation of two.

(b) What changes in precipitation would you expect at A in the next 24 hours? [9]

Eastward movement of system likely to be rapid given intensity of low pressure. Rain ceasing and sky partially clearing; wind strength dropping and becoming westerly and then northerly. Showers possible in polar maritime air. Temperatures falling later possibly to below freezing with northerly air stream. Note: explanation is not asked for in the question.

Level 3 (7–9 marks)

Makes four correct predictions which take in approach of ridge of high pressure from the Atlantic.

Level 2 (4–6 marks)

Makes two or three correct predictions which take in approach of ridge of high pressure from the Atlantic.

Level 1 (1–3 marks)

One prediction or two poorly described.

(c) For an extreme weather event in the British Isles, describe its impact and explain whether steps could have been taken to reduce its effects. [12]

Answer could be based on a range of hazards but strong winds and/or heavy rain leading to flooding or snow storms are most likely. Responses could be short term emergency action or longer term, engineering works or emergency services provision. Explanation of weather conditions not asked for but expect some knowledge of their scale and nature.

Level 3 (9–12 marks)

Refers to several effects on people and property such as storm damage, traffic disruption, flooding of farmland; adds detailed factual information of steps taken to reduce impact; answer includes detailed specific knowledge of actual weather conditions and places.

Level 2 (5–8 marks)

Some specific information relating to actual event and places; steps to reduce effects described in general terms.

Level 1 (1–4 marks)

One effect described and linked to actual conditions; little specific information; responses described in general terms.

Question 2

(a) Fig. 2a is a photograph of a small river valley in an area of high rainfall in upland Britain.

Describe, using evidence from the photograph, how **two** of the following may have contributed to its landforms:

(i) slope processes,

(ii) fluvial processes,

(iii) an increase in the number of sheep and cattle.   [9]

Slope processes moving weathered material down slope contributing to valley widening; soil creep is in evidence on moderate slopes, with slumping on meander scars.

Fluvial processes are widening the valley creating a flat floor, and incising river into landscape.

High stocking levels may be contributing to break up of vegetation cover and accelerating slope processes on moderate slopes.

Level 3 (7–9 marks)

Makes a valid point under each sub heading and links it to evidence on the photograph. Expect, landform link, not just process for full marks.

Level 2 (4–6 marks)

Valid point under two headings linked to evidence. Processes linked to landforms.

Level 1 (1–3 marks)

Valid point under one heading linked to evidence or two points without evidence.

(b) For a named river basin outside Europe draw a sketch hydrograph for a typical twelve month period. Add annotations to explain how the hydrograph reflects the climate of the basin.   [9]

Expect annotation of only the major troughs and peaks in the graph. Likely to be one peak and one low water period. Will be linked to changing weather conditions in catchment. Accept references to human control of discharge.

Level 3 (7–9 marks)

Provides annotations of main peak flow and low water period which recognises roles of temperature, precipitation and vegetation cover plus human activities if relevant; includes place specific information.

Level 2 (4–6 marks)

Annotates only peak flow or low water; refers to some of the influencing factors and includes some place specific information.

Level 1 (1–3 marks)

Links one feature of hydrograph to one influencing factor. Little place specific information.

(c)   Fig. 2b shows urban development on the flood plain of a river. Suggest why this may lead to increased flood damage and how planning could help to reduce the problem.   [12]

Rapid run off from hard surfaces and surface drains; controlled channel and flood protection provisions. High value of property in flood zone; higher flood levels as a result of confined channel and urban run off; water reaches down stream locations quicker and increases flood risk. Developments could be restricted near to river, upstream storage of water in times of heavy rains, allow flooding in selected places to act as safety valve.

Level 3 (9–12 marks)

Identifies and shows a clear understanding of several possible reasons and links them to appropriate solutions. Answer makes some reference to up or down stream situations for full marks.

Level 2 (5–8 marks)

Identifies and explains a limited number of possible reasons and solutions.

Level 1 (1–4 marks)

Identifies one reason and possible solution.

Question 3

Fig. 3 shows part of the Holderness coast of East Yorkshire where coastal protection works have been completed recently.

(a)   Explain how the schemes in Fig. 3 protect the coastline.   [9]

Rock groynes trap sediment moving southwards by longshore drift and build up beach which dissipates wave energy. Sea wall reflects /dissipates wave energy. Slope reduction on cliff reduces mass movement associated with undercutting and sapping caused by drainage from boulder clay.

Level 3 (7–9 marks)

Gives a concise and clear explanation of the purpose of each technique and refers to sketch.

Level 2 (4–6 marks)

Explains two techniques or gives a simple explanation of three.

Level 1 (1–3 marks)

Explains one technique correctly.

(b) Explain why there are conflicting views about whether eroding coastlines should be protected. [9]

Huge expense; appearance and long term ineffectiveness of coastal defences; their possible effects on other parts of coastline, versus loss of homes; farmland; tourist attractions.

Level 3 (7–9 marks)

Identifies and explains conflicts of interest between stakeholders, local authorities, government and develops explanations of their positions.

Level 2 (4–6 marks)

Explains why there are different views in general terms related to costs and and long term inevitability of coastal erosion.

Level 1 (1–3 marks)

Gives one reason, such as expense, why there are different views.

(c) For either a coastal dune system or wetland you have studied explain how human activities are affecting the ecosystem. [12]

Should refer to impact of grazing regimes, dune fixing leisure use etc depending on case study. Expect local knowledge of case study as required by syllabus.

Level 3 (9–12 marks)

Shows a clear understanding of how human activity influences ecosystems by linking it to nutrient cycles, etc.

Level 2 (5–8 marks)

Describes human impact but may not relate it to ecosystem.

Level 1 (1–4 marks)

Lists human impacts.

Question 4

'In the future, water resource management in the United Kingdom may have to pay as much attention to controlling demand as increasing supply.'

Why this is so? Refer to a region of the UK which you have studied. [30]

Level 5 (25–30 marks)

Shows a clear understanding of the implications of the quote and goes on to demonstrate why this is the case in the UK; refers to a variety of factors-climatic, geophysical, environmental, economic and social which influence water supply issues; illustrates this in the context of chosen region and and demonstrates an accurate knowledge of possible problems and management strategies in the region; a clear and logical structure; written in good English.

Level 4 (19–24 marks)

Shows a good understanding of the quote and explains it by reference to a range of factors both physical and human which influence water supply issues; case study relates well to the issues; possible problems and management strategies are explained clearly and supported by knowledge of schemes; answer has a clear structure and is written in good English.

Level 3 (13–18 marks)

Understands the quote and explains the issue by reference to a limited range of factors but which should include both climatic and demand issues; some information about chosen region included; one or two problems and strategies outlined; some structure with occasional errors in English.

Level 2 (7–12 marks)

Understands the quote in only very general terms; limited and unbalanced reference to relevant factors; illustrated with general information about chosen region not well linked to the issues. One or two points about future management strategies. Lacks clear structure and weaknesses in English apparent.

Level 1 (0–6 marks)

Little understanding of quote; any understanding of water supply issues not clearly linked to the quote; little factual information on the chosen region; lacking in structure and English errors obtrusive.

Question 5

Describe how human activity influences either valley or coastal landforms. [30]

Level 5 (25–30 marks)

A very good understanding of how a range of human activities can affect either valley or coastal landforms and the processes involved; uses specific accurate information and examples to support the answer; a clear structure is followed; answer is written in good English.

Level 4 (19–24 marks)

A good understanding of how a range of activities can affect either valley or coastal landforms; supported by relevant information and examples; a clear structure is followed; answer is in good English.

Level 3 (13–18 marks)

An understanding of some of the ways in which human activities can affect either valley or coastal landforms with occasional specific information; processes may not be fully understood; lack of clear structure and some weaknesses in English.

Level 2 (7–12 marks)

Effects of human activity on landforms not clearly understood; aware of a limited range of effects; some specific but possibly inaccurate information; poor structure and balance with frequent errors in English.

Level 1 (0–6 marks)

One or two effects listed but not fully explained; processes poorly understood; lack of specific information. No clear structure and balance and errors in English obtrusive.

Advanced Subsidiary GCE

GEOGRAPHY SPECIFICATION B

Unit 2688: Human Systems and their Management

SPECIMEN PAPER

1 hour 30 minutes
Maximum mark 90

TIME   1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Answer **two** questions in Section A and **one** question from Section B.

INFORMATION FOR CANDIDATES

The marks available for each question are given in brackets [ ].

Even where not specifically asked for, credit will be given for sketch maps, diagrams, and examples of places which you have studied, provided they serve to illustrate your answer.

You are reminded that marking will take account of the quality of written communication and the orderly presentation of your answers.

This specimen paper consists of 7 printed pages and 1 blank page.

Answer **two** questions.

1 Economic Activity and Change

(a) Fig. 1a gives information about Merry Hill shopping centre in the West Midlands. On the basis of the information provided, how would you expect out-of-town shopping centres to affect activity in nearby urban areas? [9]

(b) Fig. 1b shows the location in the UK of a transnational company's activities. Suggest why **any two** of its activities are located in different parts of the country. [9]

(c) With reference to an industry which you have studied which has experienced decline, outline the social, environmental and economic consequences of that decline. [12]

2 Settlement Dynamics

(a) Use the information in Fig. 2a and 2b to suggest reasons why the population of South Molton changed between 1951 and 1991. [9]

(b) Explain why the edges of many urban areas in the UK are the locations of most new development. [9]

(c) Name an inner-city redevelopment scheme that you have studied, outline its main objectives, and evaluate whether or not it has been a success. [12]

3 Population and Development

(a) Fig. 3 shows selected national statistics for life expectancy and Gross National Product (GNP) per capita.

Describe the general relationship between the sets of data in Fig. 3. Suggest reasons for this pattern. [9]

(b) Explain why the population in many less-economically developed countries (LEDCs) is growing at a faster rate than in most more-economically developed countries (MEDCs). [9]

(c) With reference to one country that you have studied, discuss whether the pattern of migration is only the result of economic factors. [12]

Section B

Answer **one** question.

4 Using examples from one or more named LEDCs, describe how investment from abroad has influenced the economic and social well being of the population. [30]

5 The population of large urban areas in MEDCs is static or declining while in LEDCs it is increasing. Describe the effects of these population changes on settlements and people in **either** MEDCs **or** LEDCs. [30]

Fig. 1a

Information about Merry Hill shopping centre.

Location – 4 km SW of Dudley in an Enterprise Zone.
Floor space – 1.39 msf
Car Parking - 10 000 free spaces.
Annual turnover – £390 000 000
Visitors – 350 000/week
Population within 15 minute time bands (Fig. 4):
0-15 minutes 450 000
15-30 minutes 1 300 000
84% of shoppers arrived by car
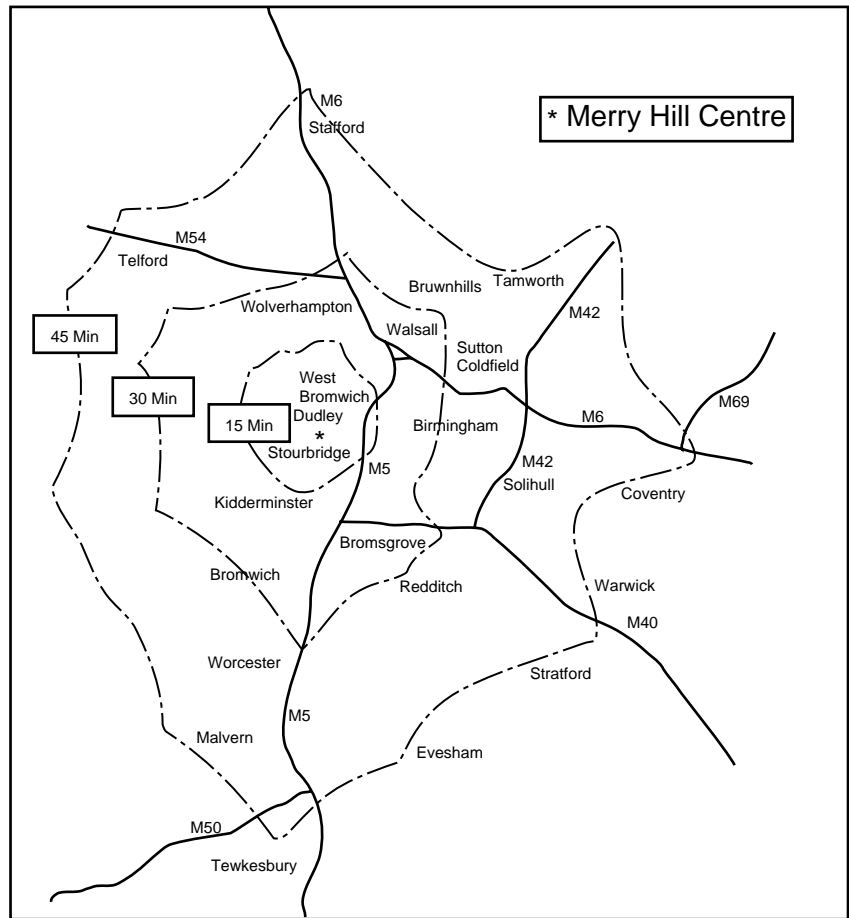
Changes in shop type in the West Midlands following the opening of Merry Hill (1989)

	1986	1989	1992	Change 1986-89	Change 1989-92
A. Convenience	124 000	95 100	71 400	+28 900	−23 700
B. Comparison	578 900	545 000	475 800	−33 900	−69 200
C. Vacant	21 400	65 500	162 800	+44 100	+97 300
Total A + B	**702 900**	**640 100**	**547 200**	**−62 800**	**−92 900**

Fig. 1b

Distribution of a transnational computer company's factories and offices in the UK
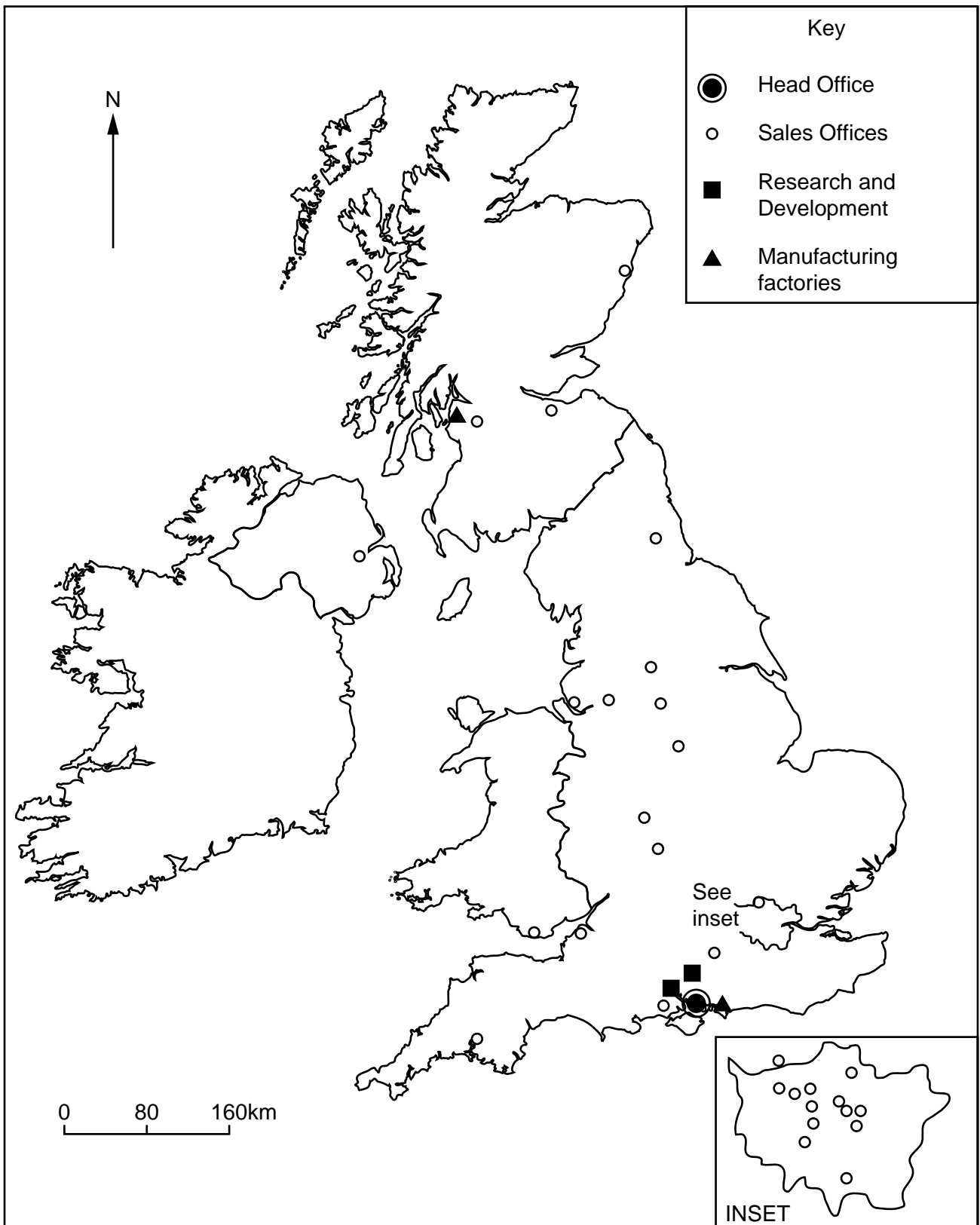
Adapted from: '*Understanding Human Geography*' – Bradford and Kent by permission of Oxford University Press

Fig. 2a Push and pull factors affecting migrants in South Molton Rural District
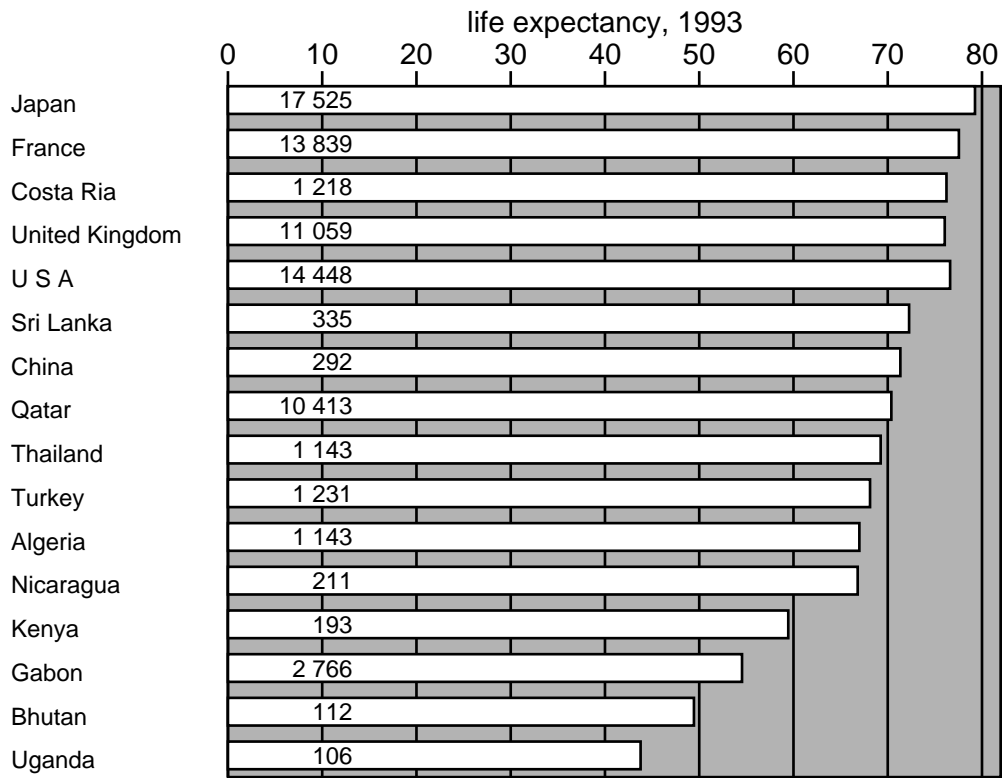(modified from Chaffey, 1994)

Reasons	for leaving ('push') (%)	for choosing South Molton ('pull') (%)
ECONOMIC REASONS		
Move required by employer	10	0
Voluntary career move	12	29
Unemployment	10	0
Housing/property	5	54
Total Economic Reason	37	83
NON-ECONOMIC REASONS		
Lifestyle change	23	0
Retirement	14	0
Family Health	11	8
Social and Physical Environment	10	8
Total non-economic reasons	58	16
OTHER REASONS		
	4	0

Fig. 2b Population change in South Molton Rural District, 1951-91
(Chaffey, 1994)

	1951-61	1961-71	1971-81	1981-91
Population change (no.)	−1041	−93	1790	1753
Population change (%)	−9	−1	16	13
No. of parishes with increasing population	2	9	24	23
No. of parishes with decreasing population	27	20	5	6

South Molton is a small market town set in rural North Devon, just south of the Exmoor National Park. It lies about twelve miles inland from Barnstaple and the other towns and holiday resorts on Bideford Bay. The M5 motorway is about 30 miles away to the east.

Fig. 3

life expectancy, 1993

Country	GNP per capita, 1992 £s.
Japan	17 525
France	13 839
Costa Ria	1 218
United Kingdom	11 059
U S A	14 448
Sri Lanka	335
China	292
Qatar	10 413
Thailand	1 143
Turkey	1 231
Algeria	1 143
Nicaragua	211
Kenya	193
Gabon	2 766
Bhutan	112
Uganda	106

GNP per capita, 1992.£s.

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Advanced Subsidiary GCE

GEOGRAPHY SPECIFICATION B

Unit 2688: Human Systems and their Management

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Question 1

(a) *Fig. 1a gives information about Merry Hill shopping centre in the West Midlands. On the basis of the information provided how would you expect out-of-town shopping centres to affect economic activities in nearby urban areas.* [9]

Loss of business in surrounding town centres, closure of shops especially comparison shops (see table). Closure of convenience shops in suburbs (see table) large population in surrounding towns linked to personal mobility of most of potential customers (see data). Attractive shopping environment linked to ease of parking (see data).

Level 3 (7–9 marks)

A wide range of points made on effects of centres. Use made of evidence from all three sources. Expect reference to the general national situation for full marks.

Level 2 (4–6 marks)

A range of points made, linked to two of the sources.

Level 1 (1–3 marks)

Limited range of ideas poorly supported with evidence.

(b) *Fig. 1b shows the location in the UK of a transnational company's activities. Suggest why any two of its activities are located in different parts of the country.* [9]

Head office in SE England for living environment, preferred residence of executives access to main institutions, near to the main market, airports, and links with research and development; Research and development near to universities and pool of qualified staff, links with head office: Sales offices scattered throughout country in major urban centres; concentration in London; Manufacturing plants-one near to R and D and serving southern market; one in West Scotland-government/EU grants, availability of labour, serving northern market.

Level 3 (7–9 marks)

Gives clear developed reasons for both of choices, refers to map.

Level 2 (3–6 marks)

Gives reasons for each with some reference to map.

Level 1 (1–3 marks)

Simple general point for each.

(c) *With reference to an industry which you have studied which has experienced decline, outline the social, environmental and economic consequences of that decline.* [12]

Social: lack of employment and income; loss of self esteem; decline in quality of life; out migration; break up of community; low educational achievements. Environmental: derelict sites; neglect of built environment. Economic: lack of employment and therefore incomes; downward spiral in local economy; difficult to attract new investment.

Level 3 (9–12 marks)

Accurate knowledge of a range of reasons in all three areas; uses case studies to support answer.

Level 2 (5–8 marks)

A range of reasons given with some reference to all three areas; some specific information used to support answer.

Level 1 (1–4 marks)

General statements without supporting evidence; no specific examples.

Question 2

(a) *Use the information in Fig. 2a and 2b to suggest reasons why the population of South Molton changed between 1951 and 1991.* [9]

How: rural districts increasing since 1971 especially in period 1971-8; a few parishes still decreasing. Why: counter-urbanisation = economic reasons; rural/urban migration = social reasons.

Level 3 (7–9 marks)

Identifies trends displayed by figures and exemplifies them; offers several reasons illustrated from table, recognising continued outflow as well as inflow.

Level 2 (4–6 marks)

Identifies trends shown by figures and explains them in general terms with some reference to figures.

Level 1 (1–3 marks)

Main urban-rural trend identified and generalised reason given.

(b) *Explain why the edges of many urban areas in the UK are the locations of most new development.* [9]

Pull factors: large greenfield sites available; lower development and land costs per hectare; access to transport links to other places; more pleasant environment; space for single storey industrial and commercial units and parking; near to newer residential neighbourhoods for work force and customers. Push factors: lack of space in inner city; and high land costs; poor access and unattractive environment; planning policies.

Leve1 3 (7–9 marks)

Provides a wide range of both push and pull reasons and supports them with examples.

Level 2 (4–6 marks)

General reasons given with some examples. May concentrate on attractions only.

Level 1 (1–3 marks)

Limited range of reasons expressed in general terms with little exemplification; concentrates on attractions only.

(c) *Name an inner city redevelopment scheme that you have studied, outline its main objectives, and evaluate whether or not it has been a success.* [12]

Single named and located example for instance of housing clearance, flat demolition, old industrial site; may be large or small scale.

Level 3 (9–12 marks)

Detailed and accurate statement of objectives expressed in terms of removal of existing drawbacks and aims of new development, supported by description of scheme; balanced assessment of the outcomes.

Level 2 (5–8 marks)

Sound description of objectives, with some description, and a reasoned view on its success.

Level 1 (1–4 marks)
General description of changes and objectives, and an assessment of outcomes with little explanation.

Question 3

(a) *Fig. 3 shows selected national statistics for life expectancy and Gross National Product (GNP) per capita.*

Describe the general relationship between the sets of data in Fig. 3, and suggest reasons for this pattern. [9]

Positive correlation between life expectancy and GNP per capita with some small anomalies. Life expectancy linked to health care, diet etc. which in turn is a product of GNP. Expect suggestions/ reasons for anomalies for full marks.

Level 3 (7–9 marks)

Identifies positive relationship and gives detail from figure; links GNP to range of measures of quality of life, and suggests reasons for anomalies.

Level 2 (4–6 marks)

Identifies positive relationship with some detail; links GNP with at least two indicators of quality of life.

Level 1 (1–3 marks)

Identifies positive relationship with little detail and links GNP to quality of life in a general way.

(b) *Explain why the population in many less-economically developing countries (LEDCs) is growing at a faster rate than in most more-economically developing countries (MEDCs).* [9]

In LEDCs: improvements in health care leading to increased life expectancy and lower infant mortality, not matched by changes in social attitudes to large families; lack of contraceptive advice, education; status of women. In MEDCs: delayed age of child bearing; career opportunities for women; breakdown of traditional attitudes to family; availability of contraception and advice on birth control; already low birth rates.

Level 3 (7–9 marks)

Gives a range of comparative points linking LEDCs and MEDCs which are dearly expressed.

Level 2 (4–6 marks)

Lists several points for both types of country, relative rates of growth implied.

Level 1 (1–3 marks)

Limited range of points made as separate statements.

(c) *With reference to one country which you have studied, discuss whether the pattern of migration is only the result of economic factors.* [12]

Economic opportunities are likely to include: jobs in towns; opening up of new lands; major developments of resources. Non-economic factors could include: drought; resettlement; political/ military conflicts.

Level 3 (9–12 marks)

Range of accurate knowledge of chosen country. Evaluates significance of causes of migration and comes to a balanced view, well exemplified.

Level 2 (5–8 marks)

Sound knowledge of chosen country which is appropriate to question. Discusses relative importance of causes of migration and gives examples.

Level 1 (1–4 marks)

Shows awareness of differing causes of migration but does not evaluate their causes in chosen country. Some relevant knowledge.

Question 4

Using examples from one or more named LEDCs, describe how investment from abroad has influenced the economic and social well being of the population. [30]

Level 5 (25–30 marks)

Shows a clear understanding of how inward investment can change conditions in a range of ways and at different scales in a country. Uses accurate knowledge of a names country to illustrate this; refers to detailed examples of both social and economic well being of population and of effects on the country. Answer is well structured, logical and is presented in good English.

Level 4 (19–24 marks)

Shows a good understanding of how inward investment can affect conditions in a country and uses accurate knowledge to exemplify this. Considers impacts on both people and the country. Generally well organised answer with a clear conclusion and in good English.

Level 3 (13–18 marks)

Shows an awareness of general effects of investment without clearly differentiating between people and national economy. Good selection of information to support answer. Some evidence of structure but limited conclusions and some weaknesses in standard of English.

Level 2 (7–12 marks)

Limited knowledge of chosen country and influences considered generally and simplistically. Over descriptive. Some structure but answer lacks a clear focus on question; weaknesses in English apparent.

Level 1 (0–6 marks)

Very little understanding of impact of inward investment and very limited knowledge of chosen country; poor structure and errors in English obtrusive.

Question 5

The population of large urban areas in MEDCs is static or declining while in LEDCs it is increasing.

*Describe the effects of these population changes on settlements and people in **either** MEDCs **or** LEDCs.* [30]

Level 5 (25–30 marks)

Very good detailed understanding of a range of different effects of population change on social/ economic/environmental conditions in settlements; refers to changing functions and spatial structure; gives comparative account and supports answer with specific examples; answer has a clear structure and is written in good English.

Level 4 (19–24 marks)

Good understanding of the different effects of population change on social/economic/environmental conditions in settlements; refers to changing functions and spatial structure; makes some comparisons and gives specific examples; answer has a structure and is written in good English.

Level 3 (13–18 marks)

Refers to several effects of population change on social/economic/environmental conditions in settlements and may refer to changing functions and spatial structure; comparisons inferred rather than explicit; brief reference to examples; some structure but also some weaknesses in the quality of English.

Level 2 (7–12 marks)

Describes a limited number of effects of population change on settlements; only brief reference to examples; little structure and weaknesses in English apparent.

Level 1 (0–6 marks)

A very little, generalised knowledge of effects of population change on settlements; little accurate information of examples; lack of structure and weaknesses in English are obtrusive

Advanced Subsidiary GCE

GEOGRAPHY SPECIFICATION B

Unit 2689: Geographical Investigations I

SPECIMEN PAPER

1 hour 30 minutes
Maximum mark 120

TIME   1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Answer **one** question from Section A and **both** questions from Section B.

You must attach your report of 1000 words, along with its cover sheet, to your answers to this question paper and hand them in together at the end of the examination. The report will be marked out of 25.

INFORMATION FOR CANDIDATES

Even where not specifically asked for, credit will be given for sketch maps, diagrams, and examples of places which you have studied, provided they serve to illustrate your answer.

You are reminded that marking will take account of the quality of written communication and the orderly presentation of your answers.

This specimen paper consists of 3 printed pages and an OS map extract.

Section A

Answer **one** question.

You should refer to and expand on, but not repeat, sections of your report of 1000 words in your answers.

1 Outline and justify a piece of work you could undertake which would extend your understanding of some aspect of your original investigations. [25]

2 Assess the methods you used in collecting your primary data and suggest ways in which the methods could be improved. [25]

3 Suggest how your work could be of value to outside groups such as planners, business people or conservationists. [25]

Section B

Answer **both** questions.

4 Study the Ordnance Survey map provided and then describe how you could make use of **three** of the following in a geographical investigation within the area covered by the map:

- a clinometer
- a satellite image of the same area
- a barometer
- a measuring tape
- a soil testing kit
- a maximum and minimum thermometer
- a video camera
- a 1:10 000 map of Swanage

You may mention other equipment and materials you would find useful. Be sure to relate your answer to actual locations on the map. [3 x 10]

5 The statistics provided overleaf give information about tourism in Northern Ireland.

(a) Choose one set of statistics which could be displayed in the form of a **map**. Explain why you chose it and how you would construct an appropriate map. [20]

(b) Choose one set of statistics which would best be shown by a **graph**. Describe the graph you would construct and show a method for testing the significance of the pattern or relationship your graph might show. [20]

TOURISM IN NORTHERN IRELAND

Set 1

NORTHERN IRELAND'S KEY MARKETS

	1994	% change with 1993
Great Britain	708 100	+1
Irish Republic	390 000	+5
Europe	86 600	+6
North America	76 800	+10
Other Overseas	32 400	–3

Set 2

DOMESTIC HOLIDAYS IN NORTHERN IRELAND

		% change with 1993
TRIPS	650 000	–4
NIGHTS	2 700 000	+7
SPEND	£59m	+5 (in real terms)

Set 3

What were the total staying visitor figures and revenue?

	trips ('000)	nights ('000)	revenue £m
1963	704.6	7670.9	10.14
1967	1080.0	8679.4	16.94
1972	435.0	3499.4	8.64
1985	862.5	5722.8	78.53
1986	824.1	5597.7	81.85
1987	942.8	6638.7	91.39
1988	930.4	6673.9	97.00
1989	1090.6	6636.4	136.31
1990	1152.8	7091.0	153.09
1991	1186.1	7160.0	162.00
1992	1254.5	7466.6	161.67
1993	1262.0	7794.0	173.0
1994	1293.9	7804.0	183.00

Set 4

What was the main purpose of their visit?

	1990	1991	1992	1993	1994
trips total =	1152 800 (100%)	1186 100 (100%)	1254 500 (100%)	1262 000 (100%)	1293 900 (100%)
Visiting friends & relatives (VFR)	516 800 (45%)	456 500 (39%)	509 600 (41%)	519 500 (41%)	521 500 (40%)
Holiday	222 100 (19%)	262 900 (22%)	247 200 (20%)	251 100 (20%)	275 500 (21%)
Business	294 400 (25%)	333 900 (28%)	380 300 (30%)	377 600 (30%)	387 700 (30%)
Other	119 500 (10%)	132 800 (11%)	117 400 (9%)	113 800 (9%)	109 200 (9%)

Set 5

Where did the staying visitors come from?

		1994
England	trips ('000)	524
	nights ('000)	3325
	spending £m	72.33
Scotland	trips ('000)	170
	nights ('000)	837
	spending £m	18.60
Wales	trips ('000)	14
	nights ('000)	100
	spending £m	1.90
GREAT BRITAIN	trips ('000)	708
	nights ('000)	4262
	spending £m	92.83
IRISH REPUBLIC	trips ('000)	390
	nights ('000)	1404
	spending £m	34.00
NORTH AMERICA	trips ('000)	77
	nights ('000)	794
	spending £m	21.90
EUROPE	trips ('000)	87
	nights ('000)	742
	spending £m	17.43
OTHER OVERSEAS	trips ('000)	32
	nights ('000)	602
	spending £m	16.84
TOTAL OVERSEAS	trips ('000)	196
	nights ('000)	2138
	spending £m	56.17
TOTAL STAYING VISITORS	trips ('000)	1294
	nights ('000)	7804
	spending £m	183.00

Set 6

What percentage of the market did each country take?

	1994
Origin — trips total =	1 293 900 (100%)
England	41
(London & South East)	(14)
Scotland	13
Wales	1
(Total Great Britain)	(55)
Irish Republic	30
North America	6
Europe	7
Other overseas	2

Set 7

How important were the market segments in nights and spending in 1994?

	trips	nights	spending
total =	1 293 900 (100%)	7 804 000 (100%)	£183.0m (100%)
Visiting friends & relatives	40	47	35
Holiday	21	18	22
Business	30	23	33
Other	9	12	10

(for average length of stay, divide nights by trips)
(for average spending per trip, divide spending by trips)

Set 8

What was the main purpose of visit for the main market areas in 1994?

	VFR	holiday	business	other
England	51%	7%	39%	3%
Scotland	50%	15%	30%	5%
Wales	51%	8%	38%	3%
Irish Republic	25%	32%	25%	18%
North America	44%	37%	12%	7%
Europe	23%	51%	16%	10%
Other overseas	45%	36%	11%	8%

Set 9

†What type of accommodation did they stay in?

	trips	nights	spending
total =	1 293 900 (100%)	7 804 000 (100%)	£183.0m (100%)
Hotel	25	10	33
Guesthouse/Bed and breakfast	8	5	9
Caravan/Camping	1	1	1
Rented accommodation	2	8	3
Staying with friends/relatives	60	70	51
Other (e.g. youth hostels)	4	6	3

Set 10

†What time of year did they come?

	VFR	holiday	business	all
trips total =	521 500 (100%)	275 500 (100%)	387 700 (100%)	1 293 900 (100%)
January – March	20	12	27	21
April – June	23	24	28	25
July – September	35	51	23	33
October – December	22	13	22	21

Set 11

†How did visitors spend their money in Northern Ireland?

	VFR	holiday	business	all
total =	521 500 (100%)	275 500 (100%)	387 700 (100%)	1 293 900 (100%)
Accommodation/meals	23	32	66	42
Internal travel	9	12	12	11
Entertainment inc. drinks	18	17	11	15
Shopping	48	37	10	30
(presents)	(16)	(14)	(4)	(10)
Incidental expenditure	2	2	1	2

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Advanced Subsidiary GCE

GEOGRAPHY SPECIFICATION B

Unit 2689: Geographical Investigations I

MARK SCHEME

Notes for examiners

1. Prior to the co-ordination meeting, Team Leaders and assistant examiners should read, and provisionally mark (in pencil), a selection of scripts using the guidance given in this mark scheme. The scripts should be chosen to cover the mark range, and to exemplify any interpretations of questions which do not appear to be accommodated by the mark scheme. The scripts should be brought to the co-ordination meeting where they will be used as a basis for refining, modifying and exemplifying the mark scheme.

2. For each question the mark scheme describes the general qualities and characteristics required for the award of marks in three levels. A candidate demonstrating all the requirements for a level should normally be awarded full marks for that level. If the answer contains any additional material which is credit worthy, but does not meet all the requirements of the next level, an intermediate mark should be awarded.

3. It is anticipated that further details will be added to the levels descriptors at the co-ordination meeting in the light of the candidates' responses to the questions. Given the open-endedness of the questions in this paper, therefore, examiners should be prepared to credit approaches which do not follow the most likely ones described in the levels descriptors, provided they are equally valid. In such cases a brief note should be added at an appropriate point in the script to indicate the reason(s) for the decision.

4. In marking answers to those parts of questions in which the candidates are required to write in continuous prose attention should be given to the ability of candidates to organise, present and communicate information, ideas, descriptions and arguments, and data in a clear, logical and coherent manner taking into account their use of grammar, punctuation and spelling. Such answers will be assessed using levels of response criteria as indicated below.

   The following levels of response will be applied with regard to the candidate's quality of written communication:

   Candidates placed in Level 1 or above should be generally correct in their spelling, punctuation and grammar

   Candidates placed at Level 2 or above should be presenting their answer in clearly expressed English

   Candidates placed in Level 3 should produce a well-structured and presented answer.

Section A

This section is designed to assess the candidate's ability to plan, conduct and evaluate the outcomes of geographical investigations. The cover sheet which should accompany the 1000 word report will include a brief outline from the centre which describes the investigation(s) undertaken at the centre to prepare their candidates. The purpose of the outline is to provide examiners with an accurate and common background to the work undertaken by candidates from any one centre. Care should be taken during marking the answers to Section A not to credit mere repetition of the outline.

Given the diversity of investigations that candidates will have done, responses will vary considerably. Examiners should be prepared to award up to full marks for answers which do not follow precisely the pattern suggested by the descriptors, but which nevertheless show similar quality.

The 1000 word report

Examiners are asked to read carefully the outlines of work undertaken before marking the report. Depending on the activities undertaken candidates may have had varying opportunities to comment on the different aspects of investigative work. This should be taken into account when marking work from different centres. The report should be marked against the following levels descriptors.

Level 3 (18–25 marks)

A balanced account under all the sections which refers to alternative strategies available and shows a clear understanding of the appropriateness of those used. The evaluation recognises the validity and usefulness of the outcomes by referring to their significance to the particular area of geography. Suggestions of how the study could be modified or extended may be included.

Level 2 (9–17 marks)

The account follows the sections to show how and why decisions were made about purposes, and methods to be employed. It shows an understanding of the outcomes. The evaluation recognises the validity and usefulness of the outcomes by linking them to the data collected and the strategies followed.

Level 1 (1–8 marks)

An account, generally accurate in spelling, punctuation and grammar which includes a brief or single comment under each of the five sections referred to on the cover sheet. Evaluation of the enquiry is in terms of its success or failure in relation to the original purpose. Some weakness in English.

Candidates should refer to and expand on but not repeat sections of their 1000 word report in their answers to questions from Section A.

Question 1

Outline and justify a piece of work you could undertake which would extend your understanding of some aspect of your original investigations. [25]

Candidates will probably:

Level 3 (18–25)

Select an appropriate topic which would deepen or widen understanding of the original topic and justify it by referring to other ideas in the chosen field of study. Describe a sequence of activities which shows a knowledge of field work and data handling skills other than those described in the report and comments on possible difficulties and outcomes.

Level 2 (9–17 marks)

Select an appropriate topic which provides an added perspective on the original one. Describe a sequence of activities which shows a knowledge of field work and data handling skills other than those described in the 1000 word report and which would lead to relevant additional insights.

Level 1 (1–8 marks)

Select a topic for investigation in the same field of study as the original one and describe a sequence of study which could lead to a conclusion.

Question 2

Assess the methods you used in collecting your primary data and how you suggest ways in which the methods could be improved. [25]

Candidates will probably:

Level 3 (18–25 marks)

Assess two or more methods and identify issues arising from them, and in so doing show a good understanding of the difficulties arising from limitations of data and design as well as practical problems of collection. Suggest improvements to each. This will extend their reports and reveal a knowledge of a range of methods and techniques.

Level 2 (9–17 marks)

Assess two methods and identify issues arising from them which show a sound awareness of the difficulties arising from limitations of data and design as well as practical problems of collection. Suggest improvements to each in a way which extends the report.

Level 1 (1–8 marks)

Describe two methods and comment on them.

Question 3

Suggest how your work could be of value to outside groups such as planners, business people, or conservationists. [25]

Candidates will probably:

Level 3 (18–25 marks)

Recognise at least three ways in which the work could be of value and demonstrate the usefulness of both the methodology and the findings. Explain two of the ways fully and/or refer to different groups.

Level 2 (9–17 marks)

Recognise at least two ways in which the work could be of value and demonstrate the usefulness of the both methodology and the findings to other groups.

Level 1 (1–8 marks)

Recognise two ways in which the work could be of value and give a brief reason for each.

Section B

Question 4

*Study the Ordnance Survey map provided and then, describe how you could make use of **three** of the following in a geographical investigation within the area covered by the map.*

- *a clinometer*
- *a satellite image of the same area*
- *a barometer*
- *a measuring tape*
- *a soil testing kit*
- *a maximum and minimum thermometer*
- *a video camera*
- *a 1:10 000 map of Swanage*

You may mention other equipment and materials you would find useful. Be sure to relate your answer to actual locations on the map. [3 x 10]

Candidates will probably:

Level 3 (21–30 marks)

Select three, link each to an appropriate investigation and location(s) and correctly describe the purpose and function of each. Develop their answers by, for example, describing procedures to be followed in the context of the particular investigation, referring to other requirements, recognising local circumstances and discussing possible experimental errors.

Level 2 (11–20 marks)

Select three, link each to an appropriate investigation and location(s) and correctly describe the purpose and function of each.

Level 1 (0–10 marks)

Select three instruments, link each to an appropriate investigation and give a brief description of their purpose.

Question 5

The statistics provided give information about tourism in Northern Ireland.

*(a) Choose one set of statistics which could be displayed in the form of a **map**. Describe why you chose it and how you would construct an appropriate map.* [20]

Candidates will probably:

Level 3 (13–20 marks)

Give a description of the choice of statistics which shows an understanding of the spatial characteristics of the data, and the possible usefulness of the map. Show a full understanding of construction techniques.

Level 2 (7–12 marks)

Justify their choice by referring to the map's fitness for purpose and extends the description of construction methods.

Level 1 (1–6 marks)

Choose an appropriate set of statistics for mapping, give a brief reason for choice and of the method of construction.

*(b) Choose one set of statistics which would best be shown by a **graph**. Describe the graph you would construct and a method for testing the significance of the pattern or relationship your graph might show.* [20]

Candidates will probably:

Level 3 (13–20 marks)

Match the statistics to an appropriate graph and demonstrate an understanding of its suitability. Give a comprehensive description of an appropriate test.

Level 2 (7–12 marks)

Select a graph appropriate to the statistics and demonstrate this in the description of its construction. Give an organised description of a suitable test.

Level 1 (1–6 marks)

Choose an appropriate set of statistics for graphing and give a brief and generalised description of a suitable test.

Advanced GCE

GEOGRAPHY SPECIFICATION B

Unit 2691: Issues in the Environment

SPECIMEN PAPER

2 hours
Maximum mark 90

TIME   2 hours

INSTRUCTIONS TO CANDIDATES

Answer **two** questions, **one** question from Section A and **one** question from Section B.

INFORMATION FOR CANDIDATES

Section A – Physical Options
question 1	:	Natural Hazards and Human Responses
question 2	:	Climate and Society
question 3	:	Cold Environments and Human Responses
question 4	:	Tropical Environments and People

Section B – Human Options
question 5	:	Food Supply – Management and Change
question 6	:	Changing Urban Places
question 7	:	Leisure and Tourism
question 8	:	Globalisation of Economic Activity

Even where not specifically asked for, credit will be given for sketch maps, diagrams, and examples of places which you have studied, provided they serve to illustrate your answer.

You are reminded that marking will take account of the quality of written communication and the orderly presentation of your answers.

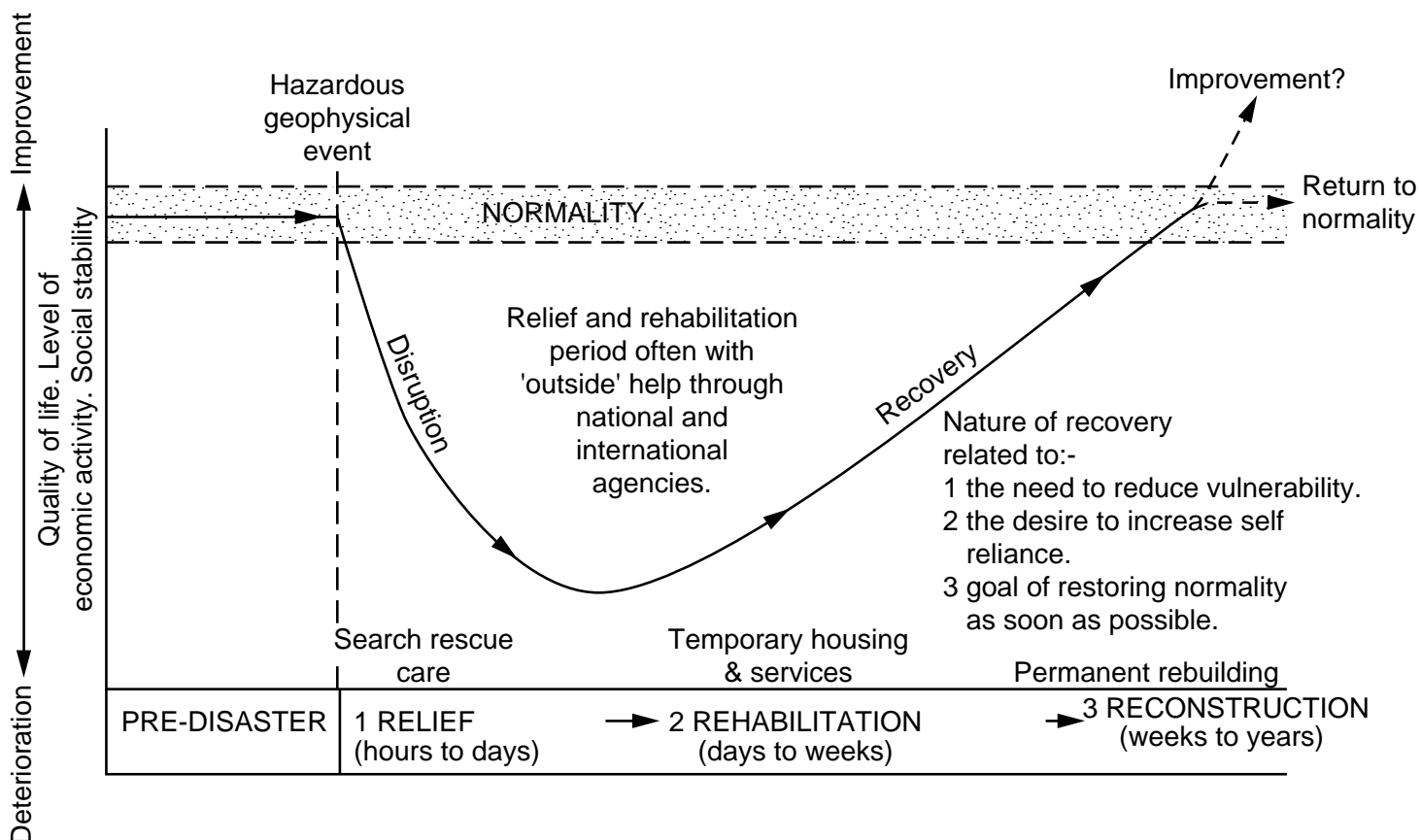**This specimen paper consists of 13 printed pages and 3 blank pages.**

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Section A

Answer **one** question from this Section.

1 **(a)** Study Fig. 1 which shows in the form of a model, changes in quality of life, economic activity and social stability as a result of a natural hazardous event.

Fig. 1 Hazard Impacts on Human Systems

Source: V. Bishop

Evaluate the usefulness of the model (Fig. 1) with reference to different kinds of hazards. Suggest how the impacts shown may differ in Less-economically developed countries (LEDCs) and More-economically developed countries (MEDCs). [20]
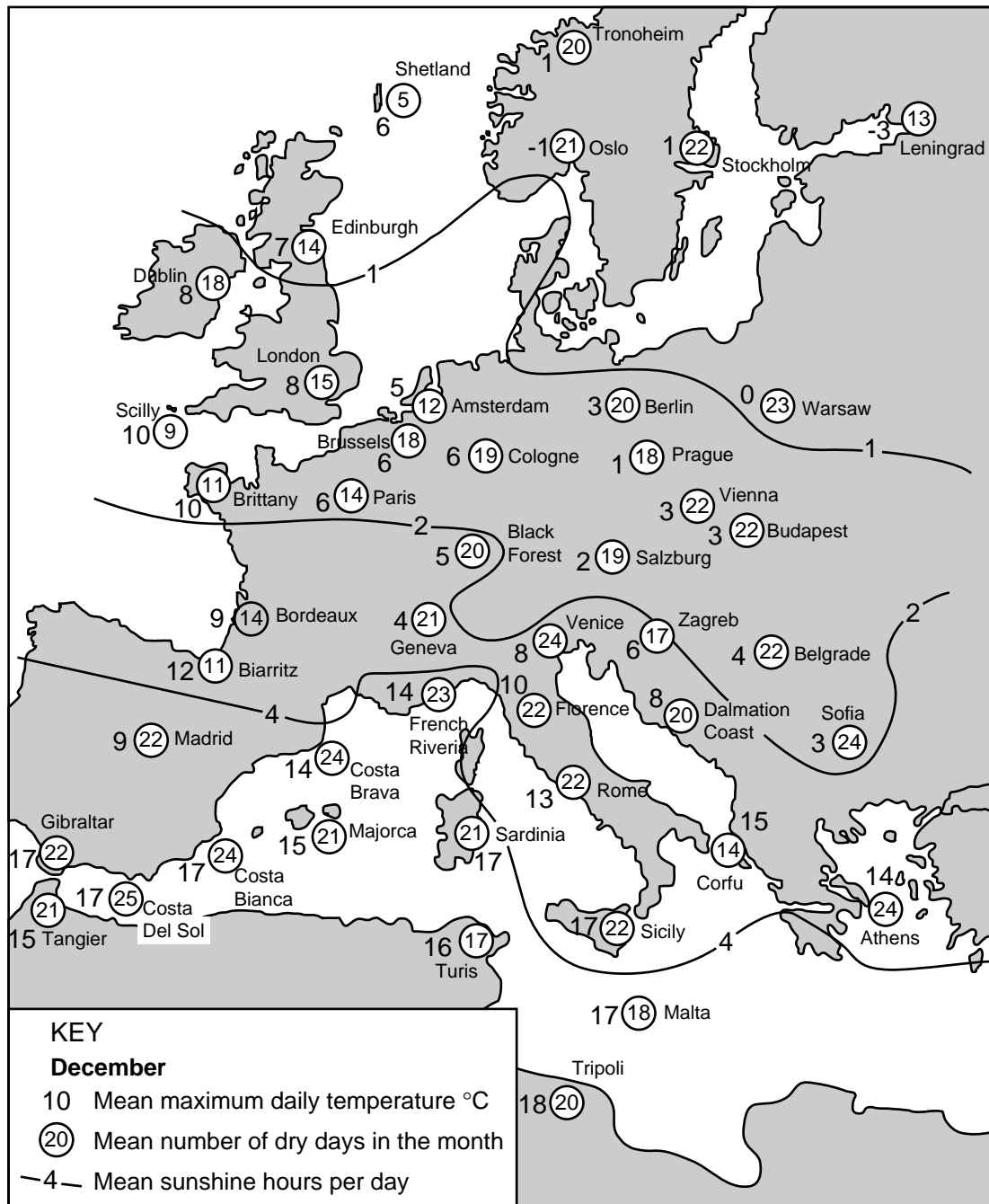
(b) Either

(i) Which of the following categories of hazards: tectonic; geomorphic; or atmospheric is most disruptive to human activity? Justify your choice, with reference to specific examples. [25]

Or

(ii) 'Preventing a hazardous event from becoming a disaster has as more to do with managing human activities than as with managing physical processes'. Discuss this statement with reference to natural hazards you have studied. [25]

2 **(a)** Study Fig. 2, a tourist map of average December weather conditions.

Fig. 2

KEY

December

10	Mean maximum daily temperature °C
(20)	Mean number of dry days in the month
—4—	Mean sunshine hours per day

Evaluate the usefulness of this map (Fig. 2) for tourists using examples you have studied, discuss why weather observation and forecasting are important to human activity. [20]

(b) Either

(i) Discuss how both **natural** and **human** processes may be contributing to global warming. Comment critically on the extent to which governments are responding to concerns about it. [25]

Or

(ii) Discuss the atmospheric conditions and the human activities which lead to poor air quality in urban areas and comment on measures that can be taken to reduce pollution levels. Make reference to one or more named cities in your answer. [25]

3 **(a)** Fig. 3, on the opposite page, shows a variety of information about the town of Fairbanks, (pop. 31 500) in Alaska.

Discuss the impacts of permafrost on buildings and services in an area like that around Fairbank, and the ways of managing these impacts. [20]
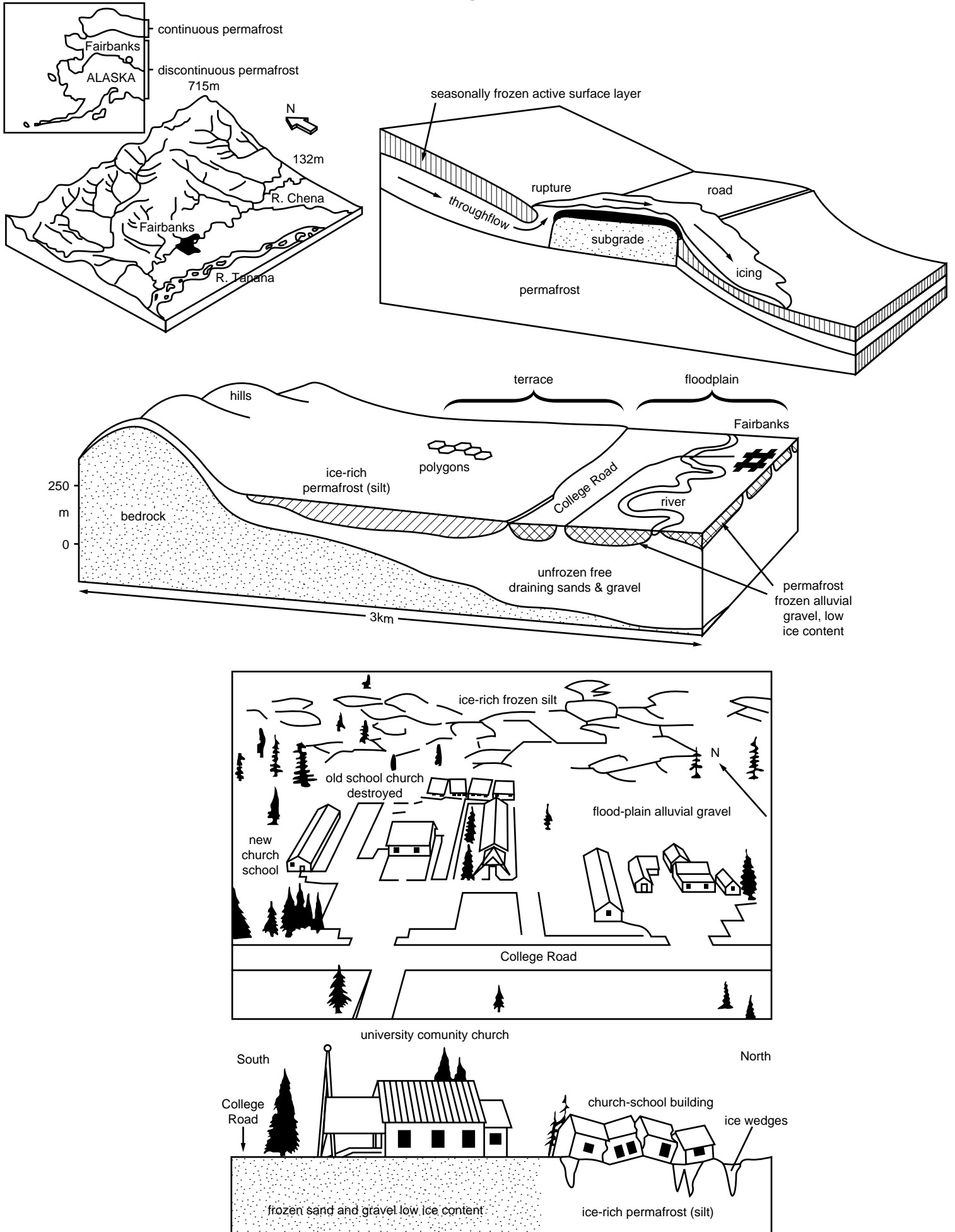
(b) **Either**

(i) For an area of glacial **and/or** fluvio-glacial deposits that you have studied explain the nature and origin of the deposits, and discuss how they have influenced human activity in the area. [25]

Or

(ii) Explain why the cross and long profiles of glaciated valleys are distinctive and assess the opportunities they present for economic activity. [25]

Fig. 3

continuous permafrost
discontinuous permafrost

Fairbanks
ALASKA

715m

N

132m

R. Chena

Fairbanks

R. Tanana

seasonally frozen active surface layer

rupture

road

throughflow

subgrade

icing

permafrost

terrace

floodplain

hills

Fairbanks

ice-rich
permafrost (silt)

polygons

College Road

river

250

m

0

bedrock

unfrozen free
draining sands & gravel

permafrost
frozen alluvial
gravel, low
ice content

3km

ice-rich frozen silt

N

old school church
destroyed

flood-plain alluvial gravel

new
church
school

College Road

university comunity church

South

North

College
Road

church-school building

ice wedges

frozen sand and gravel low ice content

ice-rich permafrost (silt)

4 (a) Read the extract (Fig. 4) below about human activities in tropical Africa before answering the question.

Fig. 4

The long-term prospects are grim. Periodic drought is a fact of life in the semi-arid areas. Continued population increase puts pressure on the land. As population and livestock densities increase so does vulnerability to the inevitable periodic drought. Funds are not a problem now, almost the reverse. Through such organizations as the *Club des Amis du Sahel* vast amounts of long-term aid have been poured into the Sahelian countries and through the careful monitoring of the Emergency Service of the World Food Programme no one need actually die of starvation except for human error or neglect.

Not all the aid has been well spent but lessons have been learned. There is now a general acceptance among western field workers that indigenous agriculture is much more sophisticated and finely attuned to the problems posed by the local natural environment and its vagaries than had been previously appreciated. The need for co-ordination between the various agencies is now acknowledged. The point that an improvement here can actually cause a problem there is taken. Provision of a costly borehole can lead to land for a wide radius being trampled into barren uselessness by livestock brought to water. There is still a tendency to indulge in over-grand and/or totally inappropriate schemes based on 'expertise' from other continents and transferred without regard to physical and cultural differences.

The balance of forces which allowed centuries of occupance of the dry lands has been irrevocably upset because it depended on periodic famine, appalling human suffering, everyday hardship and standards of health and well-being which are no longer acceptable. To make the harsh environment of the marginal dry lands a habitat where people can live materially better lives than in the past is a daunting challenge which is far from being met.

ref: An Atlas of African Affairs. ILL Griffiths Methuen 1984

What general conclusions you draw from the article about the tropical environment and people. How far are they true for places you have studied in the tropical world? [20]

(b) Either

(i) Evaluate the assertion that the tropical environment is fragile Use examples from your studies to illustrate your answer. [25]

Or

(ii) It is not temperature, but the availability of moisture that creates diversity between different tropical environments. Discuss the validity of this statement in relation to **one** continental area and consider ways in which farming by indigenous groups is adapted to the availability of moisture. [25]

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Section B

Answer **one** question from this Section.

5 **(a)** Increasingly, large food retailing companies are securing their supplies by contracting farmers directly to produce food for their stores.

Read the extract opposite (Fig. 5) and then comment on the implications of this food supply system on the growers, retailers and consumers involved. [20]

(b) **Either**

(i) 'Famine is not a natural disaster.' How far would you agree with this statement? [25]

Or

(ii) How has the intensification of food supply systems changed ecosystems? Discuss ways of making these food supply systems more environmentally friendly. [25]

Fig. 5

Family Album

I was clinging to my moral certainties, because the Zimbabwean mangetout growers seemed such innocents … Was I being patronising?

Last summer we grew our own mangetout. We had a lot of trouble with caterpillars, Sheila tells me. This week, in the *Modern Times* series (Wednesday BBC2) you can see a whole programme about mangetout. 'They're sending me a whole programme about mangetout,' I said, having put the phone down from speaking to my handler in London. 'Mange-bloody-tout.' And I rolled my eyes in exaggerated incredulity.

Now we have watched the whole programme on mangetout and it has caused as much moral turbulence and uncertainty as anything we've watched recently. The mangetout under study is grown in Zimbabwe. In one of the Tesco stores for which the best of its is destined, the customers weren't sure where Zimbabwe was. 'Africa, innit?' guessed the best informed of them, rather spoiling the effect by adding, 'Is it the capital?'

Blessing Chinawaru, a supervisor on the Chiparawe farm where the delicious legume is grown, is at least able to draw a credible map of Africa in the dust but is under the impression that Tesco is itself a country. 'Quite a superior country. Quite magnificent.' he says, wistfully.

Blessing treats the mangetout he grows like children, he suggests. Every other day he checks the fingernails of the reapers to ensure that they will not damage his children. Grannie Chavundira is not a reaper. She is a caterpillar examiner, checking each pea by hand for unwelcome intruders. Grannie is very aware that any negligence leading to the appearance on your table of a Zimbabwean caterpillar could have calamitous consequences for her community, including Chris Kaye, owner of the farm. Chris is checking the farm in preparation for the visit of the men from Tesco, led by Mark Dady. Mark can say such things as 'We know they [the customers] want unbeatable value prices,' and mean them. Among those wanting unbeatable value prices is Claire Montague, shopping for mangetout for a dinner party, the sort of dinner party at which talk of a German still provokes the response, 'Don't mention the war'.

At this stage of the programme, I was still clinging to my moral certainties, in which Grannie and Blessing were the goodies. But, I was wondering, was this partly because the Zimbabweans seemed such innocents and such dreamers. speaking so poetically about their lives and work in accents that persuaded the film-makers that, in Grannie's case, subtitles were necessary? Was I, in short, being patronising?

Chris Kaye tells us that he enjoys the annual Tesco inspection, but it is difficult to believe him. Both sides speak of their partnership, but must know that Tesco calls the tune. As the boys and girls of the village sing a song of welcome to the men from Hertfordshire – 'Down the valley, up the mountain, Tesco is our dear friend' – you sense that to justify the visit, which is paid for by the farm, Mark must find something to complain about, and he does. The ends of the peas are being twisted off rather than cut and the customers who don't know where Zimbabwe is won't like this.

Ultimately, the dear friends' intervention results in the reapers being paid only for those mangetout deemed exportable rather than for the whole crop. This effectively reduces their income by 30 to 40 per cent. Back at the dinner party, Claire's guests have fallen to discussing exploitation and the wider issues thrown up by the processes that bring Blessing Chinawaru's peas to their table. With every question and with every answer, my moral certainties crumbled further. If there were no big white farmers like Chris Kaye in Zimbabwe, could Blessing and Grannie survive? Would they dream the dreams they dream? Should the land be used for subsistence farming? What happens to the rejected peas? (The villagers won't eat them, so they go to feed the farm's cattle.) Are the reapers paid a fair price? What is a fair price?

Ultimately, the question for me was this. What does a soft-hearted liberal do? Eat mountains of mangetout to guarantee some sort of future for Grannie and for Blessing? Or eat none, knowing that, of the 99p I pay, 45p goes to Chiparawe farm and of that 45p, approximately 1p goes to the reapers? *RT*

Source: Radio Times 22-28 February 1997

6 **(a)** Read the extract below (Fig. 6) which relates to Mexico City, an urban area in an LEDC.

Fig. 6

> The City in a Cloud of Despair
>
> Mexico City lies sprawled across its plateau, a mile and a half above sea level. The bowl acts as a trap for smoke and fumes, and an estimated 10,000 tones of pollutants compete with the oxygen daily. Experts have seriously suggested that the toxic fumes rising constantly into the atmosphere, many from uncollected rubbish, could one day ignite. The resulting conflagration could turn into a fire storm, gulping in oxygen to feed the flames, and suffocating perhaps hundreds of thousands of citizens. In 1981 a municipal rubbish dump caught fire. The flames and explosions continued for ten days, adding 10 times to the already dangerous concentrations of sulphur dioxide in the pitifully thin air. At 7,400 feet high, Mexico City never had much oxygen to start off with.
>
> A city health officer reported that just breathing in Mexico City is the equivalent of smoking 40 cigarettes a day. The city is literally killing its inhabitants. Researchers suggest that as many as half the city's residents – usually the poorest – die of parasitical diseases. Pollutants come from the 130,000 industries – many belching uncontrolled smoke – and the 2.7 million vehicles that circulate in the metropolis, causing a rush hour that lasts all day. Air pollution is estimated to be 100 times the acceptable level; in Mexico City you can catch hepatitis just by breathing. The mountains of garbage from households alone accumulate at 800 tonnes per day, and are beyond the city's capacity for disposal. The lack of basic sewerage means that an estimated 750 tonnes of human excrement is deposited in the city daily. This waste matter dries up and disperses as dust, which is then blown through the city, causing the parasitic ailments.
>
> Adapted from the Guardian newspaper

Explain the extent to which the problems described in Mexico City are experienced in other cities in the world. [20]
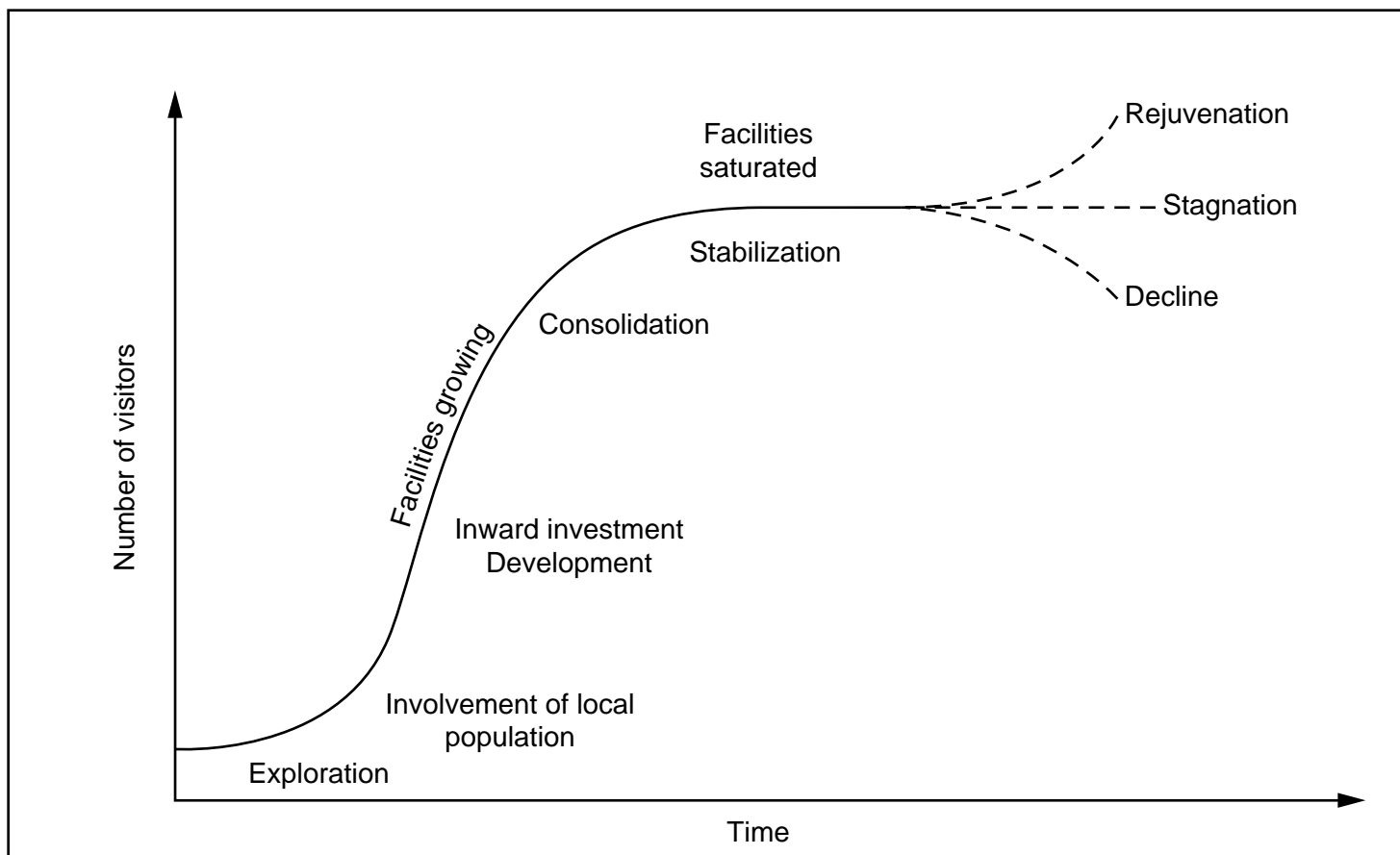
(b) Either

(i) 'The most successful urban planning schemes are those that involve participants in the planning process.' Discuss this statement with reference to named examples from different countries. [25]

Or

(ii) 'Improving the quality of life of urban residents cannot be achieved unless the urban economy itself is sustainable.' Discuss this statement with reference to planning approaches in different cities. [25]

7 **(a)** Fig. 7 suggests that tourist resorts pass through various stages of development after their early 'exploration' by pioneer tourists. Evaluate the extent to which this model aids our understanding of the evolution of tourism in areas you have studied. [20]

Fig. 7

after Butler and Prosser 1994

(b) **Either**

(i) 'The growth in demand for leisure facilities within urban areas has had impacts on communities and the environment.' Discuss this statement with reference to **two** named urban areas you have studied. [25]

Or

(ii) The use of the countryside as a resource for leisure and tourism often causes problems and presents challenges for decision makers. Using named examples from different countries, discuss the nature of these problems and evaluate strategies used to overcome them. [25]
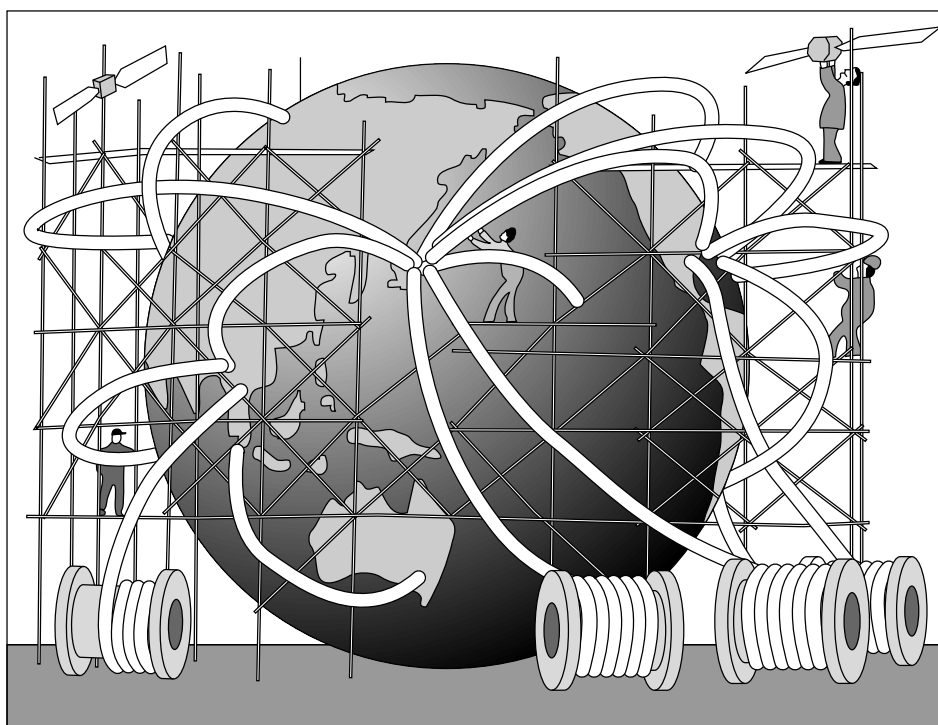
8 (a) Developments in telecommunications are changing the ways in which businesses operate. What are the implications of changes, such as those shown in the cartoons (Fig. 8 and Fig. 9 below), for the company? [25]

Fig. 8 A Video Meeting of Minds
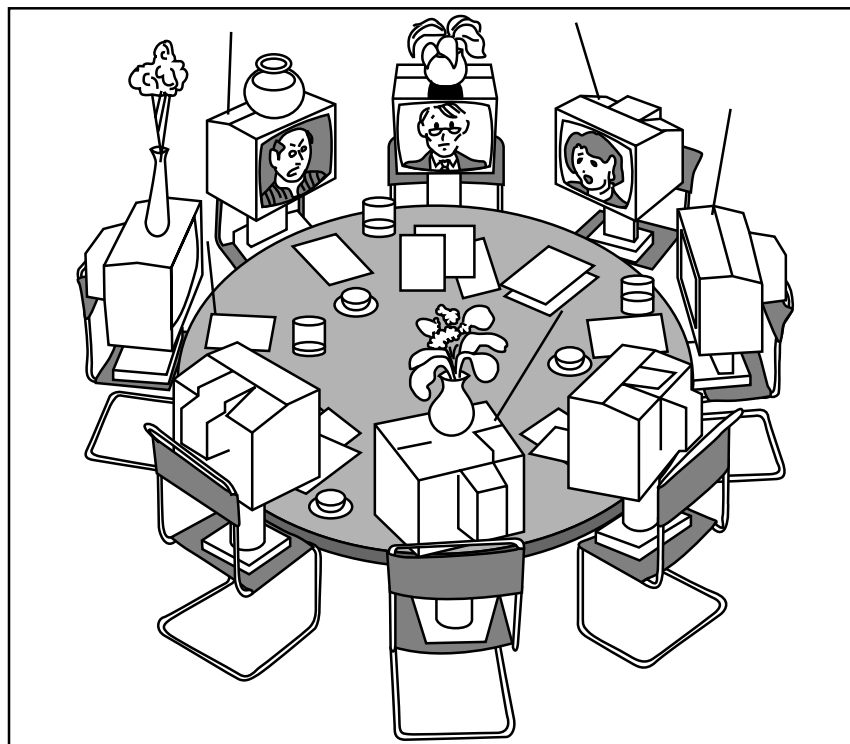
Source: James Ferguson, Financial Times

Fig. 9 Wiring the World

Source: Ingram Pinn, Financial Times

(b) Either

(i) Discuss how the increasing trend towards the global organisation of production has influenced one less-economically developed country (LEDC) that you have studied, [25]

Or

(ii) Compare the impact that the globalisation of economic activity is having on countries at different states of development. [25]

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Advanced GCE

GEOGRAPHY SPECIFICATION B

Unit 2691: Issues in the Environment

MARK SCHEME

Notes for examiners

1. Prior to the co-ordination meeting, Team Leaders and assistant examiners should read, and provisionally mark (in pencil), a selection of scripts using the guidance given in this mark scheme. The scripts should be chosen to cover the mark range, and to exemplify any interpretations of questions which do not appear to be accommodated by the mark scheme. The scripts should be brought to the co-ordination meeting where they will be used as a basis for refining, modifying and exemplifying the mark scheme.

2. The levels mark schemes describe the general qualities required for the award of marks in five bands. A candidate demonstrating all the requirements for a level should normally be awarded full marks for that level. If the answer contains any additional material which is credit worthy, but does not meet all the requirements of the next level, an intermediate mark should be awarded.

3. It is anticipated that further details will be added to the levels descriptors at the co-ordination meeting in the light of the candidates' responses to the questions. Examiners should be prepared, therefore, to credit approaches which do not follow the most likely ones described in the levels descriptors, provided they are judged to be equally valid. In such cases a brief note should be added at an appropriate point in the script to indicate the reason(s) for the decision.

4. The adoption throughout of a 'levels' as opposed to a 'points' mark scheme has been done in an attempt to encourage examiners in this new examination to: use the full range of marks; credit unusual but valid responses; differentiate between candidates on the basis of differences in their levels of performance.

5. Since the candidates are required to answer the question on this paper in continuous prose, attention should be given to their ability to organise, present and communicate information, ideas, descriptions and arguments, and date in a clear, logical and coherent manner taking into account their use of grammar, punctuation and spelling. The **quality of written communication** will be assessed using **levels of response** criteria as indicated below.

   Level 5 Complex ideas are expressed very clearly and fluently; sentences and paragraphs follow on from each other smoothly and logically; arguments consistently relevant and well-structured; few if any errors of grammar, punctuation and spelling.

   Level 4 In the main complex ideas are expressed clearly and fluently; sentences and paragraphs follow on from each other smoothly and logically; arguments generally relevant and well-structured; evidence of a few errors of grammar, punctuation and spelling.

   Level 3 Simple ideas are expressed in a reasonably straightforward manner; evidence of incoherence in the way sentences and paragraphs are linked to each other; some relevant arguments alongside others of dubious significance; lack of clear structure; noticeable errors of grammar, punctuation and spelling.

   Level 2 Only simple ideas are expressed clearly; clear evidence of incoherence in the way sentences and paragraphs are linked to each other; few relevant arguments alongside much else which is of dubious significance; errors of grammar, punctuation and spelling are intrusive and suggest weaknesses in written communication.

   Level 1 Struggles to organise and express arguments; frequent and serious errors of grammar, punctuation and spelling giving a clear indication of weaknesses in written communication.

Natural Hazards and Human Responses

Question 1(a)

Level 5 (17-20 marks)

A very good range of accurate and detailed knowledge relevant to the model and the impacts; very good understanding of the changes and impacts and their application in LEDCs and MEDCs; a very high level of awareness of inter-relationships between social, economic, political and technological factors and the nature of the hazardous event; illustrated clearly and fully using appropriate events in LEDCs and MEDCs.

Level 4 (13-16 marks)

A good range of accurate and detailed knowledge relevant to the model and impacts; good understanding of changes and impacts and their application in LEDCs and MEDCs; a high level of awareness of inter-relationships between social, economic, political and technological factors illustrated using well selected case studies from MEDCs and LEDCs.

Level 3 (9-12 marks)

A limited range of accurate knowledge relevant to the model and impacts; an adequate understanding of some of the appropriate changes and impacts; some awareness of inter-relationships; illustrated by generally appropriate case studies.

Level 2 (5-8 marks)

Very limited accurate knowledge relevant to the model and impacts; little understanding of appropriate changes and impacts; a little awareness of inter-relationships; case studies brief or inappropriate.

Level 1 (0-4 marks)

A little knowledge which is accurate and relevant to the model and impacts alongside serious errors and gaps. Little if any understanding of appropriate changes and impacts; lack of awareness of inter-relationships; case studies too general or inappropriate.

Question 1(b)(i) (Either)

Level 5 (20-25 marks)

A very good range of accurate and detailed knowledge of all these types of hazard relevant to the question; very good understanding of their distributions and varying impacts. A very high level of awareness of inter-relationships between human and physical factors affecting natural hazards; uses well selected and appropriate case studies from MEDCs and LEDCs to illustrate the three types.

Level 4 (15-19 marks)

A good range of accurate and detailed knowledge of all three types relevant to the question; good understanding of their distributions and impacts; a high level of awareness of inter-relationships between human and physical factors affecting natural hazards; uses case studies selected appropriately from LEDCs and MEDCs which illustrate the three types.

Level 3 (10-14 marks)

A limited/imbalanced range of accurate knowledge of 3 types, an adequate understanding of their distributions and impacts; an awareness of a few inter-relationships; case studies selected from three types but may not fully reflect the MEDC/ LEDC contrasts.

Level 2 (5-9 marks)

Very limited and imbalanced accurate knowledge of three types; little understanding of their distributions and impacts; little awareness of inter-relationships; case studies do not cover the full range of geophysical processes or LEDC/ MEDC contrasts.

Level 1 (0-4 marks)

A little and imbalanced knowledge of three types which is accurate and relevant; little if any understanding of their distributions and impacts; lack of awareness of inter-relationships; case studies inappropriate.

Question 1(b)(ii) (Or)

Level 5 (20-25 marks)

A very good range of accurate and detailed knowledge of natural hazards and management responses; very good understanding of the appropriate concepts and their application; very high level of awareness of inter-relationships between the physical and human factors which affect responses; uses fully appropriate case studies and includes detail to illustrate points made.

Level 4 (15-19 marks)

A good range of accurate and detailed knowledge of natural hazards and management responses; good understanding of appropriate concepts and their application; high level of awareness of inter relationships between the physical and human factors which affect responses; well selected case studies used appropriately to answer the question.

Level 3 (10-14 marks)

A limited range of accurate knowledge of natural hazard and management responses; adequate understanding of some of the relevant concepts and their application; an awareness of a few of the inter-relationships between physical and human factors which influence the nature of responses.

Level 2 (5-9 marks)

Very limited accurate knowledge of natural hazards and management responses; little understanding of concepts and their application. Little awareness of inter-relationships between physical and human factors which influence the nature of responses; case studies brief or inappropriate, not applied to question.

Level 1 (0-4 marks)

A little knowledge of nature of hazards and management response; little if any understanding of appropriate concepts and their application; lack of awareness of inter-relationships between physical and human factors which affect responses; lack of case study material or inappropriate.

Climate and Society

Question 2(a)

Level 5 (17-20 marks)

Accurately relates the variety and spatial aspects of data shown to tourist needs and evaluates the extent to which the map is complete and useful; describes and comments on other useful data which could be included. A very good range of knowledge of the relevance of weather data, and short and long term forecasting to a variety of human activities.

Level 4 (13-16 marks)

Accurately relates the variety and spatial aspects of data to tourist needs and evaluates the extent to which the map is useful; describes other useful data which could be included; a good range of knowledge of the relevance of weather data and forecasting to a variety of human activities.

Level 3 (9-12 marks)

Relates most of the data shown to tourist needs and comments on its usefulness with some reference to other useful data; some knowledge of relevance of weather data and forecasting to human activities.

Level 2 (5-8 marks)

Limited links established between the map and tourist needs; general comments on its usefulness; limited range of knowledge of relevance of weather data and forecasting to human activities.

Level 1 (0-4 marks)

Few links between the map and tourism needs; little or no comment on its usefulness. Very limited knowledge of the relevance of weather data and forecasting to human activities.

Question 2(b)(i) (Either)

Level 5 (20-25 marks)

A very good range of accurate and detailed knowledge of both natural and human processes relevant to the question; very good understanding of how they contribute to global warming; a balanced and informed critical assessment of governmental responses; very well supported with detailed knowledge.

Level 4 (15-19 marks)

A good range of accurate and detailed knowledge of both natural and human processes relevant to the question; good understanding of how they contribute to global warming; an informed critical assessment of governmental responses; supported with detailed knowledge.

Level 3 (10-14 marks)

Some accurate knowledge of natural and human processes relevant to the question, but with some errors and gaps; an adequate understanding of how they contribute to global warming; describes governmental responses in general terms.

Level 2 (5-9 marks)

Very limited accurate knowledge of natural and human processes relevant to the question with noticeable errors and gaps; little understanding of how they contribute to global warming; some knowledge of governmental responses.

Level 1 (0-4 marks)

A little knowledge of some processes which is accurate and relevant to the question alongside serious errors and major gaps; little if any understanding of how they contribute to global warming; very little knowledge of governmental responses.

Question 2(b)(ii) (Or)

Level 5 (20-25 marks)

A very good range of accurate and detailed knowledge of atmospheric conditions and human activities relevant to the question; very good understanding of how they lead to low air quality; describes and comments on a range of preventive measures.

Level 4 (15-19 marks)

A good range of accurate and detailed knowledge of atmospheric conditions and human activities relevant to the question; good understanding of how they lead to low air quality; describes and comments on several of preventive measures.

Level 3 (10-14 marks)

A limited range of accurate knowledge of atmospheric conditions and human activities relevant to the question, but with some errors and gaps; an adequate understanding of how they lead to low air quality; describes some of preventive measures.

Level 2 (5-9 marks)

Very limited accurate knowledge of atmospheric conditions and human activities relevant to the question with noticeable errors and gaps; little understanding of how they lead to low air quality; describes a limited number of preventive measures.

Level 1 (0-4 marks)

A little knowledge of atmospheric conditions and human activities which is accurate and relevant to the question alongside serious errors and major gaps; little if any understanding of how they lead to low air quality; very little accurate knowledge of preventive measures.

Cold Environments and Human Responses

Question 3(a)

Level 5 (17–20 marks)

Very good range of accurate information and detailed information about ground ice, discontinuous permafrost and thermokarst, effective use of figures and case studies to explain spatial variations of permafrost and related processes such as gelifluction; high level of awareness of problems of management in the different conditions like shown in the figures.

Level 4 (13–16 marks)

Accurate and detailed knowledge of ground ice and permafrost; some use of figures to explain spatial variations of permafrost; and own case studies; well structured account of management of the built environment with reference to frozen and unfrozen ground, high and low ice content.

Level 3 (9–12 marks)

Accurate knowledge of permafrost and active layer but limited appreciation of ground ice variation; simple explanation of building damage and road problems related to diagrams; relevant management points about buildings and roads but little linkage of ideas.

Level 2 (5–8 marks)

Basic knowledge of permafrost. Some understanding of freeze-thaw cycles; links between processes and building damage made in simple way; a few relevant points about modifications to buildings but without clear understanding of overall management.

Level 1 (0–4 marks)

A little knowledge of permafrost and simple description of building damage; lack of awareness of freeze-thaw cycles. No awareness of inter-relationships in the Fairbanks example; very limited facts about modification to buildings and structures.

Question 3(b)(i) (Either)

Level 5 (20–25 marks)

Accurate and detailed place specific knowledge of till in a variety of forms, (melt out sheets, moraines, drumlins), and fluvio glacial deposits (outwash plains, kames, eskers).
Good understanding of processes of deposition.
Detailed place knowledge at relevant scales showing influences of the deposits on appropriate range of human activities such as agriculture, settlement, quarrying for the chosen area.

Level 4 (15–19 marks)

Accurate knowledge of till in a variety of forms and fluvio glacial deposits. Some understanding of processes of deposition.
Range of influences on a variety of human activities in the chosen area.

Level 3 (10–14 marks)

Some knowledge of till in several different forms and fluvio glacial deposits. Limited understanding of processes in the named area.
Influences on human activities in the named area simply expressed.

Level 2 (5–9 marks)

An appropriate location of an area of glacial and fluvio glacial deposits. Simple appreciation of distinction between unsorted glacial till and layered fluvio glacial deposits.
A few facts about influence of deposits on any human activity appropriate to the named area.

Level 1 (0–4 marks)

Little appreciation of appropriate place context for glacial and fluvio glacial deposits.
Only very basic appreciation of distinction between glacial and fluvio glacial deposits.
One or two facts about influence of deposits on human activity but not place specific.

Question 3(b)(ii) (Or)

Level 5 (20–25 marks)

Accurate and detailed knowledge of relevant geomorphic processes clearly linked to topography of particular valleys with known geological structure. Range of processes should include abrasion, quarrying/plucking, basal slip, extending-compressive flow.
Awareness of wide range of opportunities for human activity in specific place context.

Level 4 (15–19 marks)

Accurate knowledge of relevant geomorphic processes and linked explanation of how they have modified valley topography with appropriate examples.
Clearly expressed located evidence of opportunities/constraints for a variety of human activities such as HEP, agriculture, fishing, tourism, recreation.

Level 3 (10–14 marks)

Knowledge of modification of characteristic valley cross and long profiles linked to geomorphic processes.
Recognises opportunities/constraints for several human activities such as HEP, agriculture, fishing, tourism and recreation with relevant valley features mentioned.

Level 2 (5–9 marks)

Limited knowledge of modification of valley long and cross profiles.
Erosion mentioned but processes not explained.
Simple ideas of human activities in glacial basins.

Level 1 (0–4 marks)

Basic description of glacial long and cross profiles.
Little understanding of relevant processes.
One or two points on human use of glacial basins.

Tropical Environments and People

Question 4(a)

Level 5 (17–20 marks)

A wide range of locational detail with specific reference to areas relevant to extract. Use of exemplars of over-exploitation to express pressures on these areas. High level of the physical and human links and sound understanding of the reasons for the increasing difficulty of sustaining semi-arid areas.

Level 4 (13–16 marks)

A good range of locational detail clearly linked to extract. Clear appreciation of links between human and physical factors and examples of over exploitation. Clear analytical links between events contained in extract and own examples. Understanding of why inhabiting marginal lands is increasingly difficult.

Level 3 (9–12 marks)

Clear understanding of tropical locations and identifies locations relevant to extract with some accurate locational knowledge. Moves from the purely descriptive to the more analytical and offers observational links between the ideas in the extract and specific locations.

Level 2 (5–8 marks)

Limited locational knowledge and lacks specific detail about tropical areas. Descriptive rather than analytical with extract often repeated rather than developed. Inter-relationships described in simple terms.

Level 1 (0–4 marks)

No real locational knowledge. Limited understanding of extract and only simple appreciation of the causal links. Tends to repeat source with only basic development.

Question 4(b)(i) Either

Level 5 (20–25 marks)

Wide range of locational detail and appreciation of tropical environments. Consideration of the fine balance within different ecosystems and how this can be damaged by exploitation. Considers the question in a broader context in terms of sustainability and relative fragility.

Level 4 (15–19 marks)

Good range of well developed located detail and clear appreciation of tropical environments. Focuses on different environments with a good understanding of the ecosystem and the way in which it can become unbalanced through over use. Some appreciation of the nature of fragile and comparative fragility.

Level 3 (10–14 marks)

Identifies areas within tropical regions at a general level and has some understanding of the ecosystems and how they work. Some appreciation of human impacts with examples and how systems could be fragile.

Level 2 (5–9 marks)

Limited accurate knowledge and no clear understanding of tropical ecosystems. Offers descriptions of some areas with examples of environmental damage due to over-exploitation, but no real analytical discussions. Could be basic descriptive statements.

Level 1 (0–4 marks)

Very limited knowledge and lacks locational detail. Discussion of 'fragile' based on simple ideas of deforestation or desertification etc which are largely descriptive and offer no real analytical or comparative ideas.

Question 4(b)(ii) Or

Level 5 (20–25 marks)

Very good understanding of the variety of climatic types and environments in tropical areas with detailed knowledge of precipitation/temperature characteristics in located areas. Discussion of the relative truth of the statement with clear examples of the ways in which natural ecosystems and indigenous agricultural systems are adapted to moisture budgets.

Level 4 (15–19 marks)

Good understanding of the question and clear appreciation of the precipitation/temperature characteristics of comparative tropical environments. Links expressed in terms of well located ecosystems and clear appreciation of how agricultural systems adjust to moisture budgets-consideration of extremes-slash and burn/nomadic pastoralism would be appropriate.

Level 3 (10–14 marks)

Clear understanding of question and some knowledge of relative climatic data which highlights question; links between climate and plant growth expressed and some observation about the way in which agricultural systems respond to climate.

Level 2 (5–9 marks)

Some understanding of question and appreciation of links between the climate, environment and indigenous agriculture; climatic data limited and tends to show a broad focus. Some appreciation of plant adaptation rather than agricultural management.

Level 1 (0–4 marks)

Limited understanding of question and lacking in factual detail about climatic patterns. Focus often on wet and dry environments in broad locations; agriculture and plant adaptations descriptive rather than analytical.

Food Supply – Management and Change

Question 5(a)

Level 5 (16-20 marks)

Detailed knowledge of social and economic costs and benefits; a clear awareness of the complexity of the issues involved. Use of evidence to construct a relevant viewpoint and justify it; e.g., evaluation of vulnerability of farmers to changing fashions in food consumption or evaluation of energy costs in a world wide supply system.

Level 4 (13-16 marks)

Good range of knowledge; e.g., evidence from article on costs/wages; well considered viewpoint on the system using evidence from a variety of sources; awareness of complex issues.

Level 3 (9-12 marks)

Some relevant knowledge including advantages and disadvantages but limited evidence. Straightforward viewpoint on the system balancing costs and benefits for the three groups.

Level 2 (5-8 marks)

Simple matrix with very basic advantages and disadvantages and little evidence; basic viewpoint on the contract marketing system with some justification but not likely to be balanced; e.g., improves supply to consumers and gives jobs to farmers.

Level 1 (0-4 marks)

Very limited relevant knowledge; expresses basic viewpoint on contract marketing but very little relevant justification or use of evidence.

Question 5(b)(i) (Either)

Level 5 (20-25 marks)

Very good range of detailed knowledge on causes of famines in recent history. Awareness of complex inter-relationships between human and natural causes; e.g., desertification in the Sahel. Well structured argument about relative importance of 'natural' causes balanced against wide range of human ones and vulnerability of particular groups, not just geographical areas. A clear view well supported and qualified.

Level 4 (15-19 marks)

Good range of detailed knowledge on natural and human causes of famine. Well structured argument about the relative importance of factors at different scales and places, which supports a clear view on the issue.

Level 3 (10-14 marks)

Basic knowledge of natural and human causes of famine in named areas. Simple ideas about interaction of natural causes, (e.g., drought, flood, pests, diseases), and human causes, (e.g., war, political instability, poor infrastructure, inefficient technology). A straightforward view with some basic justification.

Level 2 (5-9 marks)

Limited knowledge of natural and human causes of famine in named areas. Little appreciation of need to weigh causal factors in specific places. A view given with limited justification.

Level 1 (0-4 marks)

A little knowledge of natural causes, such as drought, of food shortage. Limited understanding of human causes of scales of famine.

Question 5(b)(ii) (Or)

Level 5 (20-25 marks)

Detailed knowledge and understanding of a range of agricultural ecosystems, and changes in flow of energy and nutrients associated with intensification. Fluent discussion of a wide range of farming systems that support wildlife, maintain soil and water quality and promote welfare of farmed animals, as well as the consumers.

Level 4 (15-19 marks)

Good knowledge of ecosystem processes, used to explain how intensification can cause change. Relevant discussion of some farming systems that support wildlife, maintain soil and water quality or promote welfare of farmed animals as well as consumers.

Level 3 (10-14 marks)

Adequate knowledge and understanding of ecosystem processes to explain simply how intensification has changed some flows of energy or nutrients. Straightforward discussion of benefits of organic farming and practices such as reduced pesticide use, free range animals.

Level 2 (5-9 marks)

Basic knowledge of food chain in agricultural ecosystems and changes associated with intensification such as higher yielding crop, factory farming. Simple ideas about environmentally friendly farming such as reducing chemicals, free range animals.

Level 1 (0-4 marks)

A limited knowledge of agricultural ecosystems. Basic understanding of intensification. Lack of awareness of ecosystem processes of energy and nutrient flows. One or two points about environmentally friendly farming such as reducing chemicals, free range animals.

Changing Urban Places

Question 6(a)

Level 5 (17-20 marks)

Uses a very good range of accurate and detailed knowledge at different scales to support evaluation; very good understanding of the impacts outlined in the newspaper extract and the extent of their wider applicability; evaluates newspaper extract in terms of its 'uniqueness' and its 'model' qualities and draws valid conclusions.

Level 4 (13-16 marks)

Uses a good range of accurate and detailed knowledge to support evaluation; good understanding of the impacts outlined in the newspaper extract and the extent of their wider applicability; evaluates newspaper extract, reaching some valid conclusions.

Level 3 (9-12 marks)

Uses a limited range of accurate knowledge to support evaluation, but with some errors and gaps; an adequate understanding of some of the impacts outlined in the newspaper extract and the extent of their wider applicability; comments on newspaper extract in general terms.

Level 2 (5-8 marks)

Uses a very limited accurate knowledge to support evaluation but with noticeable errors and gaps; little understanding of the impacts outlined in the newspaper extract and the extent of their wider applicability; little evaluation of newspaper extract.

Level 1 (0-4 marks)

Uses a little knowledge which is accurate and relevant to newspaper extract alongside serious errors and major gaps; little if any understanding of the impacts outlined in the newspaper extract and their application to other places; any attempt at evaluation is in the form of description of the newspaper extract.

Question 6(b)(i) (Either)

Level 5 (20-25 marks)

A very good range of accurate and detailed knowledge of different urban areas and schemes; very good understanding of the need to involve people in the planning process, but also – perhaps – challenges this assumption in different situations; reaches relevant and substantiated conclusions.

Level 4 (15-19 marks)

A good range of accurate and detailed knowledge of different urban areas; good understanding of the need to involve people in the planning process; reaches some conclusions.

Level 3 (10-14 marks)

A limited range of accurate knowledge of different urban areas; good understanding of the need to involve people in the planning process; limited conclusions reached.

Level 2 (5-9 marks)

Very limited accurate knowledge of urban areas with noticeable errors and gaps; little understanding of the need to involve people in the planning process; discussion largely descriptive.

Level 1 (0-4 marks)

A little knowledge of urban areas which is accurate and relevant to the question alongside serious errors and major gaps; little if any understanding of the need to involve people in the planning process; discussion descriptive and lacking structure.

Question 6(b)(ii) (or)

Level 5 (20-25 marks)

A very good range of accurate and detailed knowledge about different attempts to sustain the urban economy in different contexts relevant to the question; very good understanding of the challenges, strategies and role of decision-makers; discussion includes comparison and evaluation of approaches.

Level 4 (15-19 marks)

A good range of accurate and detailed knowledge about different attempts to sustain the urban economy in different contexts relevant to the question; good understanding of the challenges, strategies and role of decision-makers; discussion includes some comparison and evaluation of approaches.

Level 3 (10-14 marks)

A limited range of accurate knowledge about different attempts to sustain the urban economy in different contexts relevant to the question, but with some errors and gaps; an adequate understanding of the challenges, strategies and role of decision-makers; discussion includes some comparison or evaluation of approaches.

Level 2 (5-9 marks)

Very limited accurate knowledge about one or two approaches or examples relevant to the question with noticeable errors and gaps; little understanding of the challenges, strategies and role of decision-makers; discussion largely descriptive.

Level 1 (0-4 marks)

A little knowledge about one or two approaches or examples which is accurate and relevant to the question alongside serious errors and major gaps; little if any understanding of the challenges, strategies and role of decision-makers; discussion largely descriptive and lacking in structure.

Leisure and Tourism

Question 7(a)

Level 5 (17-20 marks)

Uses a very good range of accurate and detailed knowledge at different scales to support evaluation; very good understanding of the concepts incoporated in Fig. 1 and their application to real places; evaluates Fig. 1 in terms of strengths and limitations and draws valid conclusions.

Level 4 (13-16 marks)

Uses a good range of accurate and detailed knowledge to support evaluation; good understanding of the concepts incoporated in Fig. 1 and their application to real places; evaluates Fig. 1, reaching some valid conclusions.

Level 3 (9-12 marks)

Uses a limited range of accurate knowledge to support evaluation, but with some errors and gaps; an adequate understanding of some of the concepts incoporated in Fig. 1 and their application to real places; comments on Fig. 1 in general terms.

Level 2 (5-8 marks)

Uses a very limited accurate knowledge to support evaluation but with noticeable errors and gaps; little understanding of the concepts incoporated in Fig. 1 and their application to real places; little evaluation of Fig. 1.

Level 1 (0-4 marks)

Uses a little knowledge which is accurate and relevant to Fig. 1 alongside serious errors and major gaps; little if any understanding of the concepts incorporated in Fig. 1 and their application to real places; any attempt at evaluation is in the form of description of Fig. 1.

Question 7(b)(i) (Either)

Level 5 (20-25 marks)

A very good range of accurate and detailed knowledge of two specified urban areas; very good understanding of both growth and spatial distribution of leisure activities and their impact; reaches relevant conclusions.

Level 4 (15-19 marks)

A good range of accurate and detailed knowledge of two specified urban areas; good understanding of both growth and spatial distribution of leisure activities and their impact; reaches some conclusions.

Level 3 (10-14 marks)

A limited range of accurate knowledge of two specified urban areas; good understanding of both growth and spatial distribution of leisure activities and their impact; limited conclusions reached.

Level 2 (5-9 marks)

Very limited accurate knowledge of urban areas with noticeable errors and gaps; little understanding of the growth of leisure activities and their impact; discussion largely descriptive.

Level 1 (0-4 marks)

A little knowledge of urban areas which is accurate and relevant to the question alongside serious errors and major gaps; little if any understanding of the growth of leisure activities and their impact; discussion descriptive and lacking structure.

Question 7(b)(ii) (Or)

Level 5 (20-25 marks)

A very good range of accurate and detailed knowledge about different countries relevant to the question; very good understanding of the challenges, strategies and role of decision-makers; discussion includes comparison and evaluation of approaches.

Level 4 (15-19 marks)

A good range of accurate and detailed knowledge about different countries relevant to the question; good understanding of the challenges, strategies and role of decision-makers; discussion includes some comparison and evaluation of approaches.

Level 3 (10-14 marks)

A limited range of accurate knowledge about different countries relevant to the question, but with some errors and gaps; an adequate understanding of the challenges, strategies and role of decision-makers; discussion includes some comparison or evaluation of approaches.

Level 2 (5-9 marks)

Very limited accurate knowledge about one or two countries relevant to the question with noticeable errors and gaps; little understanding of the challenges, strategies and role of decision-makers; discussion largely descriptive.

Level 1 (0-4 marks)

A little knowledge about one or two countries which is accurate and relevant to the question alongside serious errors and major gaps; little if any understanding of the challenges, strategies and role of decision-makers; discussion largely descriptive and lacking in structure.

Globalisation of Economic Activity

Question 8(a)

Level 5 (17-20 marks)

Candidate recognises and describes a very good range of developments in telecommunications from the resource such as the shrinking world and the information and communications revolution; these are very effectively related to changes in business operation, including changing locations, spatial organisation of the business and employment practices; apposite and detailed examples are given such as globalisation of economic activity, shifting labour markets and the use of information systems at a global scale by a service industry; a very clear understanding of the connection between the technological changes and the business changes is demonstrated.

Level 4 (13-16 marks)

Candidate recognises and describes a good range of developments in telecommunications from the resource; examples are given of how the ways in which businesses operate have been changed by developments in technology.

Level 3 (9-12 marks)

Candidate recognises a limited range of developments in telecommunications from the resource and shows some understanding of the impact of these on businesses.

Level 2 (5-8 marks)

Candidate recognises a very limited range of telecommunications developments from the resource; there is some attempt to apply these to changes in the ways in which businesses operate, but at a superficial level.

Level 1 (0-4 marks)

Some recognition is displayed of the developments of telecommunications as shown by the resource but misses most of the relevant implications; there is very limited extension of this material in relating these developments to changes in the ways in which businesses operate.

Question 8(b)(i) (Either)

Level 5 (20-25 marks)

A wide range of effects on an LEDC from globalisation of production is discussed; both positive and negative effects, such as impact on local economies, inward investment and changing labour markets are fully explored with a very full range of space specific examples used to give substance to the arguments used. Inter-relationships between effects are demonstrated.

Level 4 (15-19 marks)

Candidate discusses a range of effects on an LEDC from globalisation of production; examples are given of both positive and negative effects using a wide range of appropriate examples.

Level 3 (10-14 marks)

Candidate discusses a limited range of effects on an LEDC from globalisation of production; a few detailed examples are given but they tend to lack space specific detail.

Level 2 (5-9 marks)

A very limited range of effects on an LEDC from globalisation of production is recognised; few examples are given and those that are are not specific to a particular country.

Level 1 (0-4 marks)

Candidate recognises few effects on an LEDC from globalisation of production; there is very limited exemplar material and it lacks information relating to an actual country.

Question 8(b)(ii) (Or)

Level 5 (20-25 marks)

Candidate examines fully the impacts of globalisation of economic activity on both LEDCs and MEDCs such as economic colonialism, TNCs and their operation, global shifts in demand, labour costs and in production; a full range of specific and detailed examples is provided to back up the argument; a careful comparison is made by integrating the examination of the effects in different types of country.

Level 4 (15-19 marks)

Candidate examines the impacts of globalisation of economic activity on both LEDCs and MEDCs and a good range of specific examples are provided to assist in the discussion; effects in both countries are described and there is some attempt to compare the two countries.

Level 3 (10-14 marks)

Some effects of globalisation of economic activity on LEDCs and MEDCs are examined; a limited range of examples are provided to assist in the discussion; while effects in different countries are described, there is little attempt to compare the two countries.

Level 2 (5-9 marks)

Candidate examines some impacts of globalisation on LEDCs and MEDCs; a very limited range of examples is discussed and no attempt is made to compare.

Level 1 (0-4 marks)

Few impacts of globalisation on LEDCs and MEDCs are examined; examples are very generalised and tenuous.

Advanced GCE

GEOGRAPHY SPECIFICATION B

Unit 2692: Issues in Sustainable Development

SPECIMEN PAPER
2 hours
Maximum mark 120

TIME   2 hours

INSTRUCTIONS TO CANDIDATES

Complete **all** tasks.

INFORMATION FOR CANDIDATES

This Issues Analysis paper provides for synoptic assessment which requires you to draw on your understanding of the connections between different aspects of geography represented in your course.

The tasks have been set to offer opportunities for you to show how your course in Geography has helped you to understand and analyse complex issues of sustainable development. Even where not specifically asked for, credit will be given for your ability to draw upon ideas and information from your Advanced GCE course, provided they serve to support your answers.

The resource booklet provided should be referred to in your answers but you are encouraged not to repeat sections of it.

You are reminded that marking will take account of the quality of written communication and the orderly presentation of your answers.

You are recommended to spend about equal amounts of time on the four tasks you have been given.

This specimen paper consists of 2 printed pages.

Complete **all** tasks

Task 1

Discuss the view that many current forms of development are unsustainable. Refer to at least two types of development **other than forests**. [30]

Task 2

The first part of the resource book is based on data gathered by World Wide Fund for Nature (WWF), one of the leading organisations working on behalf of the environment.

Explain

(i) why WWF take the view that 'natural and modified forests provide human beings with a wealth of benefits' (resource book page 2, 'VALUE OF FORESTS')

and

(ii) why natural forests nevertheless continue to be destroyed in many parts of the World.

[30]

Task 3

The second part of the resource book is about forests and forest development in Malaysia.

You have been on a fact finding visit to Peninsular Malaysia. You have been asked to prepare a report to help others achieve sustainable forest development of their forests. On the basis of what you have learned on your visit, you decide to write your report using the following headings.

The impact of any forest development on natural systems such as drainage basins, and on human communities needs careful monitoring.

Forest development needs careful planning to be sustainable.

Sustainable forest development and long term economic prosperity are closely linked.

Explain briefly why each of these headings would be suitable ones for your report. [30]

Task 4

The last part of the resource book (pages 13–15) describes a number of ways in which forests could be developed. Using these resources, recommend **three** strategies which together would help a country wanting to use its forests in a sustainable way to increase living standards. Justify your choice. [30]

Advanced GCE

GEOGRAPHY SPECIFICATION B

RESOURCE BOOKLET FOR UNIT 2692

Issues in Sustainable Development

SPECIMEN BOOKLET

This resource booklet is available for use by candidates prior to and during the examination and will be referred to in the examination questions. Centres should ensure that unmarked copies of the booklet are available to candidates on the day of the examination.

Part 1 of the booklet, pages 2–7, is adapted from *WWF UK Data Support Sheet 29-Forests*: *Types, Status and Value*, December 1992.

Part 2, pages 8–12, is extracted from *Tropical Forests and Human Impact*, Field Studies Council, Preston Montford, Montford Bridge, Shrewsbury, March 1997.

Part 3, pages 13–15, is taken from *Maraca, an Amazonian Case Study*, Shell UK Ltd for the Royal Geographical Society.

This specimen booklet consists of 15 printed pages and 1 blank page.

TYPES OF FORESTS

Forests cover 30% of the Earth's land surface. They range from dry scrubby savannah forests, luxuriant tropical rainforests, alpine coniferous forests through to mangrove swamps. Different tree species are found around the world and each forest type has its unique collection of animal and plant species.

There are three main types: boreal (northern), temperate and tropical forests, but these are not watertight distinctions. There is great overlap and within each band many types of forest exist. Nonetheless boreal forests are dominated by conifers, temperate forests are comprised of a mix of broadleaves and conifers and tropical forests are typically broadleaved.

Source: WWF (1991a)

Boreal forests
These vast areas of forest in the far north form an almost continuous belt around the globe. This inhospitable region is characterised by hot summers, extremely cold winters and a surprisingly low rainfall. The growing season is only three months, far too short for most deciduous trees to become established so the more hardy conifers such as spruce, pine, larch and fir predominate. Tree growth in these harsh conditions is slow, with trees taking 150-200 years to reach maturity.

Temperate forests
Temperate forests grow in regions of warm summers, mild winters and high evenly distributed rainfall. Along the west coast of North America highly suitable conditions have resulted in the growth of some of the most luxuriant forests and some of the greatest and oldest trees on Earth.

Tropical forests
Tropical forests over 14% of the Earth's land surface. There are two main types: tropical rainforests and tropical dry forests. Tropical rainforests are found where the average temperature in the coldest month of the year is over 18°C and where every month is wet, receiving over 100 mm of rain every month. Hot humid conditions coupled with year-long growth and the variety of habitats provided by the well-defined layers within the forests, combine to produce ecosystems spectacularly abundant in wildlife. Tropical dry forests have an open canopy and may lose their leaves during the driest season. They are also known as savannah forests and the trees are widely scattered and usually small and shrubby. Two thirds of the world's tropical dry forests are in Africa.

Source: WWF (1991a)

CURRENT STATUS OF FORESTS

At the end of the Ice Age 10 000 years ago, half the world's land surface was covered in forest, but now, (23%), less than a quarter remains undisturbed, and most of this is in very remote areas, such as Papua New Guinea and Siberia. Forests with closed canopies now cover about 29 million square kilometres, four-fifths of their extent at the beginning of the eighteenth century.

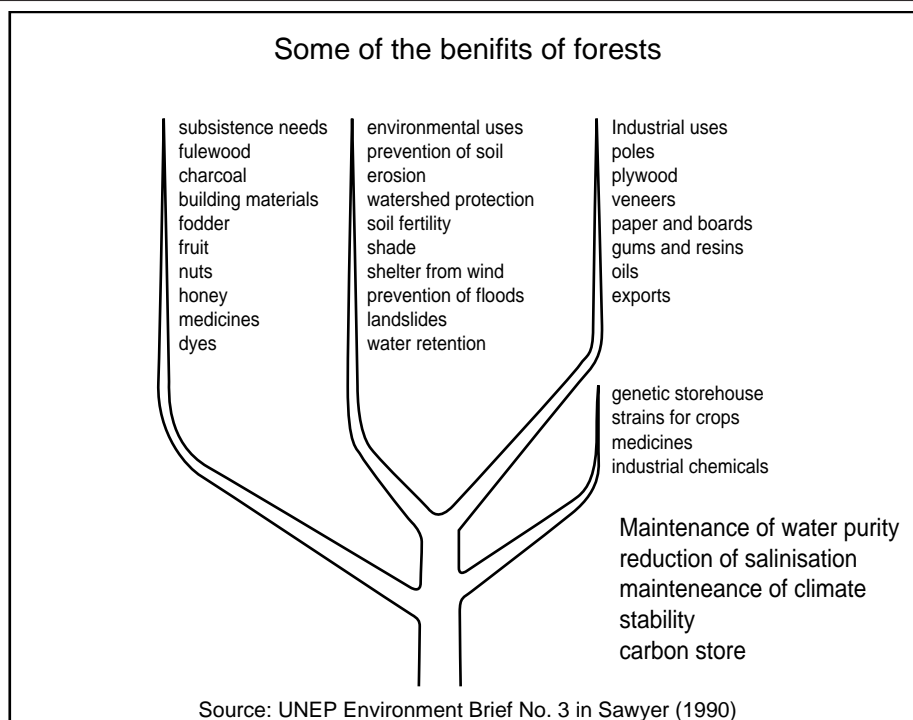Source: IUCN/UNEP/WWF (1991)

VALUE OF FORESTS

The value of forests are generally based on their timber production, but forests provide a wide range of other useful products and services which are important financially; often more so than the timber.

Natural and modified forests provide human beings with a wealth of benefits. Forests are an integral part of the Earth's life-support systems. They play a crucial role in regulating the Earth's atmosphere and climate. They are major stores of carbon.

Forests moderate local climates, providing generally milder, moister and less variable conditions than places without forests in the same region. Forests regulate the local hydrological cycle, protecting soils from excessive erosion and reducing the silt loads of rivers, slowing runoff, and moderating floods and other harmful fluctuations in streamflow. The forest cover of drainage basins regulates the run-off of water, and may help to maintain spawning habitat for fish and sustain major fisheries. Forests also provide range for livestock production.

Source: IUCN/UNEP/WWF (1991) in *Caring for the Earth*, the second World Conservation Strategy

Some of the benifits of forests

subsistence needs	environmental uses	Industrial uses
fulewood	prevention of soil	poles
charcoal	erosion	plywood
building materials	watershed protection	veneers
fodder	soil fertility	paper and boards
fruit	shade	gums and resins
nuts	shelter from wind	oils
honey	prevention of floods	exports
medicines	landslides	
dyes	water retention	

genetic storehouse
strains for crops
medicines
industrial chemicals

Maintenance of water purity
reduction of salinisation
mainteneance of climate
stability
carbon store

Source: UNEP Environment Brief No. 3 in Sawyer (1990)

A comparison of forest area and deforestation rate as estimated in FAO's tropical forests resource assessment projects for 1980 and 1990

PROJECT	FOREST AREA (km²)	ANNUAL AREA DEFORESTED (km²)	DEFORESTATION RATE (%)
Reference year 1980	19 350 000	113 000 (for 1981-85)	0.6
Reference year 1990	18 820 000	169 000 (for 1981-90)	0.9

Source: FAO data in World Conservation Monitoring Centre (1992)

Preliminary FAO (1991) estimates of forest areas and deforestation for 87 countries in the tropics

CONTINENT	NO. OF COUNTRIES STUDIED	TOTAL LAND AREA (km²)	FOREST AREA 1980 (km²)	FOREST AREA 1990 (km²)	ANNUAL DEFOREST. 1981-90 (km²)	DEFOREST. RATE 1981-90 (%)
Latin America	32	16 756 000	9 229 000	8 399 000	84 000	0.9
Central America & Mexico	7	2 453 000	770 000	635 000	14 000	1.8
Caribbean Sub-region	18	695 000	488 000	471 000	2 000	0.4
Tropical South America	7	13 608 000	7 971 000	7 293 000	68 000	0.8
Asia	15	8 966 000	3 108 000	2 748 000	35 000	1.2
South Asia	6	4 456 000	706 000	662 000	4 000	0.6
Continental SE Asia	5	1 929 000	832 000	697 000	13 000	1.6
Insular SE Asia	4	2 581 000	1 570 000	1 389 000	18 000	1.2
Africa	40	22 433 000	6 504 000	6 001 000	51 000	0.8
West Sahelian Africa	8	5 280 000	419 000	380 000	4 000	0.9
East Sahelian Africa	6	4 896 000	923 000	853 000	7 000	0.8
West Africa	8	2 032 000	552 000	434 000	12 000	2.1
Central Africa	7	4 064 000	2 301 000	2 154 000	15 000	0.6
Tropical Southern Africa	10	5 579 000	2 177 000	2 063 000	11 000	0.5
Insular Africa	1	582 000	132 000	117 000	2 000	1.2
TOTAL	87	48 155 000	18 841 000	17 148 000	170 000	0.9

Source: FAO (1991)

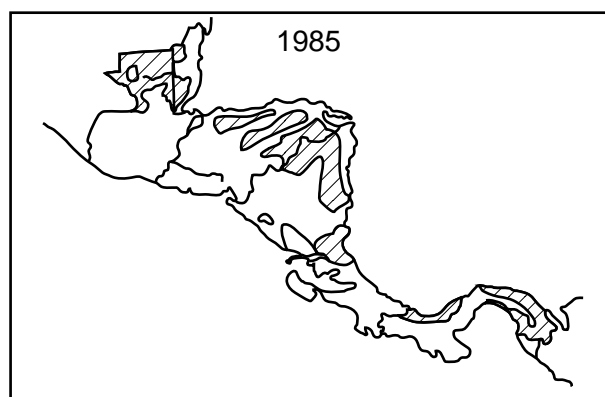Tropical rainforests now only cover about 5% of the Earth's land surface.

Source: FAO data

Example of deforestation Central America

1950

Dense forest cover
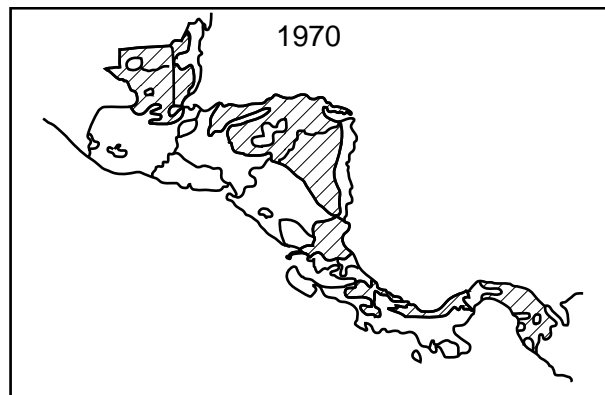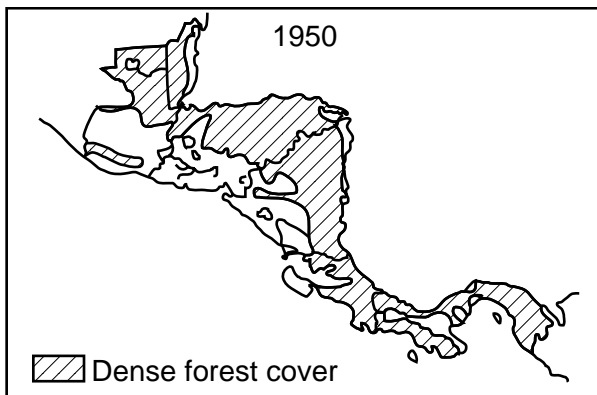
1970

Date	Percentage of land surface
1700	92.0
1800	91.8
1850	85.0
1900	77.8
1940	70.7
1950	67.7
1960	62.4
1970	55.4
1977	50.9
1985	40.0

Sources: Mather (1990) and Wheldan (1988)

1985

Almost all of Central America was originally forested, but forest cover was reduced to 40% by 1985. Despite the very rapid consumption of forests in recent years, the timber industry is not a major force in most of Central America. Much of the timber cut is not harvested for commercial purposes; instead it is burned in place or felled and not used. Most forest clearance has been for cattle ranching and farming.

Source: WCMC (1992)

TEMPERATE FORESTS

While deforestation in tropical countries has received much attention, temperate the boreal forests, which face equally serious threats have been neglected until recently. Outside of the Commonwealth of Independent States, about 90% of the world's primary temperate and boreal forests have disappeared, and more are under threat. Areas particularly at risk are north-west North America, northern Russia, Chile, Australia, Eastern Europe and the Baltic States, China, lowland Nepal and parts of northern India. The next few years could well see a catastrophic loss of many of the world's remaining natural temperate forest areas and either their replacement with exotic tree plantations or their degradation into scrub or substandard regrowth.

Source: Dudley (1992) and WWF (1992a)

In Europe large-scale deforestation has taken place in historical times. Forest cover is currently estimated to be around 160 million hectares, less than half the original area. The last 100 years, on the other hand has seen a period of net gain, but this is almost entirely due to plantations, often of introduced tree species. For example, see table showing changes in forest area in France.

Source: Based on Dudley (1992)

Changes in forest area in France

Date	Wooded area as % total
3000BC	80
0	50
1400AD	33
1650	25
1778	14
1862	17
1912	19
1963	21
1970	23
1977	24
1980	25
1988	28

Although France has lost most of its natural forests, the area under trees has almost doubled since the mid-19th century.

Sources: Mather (1990), World Resources Institute (1992), OECD (1991)

Changes in forest cover in Britain

In Britain we are horrified at the exploitation of vast areas of tropical rainforest. We ask why governments in Africa and Latin America are squandering their precious resources. But such complaints are rather like throwing stones in a greenhouse. Not only have the inhabitants of British Isles been cutting down their native Wildwoods since Neolithic times but, in the last 50 years, we have destroyed or damaged beyond recognition 45% of what remained. The Wildwood which once covered up to 80% of Britain, has dwindled to a mere 1.5%. Only about 1% of the ancient Caledonian pine forests are left in Scotland. Of this, 80% is threatened by over-grazing by sheep and deer, and sheep numbers are kept high through government subsidies. Afforestation this century has resulted in the increase of the wooded area to about 10%, but much of this comprises plantations of introduced coniferous species. Even so Britain remains one of the least wooded countries in Europe which has an average of 24% forest cover; the world average is 30%.

Sources: Based on Lean *et al.* (1992) and Nature Conservancy Council (1986)

In North America, Australia and New Zealand large scale clearance started much later than in Europe, although indigenous people in all these areas had used fire extensively to clear forest for farmland. In all these countries sizeable areas of primary forest remain, primarily in the west of North America and the uplands and islands of Australasia.

Source: Dudley (1992)

Deforestation in temperate forests of the Third World

Country	Closed forests % per year	All forests (open and closed) % per year
Mexico	1.3	1.3
Chile		0.7
Bangladesh	0.9	0.9
India	4.1	2.3
Nepal	4.3	4.3
Pakistan	0.3	0.4
Algeria		2.3
Tunisia		1.7

Source: UNEP (1991) in Dudley (1992)

In contrast to the effort put into monitoring tropical forest loss, our knowledge of temperate deforestation in the South is fragmentary and often inaccurate. In very general terms, temperate forests are stable or increasing in area in the North, and continuing to decrease rapidly in the South.

Source: Dudley (1992)

Infiltration Rates of Forests and Pastures	
Habitat	Capacity (mm/hr)
Undisturbed forest floor	60
Forest floor without litter and humus layers	49
Forest floor burned annually	40
Pasture, unimproved	24
Old pasture	43

Source: L… (1964)

Forest soil erosion: annual rates (tons/ha/year)

Undisturbed natural forest	Teak plantation widely spaced mixed understorey	Teak plantation closely spaced no understorey
0.2–10	2–10	20–160

Source: Based on Brunig et al. (1975) in Mather (1990)

Forest degeneration resulting from clearance and grazing in the Mediterranean World

Deforested slopes yield more water and more sediment more quickly than forested slopes
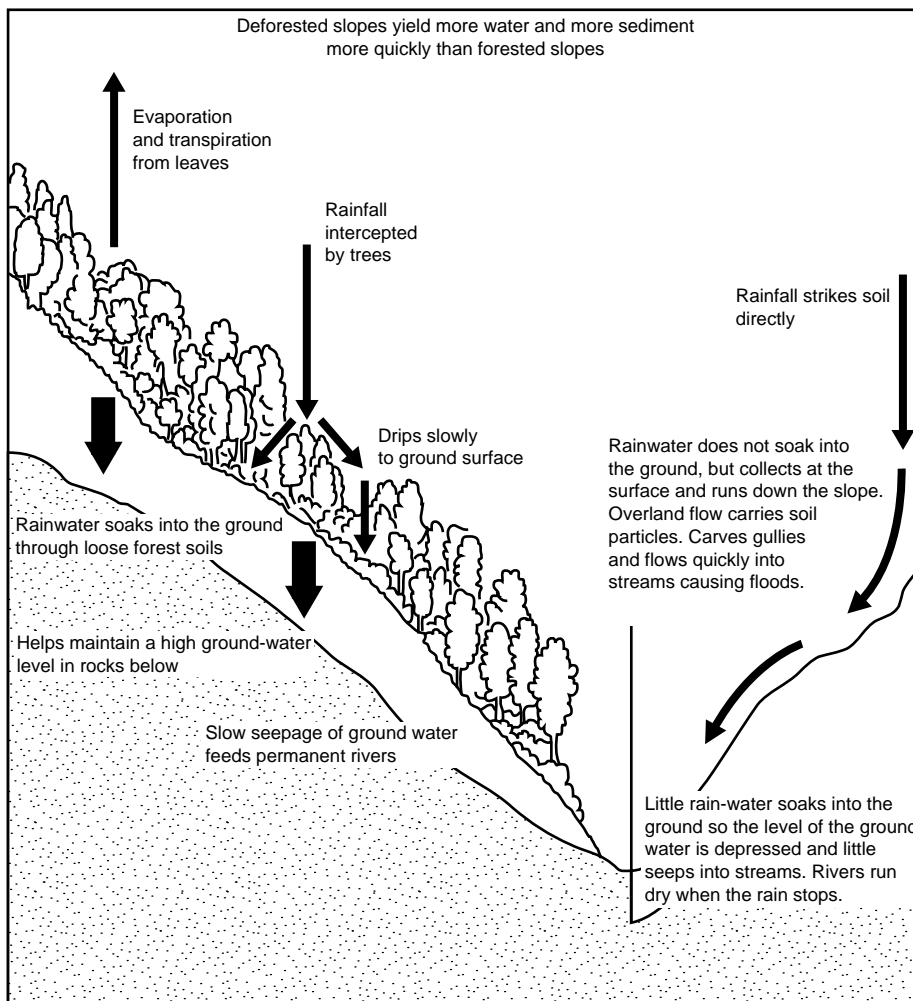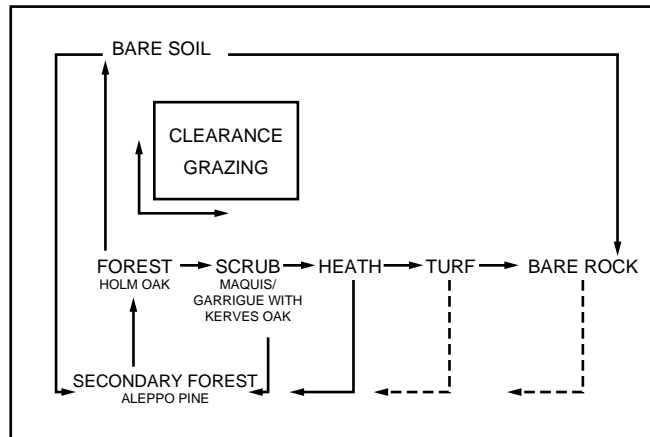
Biodiversity

Tropical rainforests are among the most complex and diverse ecosystems on the planet. They are thought to contain at least half of the world's species, and many scientists believe that they may contain up to 90% of all species. Tropical dry forests do not have as many species as moist forests but they are still highly diverse.

Source: WWF (1991a)

Temperate and boreal forests have important values of their own. Areas of extreme richness exist particularly in old growth rainforests where the biodiversity in some plant and animals groups can approach that in tropical forests. For example extremely high biodiversity was found in soil and humus, particularly in arthropods and fungi, in old growth forests of Oregon, USA. Over 150 species of mycorhizzal fungi were found on roots of a single Douglas fir.

Source: Dudley (1992)

Forest genetic resources include those used to improve the performance of trees grown for timber; wild relatives of crops and livestock, used by plant and animal breeders in agriculture and horticulture; and species with potential as new products.

Source: IUCN/UNEP/WWF (1991)

For more information on biodiversity and genetic resources see data support sheet 25, *Biodiversity.*

Fuelwood

Over 2 billion people around the world depend on fuelwood as their primary or sole source of energy. By the end of the century this figure may well rise to 2.5 billion. Fuelwood currently supplies around 15% of the world's energy and in many countries in the South over 90% of domestic energy comes from wood. This means that nearly half of the world's population relies on fuelwood for energy, including over 90% of those people living in developing countries and many of these people face an acute shortage of resources. Northern countries also use relatively large quantities of wood, led by the USA, with an annual consumption of 116 million m^3 in 1989. Fifteen European countries each use over 1 million m^3 of fuelwood a year.

NB Only very poor data are available on trends in fuelwood use and changes are hard to quantify.

Source: Dudley (1992)

Fuelwood use in selected countries

Country	% energy derived from wood (Figures for early 1980s)
Latin America	
Brazil	33
Chile	16
Asia	
India	36
Nepal	98
Pakistan	37
Africa	
Morocco	19
Tunisia	42

Fuelwood still supplies a large proportion of energy for many of the world's poorest people, even in temperate forest regions.

Source: Eckholm *et al.* (1984)

Importance for indigenous people

Tropical forests

About 140 million people, of whom 1 to 2 per cent are tribal hunter-gatherer groups, live in, or on the edges, of closed tropical forests. Some groups of indigenous peoples have the traditional knowledge and experience to use tropical forests non-destructively. A study of four groups in Amazonia showed that they used between one-half and three-quarters of the tree species found in sample plots on their territory. This represents between 34 and 76 species per hectare, about 10 times greater use of the forest than that of commercial loggers. Most of these groups declined dramatically following contact with modern agricultural and industrial societies. Over 90 different Amazonian tribes alone are thought to have died out this century. All too often indigenous peoples' basic human rights have been ignored. Tribes have been bombed, poisoned or gunned down, whilst others have died out as a result of the introduction of diseases, such as influenza. Miners and loggers, and governments keen to develop forest areas, have often seen fit to 'reclaim' or take over land which has been home to indigenous peoples for centuries.

Source: Elliott (1991) and Sawyer (1990) both writing for WWF

Temperate forests
It is less well known that most of the world's temperate and boreal forests also remain linked, at least to some extent, to indigenous tribal or peasant people.

Some indigenous peoples in temperate forests

Region	Native peoples' groups
Scandinavia	Sami people traditionally have land in Norway, Sweden, Finland and Russia. Currently suffering from native forest loss which affects reindeer herding, from the impact of radiation from Chernobyl, and also conflicts with logging companies over land use rights.
Alaska	Inuit (eskimo), have rights to some forests in the south, most of which have now been clear-felled. Many social problems within villages, including high levels of alcoholism.
North-west coast USA	Six main groupings of west coast tribes: Coast Saliah, West Coast people ('Nootka'), Kwagiutl, Tsimshian, Haida, Tingit. Many traditional lands include forested regions.
India	Many tribal groups in north, and particularly the north-east. Clashes with logging companies and settlers have occurred.
Bangladesh	Tribal groups in Chittagong Hill Tracts, have been fighting army and foreign companies as their forest homes are rapidly felled.

Source: Compiled by Earth Resources Research in Dudley (1992)

Recreation and culture
Forests are an important part of the resource base of tourism. And they are of inestimable cultural value: sources of beauty and majesty for contemplation, recreation, amenity, religion, art, music, and poetry.

Source: IUCN/UNEP/WWF (1991)

In the richer countries, where leisure time is more freely available, forests are also seen as having an increasingly important recreational role. A survey undertaken by the United Nations Economic Commission for Europe in the mid 1980s found that the majority of countries in Europe and North America assessed that over half their forest lands had high to medium recreational potential (see table below).

Recreational importance of forest area

Country	Forest Type	% forest of high or medium importance to recreation
Europe		
Belgium	total forest/woodland	9.5
Bulgaria	total forest	94.1
Cyprus	total state forest/woodland	36.9
Czechoslovakia	total closed forest	70.3
Denmark	total forest/woodland	68.8
France	total forest/woodland	86.9
Sweden	total closed forest	71.3
United Kingdom	total closed forest	88.8

Source: Dudley (1992)

What are the main policies influencing forests in Malaysia?

Four initiatives have had a profound impact on forests in Malaysia.

1 The national Forestry Policy (see below).

2 The national land use policy (see opposite).

3 The national five year economic development plans (see page 10).

4 The national development and resettlement schemes (see page 11).

1 National Forestry Policy

Malaysia has a long tradition of forest management. The first state forest department was started in 1883 (36 years before the creation of the UK's Forestry Commission) and records have been kept since then. Up to the second world war, timber was taken mainly for local needs and most was consumed as fuelwood. The major impact during this time was the large areas of forest being converted to rubber plantations, under the encouragement and support of the British colonial authorities. After the second world war, improved technology (mainly the introduction of chain saws and four wheel drive winches and trucks) and the growing international market for a wider range of Malaysian timber products led to an increase in logging.

The main management at this time was to extract all trees above a certain size with a felling cycle of 60 years. Because of the high density of the huge commercially valuable dipterocarps the extraction rates from lowland Malaysian forests began to outstrip those anywhere in the world – being up to ten times higher than those from African or South American forests. The realisation that this was not sustainable, particularly as commercial forestry became increasingly localised in more upland areas, led to new practices which were formalised in the National Forestry Act in 1977. This is applied by all Malaysian states and has a number of aims:

• the development of down-stream timber processing to increase profitability. Raw logs earn less in the export market compared to manufactured goods, such as sawn wood, plywoods, veneers or even furniture. The export of raw logs has been banned from Peninsular Malaysia and Sabah;

• diversifying the range of wood products. e.g. although rubber wood was considered a by-product of the latex production, it now accounts for 80% of all furniture made in Malaysia;

• research into silviculture methods;

• raising public awareness of the value of forests;

• involvement of rural communities in forest projects.

The 1977 Act also introduced a new forestry approach – known as the *Selective Management System* (SMS) (F8). Although this is based on a shortened felling cycle of 25-30 years, it dictates that only a proportion of trees over a certain size are taken during each felling cycle. It also includes pre-felling inventories and felling instructions to loggers, as well as post-felling remedial measures including the planting of dipterocarp and fruit tree seedlings to help regeneration (see F8 for an example of how SMS is applied by local foresters).

If applied in full, SMS is recognised as one of the most sustainable approaches to tropical forestry management worldwide. However, inadequate supervision can lead to abuses which undermine the system. This means that The Act is sometimes amended, for example in 1994 to curb illegal logging. Also, lack of funds and staff mean that post-felling remedial measures may not be fully implemented.

There has been an overall decline in the relative value of timber-related products. Although income from timber products has increased in recent years, these have declined in importance compared to other products such as manufactured goods (see F11, page 10) which have been the focus for much of the economic development over the past 25 years.

Diagram: Negeri Sembilan Forestry Department — felling cycle chart (illegible small print)

ACTIVITIES...

1.8
SUSTAINABLE FORESTRY

An international body called the Forest Stewardship Council (FSC) has developed 10 principles which are needed for natural forest management to be sustainable (ie. not leading to the eventual loss or degradation of the habitat). These are that there should be:

1. Respect for each country's laws.
2. Clearly defined tenure and land use rights.
3. Tenure and land use rights for indigenous people.
4. Benefits for forest workers and local communties.
5. Multiple uses of forest products and services.
6. Practices leading to conservation of biodiversity and other important features (water, soils etc.).
7. A written and up-to-date forest management plan.
8. Regular monitoring of forest management.
9. No replacement of primary and well-developed secondary (regenerating) forests by tree plantations or other land uses.
10. Planting of plantations to reduce pressure on natural forests.

The International Tropical Timber Organisation (ITTO) recently described Malaysia's commercial forests as being amongst the few (only 1% overall worldwide) which are managed sustainably. Using the list above, and the information on pages 8-13, discuss the strengths and weaknesses of forest policy in Malaysia. Where would you agree or disagree with the ITTO statement?
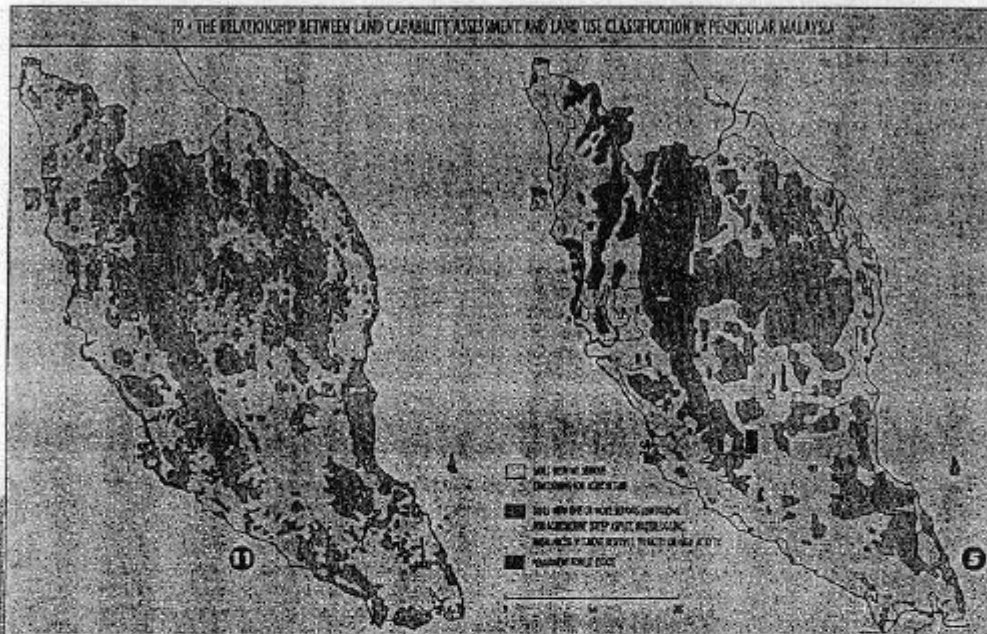
32

10

22

12
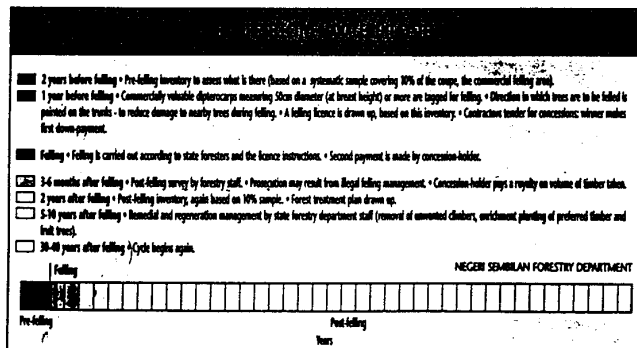
2 National land use policy

Between 1969 and 1972 the whole of Peninsular Malaysia was classified and mapped into land use categories, based on *Land Capability Assessments*. Much of the high value land (ie. land without any serious agricultural limitations) was set aside for agriculture and development; the remaining land was classified as *Permanent Forest Estate* (PFE). PFE land tends to be in upland areas, often on steeper slopes (greater than 20° slope). Coastal and other lowland areas prone to waterlogging are also favoured.

The area outside the PFE included existing forests which were to be redeveloped for other purposes. The area inside the PFE was to remain as forest, although large areas were earmarked for commercial forestry. Since 1972, similar schemes have been adopted for Sabah and Sarawak. Overall, national forestry policy is to include at least 50% of Malaysia's land area within the PFE (see opposite).

19 · THE RELATIONSHIP BETWEEN LAND CAPABILITY ASSESSMENT AND LAND USE CLASSIFICATION IN PENINSULAR MALAYSIA

ACTIVITIES...

1.9

This photo shows the eastern edge of the Pasoh Forest Reserve (taken from Kemayan - see page 14). It shows a common pattern of land use in Peninsular Malaysia; lowland is converted for agriculture and plantation tree crops, fringing upland areas which are part of the Permanent Forest Estate (see opposite).

a. Using the information on pages 8-11 discuss how the four national policies have influenced land use patterns.

b. In what ways would these trends affect biodiversity and hydrology (see pages 4-7)?
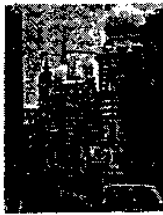
3 National five year economic development plans

KUALA LUMPUR

Until independence in 1957, Malaya's economy was very dependent on the export of primary resources: timber, rubber, cocoa and minerals such as tin – these accounted for over 80% of Malaysia's Gross National Product. Since 1963, the Malaysian Government has formalised the country's development through a series of five year plans. Earlier plans encouraged

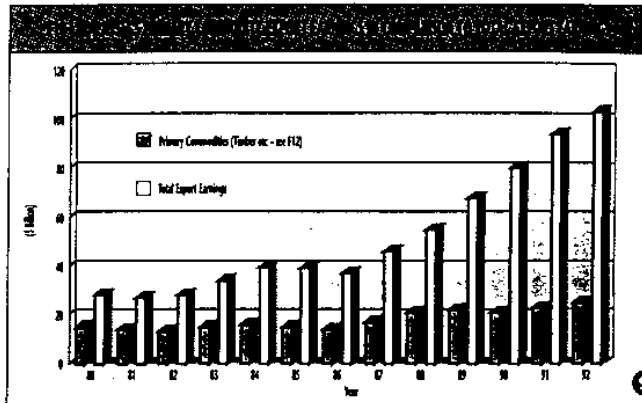| T14 • MALAYSIA: ECONOMIC GROWTH 1990-1993			
	Unemployment %	GDP ($ millions)	Income per capita ($ thousands)
1990	6.0	78.4	6.2
1991	4.3	86.3	6.8
1992	3.7	93.1	7.5
1993	3.0	100.9	8.3

rural development and aimed to alleviate the poverty of the communities in which most Malays lived. Later plans have promoted manufacturing and industrialisation. This has reduced the relative values of the primary commodities (F10) and the timber trade (see Factfile below). Malaysia now has one of the fastest growing economies in the newly industrialising world: in recent years, unemployment has fallen and GDP and percapita income have risen steeply (T14).

Malaysia remains the world's second largest tropical timber exporting nation after Indonesia. It supplies 80% of the tropical sawn timbers to the international trade. At the time of independence (1957), timber accounted for over half of Malaysia's export income, and still accounts for 10% of all export income (F12). This figure has remained broadly stable for the past 10 years.
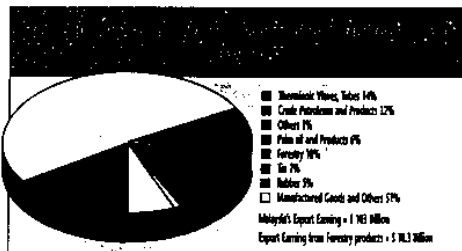
from East Malaysia to neighbouring Asian countries such as Japan and Korea. The market for higher value goods is much more widespread. The largest single importer into the European Union of Malaysian sawn timber products is the Netherlands, followed by the UK and Belgium. Malaysia is the main supplier of tropical sawnwoods and plywoods to the UK – 22% of our sawn tropical hardwoods and 42% of our tropical plywoods are imported directly from Malaysia (F13). The UK is the major importer of rattan goods (rattan is a climbing palm which is used to make furniture and associated products) T16.
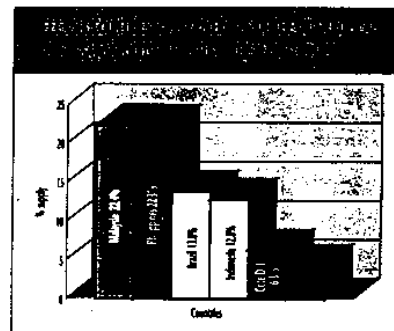
T15 • PENINSULAR MALAYSIA: COMPOSITION OF EXPORTS (% OF TOTAL)			
	1985	1990	1993
Logs	65	45	24
Sawntimber	24	34	36
Plywood/veneer	6	12	27
Mouldings	5	6	5
Furniture	-	3	8

Most income is still earned from sawn timber and logs overall (F12), but there is a large difference in export trends between East and West Malaysia. The result of banning log exports from Peninsular Malaysia has been to encourage more indigenous wood processing mills and so the composition of the exports has changed (T15). This trend has been helped and encouraged by the National Forestry Act (see page 8) and by other government sponsored schemes. For example, the five-year economic plans (see above) have encouraged more manufacturing of value added goods. Most raw logs are exported
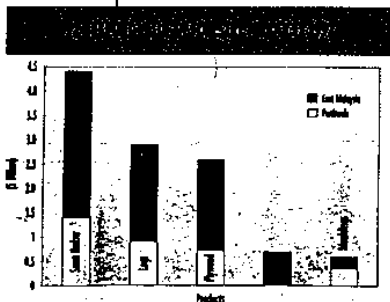
T16 • HOW IMPORTANT IS THE UK TO THE TIMBER TRADE OF PENINSULAR MALAYSIA (1992)		
	Income earned from exports to UK ($ millions)	% of total exports
Sawn timber	23.7	4.7
Plywood	29.6	8.8
Mouldings	13.0	4.7
Logs	0	0
Hardwood furniture	11.8	5.3
Rattan goods	31.4	21.4
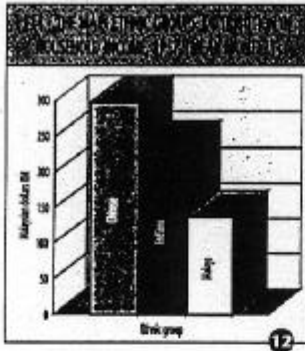
4 National development and resettlement schemes

The main theme of one of the early five year plans (*The New Economic Policy:* 1970–1975) was aimed at poverty eradication and providing economic opportunities for the rural Malays in particular (F14). Land and grants were given to the rural poor who were resettled in areas newly planted with rubber and oil palms. The largest areas were planted by the *Federal Land Development Agency* (FELDA). Although many of these schemes were located on old rubber plantations some lowland forested areas were also converted to plantations. Only forests outside the PFE were affected (F15).

KEY
▲ MILLS
• FELDA SCHEMES
■ NON FOREST AREA

Oil palms were originally introduced from Africa and have become the largest cash crop in Malaysia. The country is now the world's largest exporter of palm oil (T17). Risin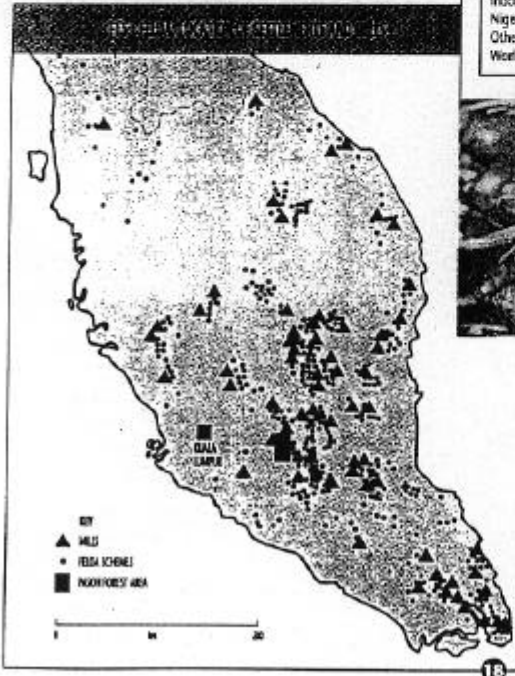g market prices for palm oil in the 1970s coincided with major government investments in land settlement and development schemes. Large areas of land were converted to oil palm plantations (F16). Much of this land was previously forested, most having been set aside for agricultural conversion by the land use classification scheme (see page 9). All of this conversion land has now been used up and most new oil palms are now being planted in old rubber plantations or are second generation oil palms (see graph below). 80% of oil palm plantations are in the Peninsular because the old rubber plantations provide a ready source of land and the processing, distribution and marketing infrastructure is most developed here.
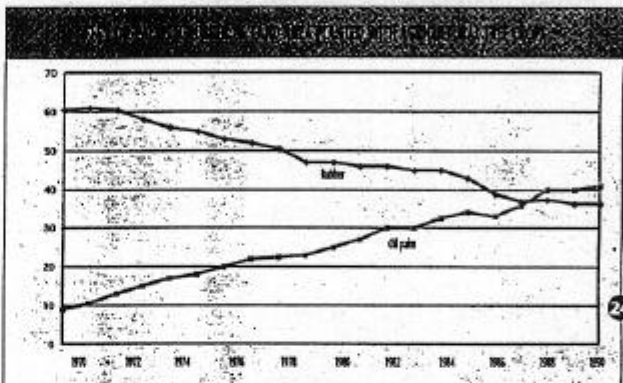
T17 • WORLD PALM OIL PRODUCTION (000s TONNES) 1993		
Malaysia	7.4	54%
Indonesia	3.3	24%
Nigeria	0.6	4%
Others	2.3	18%
World total	13.6	100%

The total number of crude palm oil factories in Peninsular Malaysia doubled between 1978 and 1989, and these have been pollution sources.

The UK imports 2% of Malaysian palm oil, but imports were significantly higher prior to the UK entering the EU.

The resettlement schemes are recognised as being amongst the most successful worldwide. However, there are problems also: second generation settlers are now choosing to leave for the rapidly expanding towns; sediment yields can be very high in converted plantation catchment areas; and local pollution from the fertilisers and pesticides used in the plantations and from the processing mills is a common occurrence. Insect and rodent pests are also a concern. For example, ground rats feed on the oil palm seeds which are left on the ground after harvesting, with local populations reaching up to three times the biomass of mammals found in undisturbed forests. Biological control has been attempted through the introduction of owls and cobras.

ACTIVITIES...

The Future

There are many influences which do affect the Malaysian rainforests and their biodiversity. Some future actions will have a positive influence – helping to at least maintain the 'health' of the forests, or even improve it. Others will threaten the forests. Some possibilities are outlined below – but are covered in more detail in the case studies. Read this page (and follow up case studies) and then try the activities at the end.
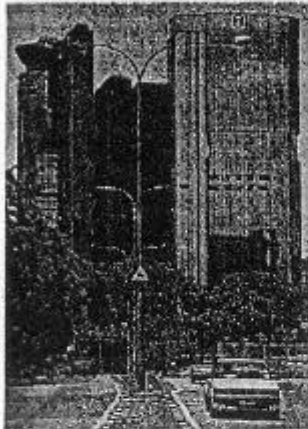
Positive

Land Use Policy

Exclusion of development and conversion of land within the PFE could be maintained for the foreseeable future. The retention of 50% land area under forest cover (the Permanent Forest Estate: PFE), including 10% under special conservation protection, should ensure that a representative selection of rainforest habitats and species are maintained.

Forestry Policy

Increasingly, measures to reduce the impact of logging may be introduced both nationally (through the National Forestry Policy), and locally, through State forestry initiatives; these would help to reduce the impact of timber extraction.

Social, Trade and Economy

The increase in living standards, largely created by the growing industrialisation, could continue to reduce dependency on income from primary resources – this will increase the scope for alternative uses (such as recreation, amenity and eco-tourism). There could be a growth in income from non-timber forest products,

such as plants (and germplasm) forming the base for top-selling medicines on the global market. Increased mechanisation and efficiency may reduce the need for 'traditional' forest timbers (mainly dipterocarps). International agreements could introduce common guidelines for sustainable forestry (such as the Forest Stewardship Council Scheme – see page 8) which would lessen the impact on forest sites, but also provide a more stable and equitable trade (current evidence is that cost is the main concern of importers: this discriminates against countries which attempt to introduce sustainable – but comparatively expensive – protective measures).
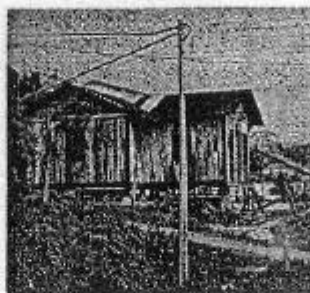
TWO SCENES FROM PRESENT-DAY MALAYSIA, BOOMING KUALA LUMPUR, WITH POORER HAMLET AND ABANDONED RUBBER PLANTATION HOUSES (1980s) TO THE WEST (DURIAN TIPUS, PASOH). WHAT WILL THE FUTURE BRING?

Negative

Land Use Policy

Land outside the PFE could become increasingly urban and industrial (see above): the removal of surrounding tree crops such as oil palms and rubber trees may reduce the already minimal buffering protective effect. The need for more development land could lead to political pressure to excise some forest areas from the PFE.

Forestry Policy

The reduction in relative importance of timber and primary resources compared to manufacturing industry could lead to a down-grading of forestry departments and their staff. This would reduce the level of policing, research and development into sustainable forestry measures and alternative uses such as recreation, conservation and education.

Social, Trade and Economy

Rapid development and industrialisation could have an increasing impact on the remaining forest – particularly those fragments which remain in the lowlands. Pollution and disturbance (illegal hunting and collecting for example) may pose increasing threats to some highly adapted forest specialists which are already

endangered by the changes and fragmentation of forests; local endemics would become extinct. The possibility that droughts are becoming more frequent may cause plants and trees which are characteristic of evergreen rainforest species habitats to decline, possibly being replaced by more deciduous 'seasonal' species. Forest fires could become more frequent and pollution from neighbouring industries and towns could become critical.

The decline in value of timber and increasing mechanisation and centralisation of forest-related industries could reduce the traditional links between forests and local communities. There could be a decline in traditional knowledge about the forests. This may increase pressure to find alternative uses for forest areas, particularly near population centres. The high costs of 'reduced-impact' and 'sustainable management' may become unaffordable if no international agreement is reached to adopt common approaches and discriminate against those that 'cheat' (ie. do not use sustainable approaches and are, therefore, able to sell timber at cheaper prices). Indiscriminate boycotts of tropical timber may also undermine these approaches – mainly by introducing economic uncertainty in the market (thus encouraging pressure to get short-term profits).

1.10

a. The following quotes by the Malaysian Prime Minister were taken from a special supplement printed recently in a UK newspaper. In what ways could they pose threats and/or opportunities to the local rainforests?

"Malaysia is making the change from a rural, agricultural state to an urban, industrialised one ... Malaysia has decided that it should go beyond the mere export of its many natural commodities, and build up downstream industries within the country that will make processed products for export ... Current forecasts suggest that GDP will increase by 8.5% annually ... a figure to envy in any of the developing countries of the Western industrial nations ... As the (Malaysian) federal government believes that a large local workforce is essential for future prosperity it has set a target of more than trebling the country's population before the end of the next century. The current population is 20 million, and the current population growth rate is about 2.5 per cent per annum, and is most pronounced amongst ethnic Malays."

b. There is a great deal of uncertainty about future impacts – shown by the many MAYS and COULDS used on this page! If you were the Malaysian minister responsible for forest research, what are the priority areas that you would include in your action plan for the future? **17**

Selective logging and replanting

Valuable timber trees usually grow as widely spaced individuals rather than in groups ('stands') of a single species. Here only the valuable forest trees are removed and seedlings planted to replace them.

REMOVAL OF VALUABLE TREES ONLY: more expensive than clearcutting

MOST OF FOREST IS NOT AFFECTED

Nearby areas are little affected

ROADS give access to settlers

Falling selected trees damages others nearby

Machinery compacts the soil

TIMBER EXPORTS; NUTRIENT LOSS

CASH INCOMES AND FOOD FOR WORK FORCE

FERTILISER NEEDED EVENTUALLY

SEEDLINGS planted to replace trees removed

Other plants compete with replacement seedlings; after-care is expensive

Bare ground of roads may lead to gully erosion

Continuous annual cropping

Forest is replaced by arable land and crops planted annually are grown. Unlike the shifting cultivation traditional in rainforests, the land is not left fallow periodically for the forest to regenerate and nutrients to build up. Cropping may be specialised and commercial (eg for sugar cane).

Employs a concentrated population which may grow all its own food

INSECT PESTS

WEED INVASION

Forest may be disturbed because of more people living in the area

Silting downstream

ANNUAL CROPS GROWN

FOOD CROPS – maize, rice, vegetables

CASH CROPS – cotton, sugar cane

Ground is bare for short periods. Rain flash may erode it

FOOD FOR FARM POPULATION NEEDED IF MAINLY CASH CROPS GROWN

TECHNICAL INFORMATION NEEDED ON FERTILISER APPLICATION ETC

CASH CROPS TRANSPORTED TO MARKET; NUTRIENT LOSS

BOUGHT-IN FERTILISERS, PESTICIDES, FUEL, SPARE PARTS

Yields high for a while, but soil quickly exhausted without fertiliser

Pasture

A large clearing is made in the forest and pasture grasses sown. Cattle are grazed at low density for beef. In Brazil this has been seen as a way of getting ownership of large areas of land rather than a profitable way of farming. Government subsidies were needed to make it pay.

CLIMATE BECOMES DRIER

WEEDS INVADE FROM SURROUNDING FOREST SWAMPING PASTURE GRASSES

Gully erosion reduces useful land

Overland flow removes soil and nutrients

Intense rainfall and higher temperatures at ground level

New areas of forest cleared as degraded land is abandoned

Soil compacted; less infiltration

Silting downstream

FOREST CLEARED, pasture grasses grown

FAZENDA (RANCH) provides one family per 400 hectares

BASIC FOODS BROUGHT FROM ELSEWHERE

GRASS YIELDS FALL RAPIDLY

BEEF EXPORTED; NUTRIENTS LOST

Forest will regenerate slowly; perhaps not at all

Cattle grazed at low density

MANAGING THE FOREST IN THE FUTURE

**How can the protection of the forest be
reconciled with the needs of farmers, ranchers and loggers?
Here are some options.
Which, if any, are to be recommended?**

EXTRACTIVE RESERVE
owned by collectors of products from
wild trees, eg rubber, Brazil nuts

CORE AREA
Large area used only for
research and genetic materials

BUFFER ZONE
More activities allowed at
low population density

Forest is kept
undisturbed

Forest canopy
preserved. Only
selected products
harvested in
small amounts

FEW PEOPLE EMPLOYED
AND LOW MONEY INCOME

GAME AND PLANT SPECIES
MIGRATE OUT TO OTHER AREAS

SHIFTING
CULTIVATION;
TRIBAL PEOPLE'S
WAY OF LIFE IS KEPT

FOREST PRODUCTS EXPORTED;
VERY SMALL NUTRIENT LOSS

SETTLERS MAY TRY TO INVADE
LAND THEY SEE AS UNUSED

TOURISM
in accessible
areas

Little effect on nearby areas

Biosphere reserve

This is a way of protecting part of the forest by leaving it 'untouched' except for research, and
the collection of materials for plant breeding etc. The protected 'core' area is surrounded by
a 'buffer zone' in which only certain human activities are allowed. The activities permitted will
cause little damage to the ecosystem and will stop more demanding activities invading the area.

ATMOSPHERE BECOMES DRIER

Machinery and rainfall
compact the soil

Temptation to expand clearing
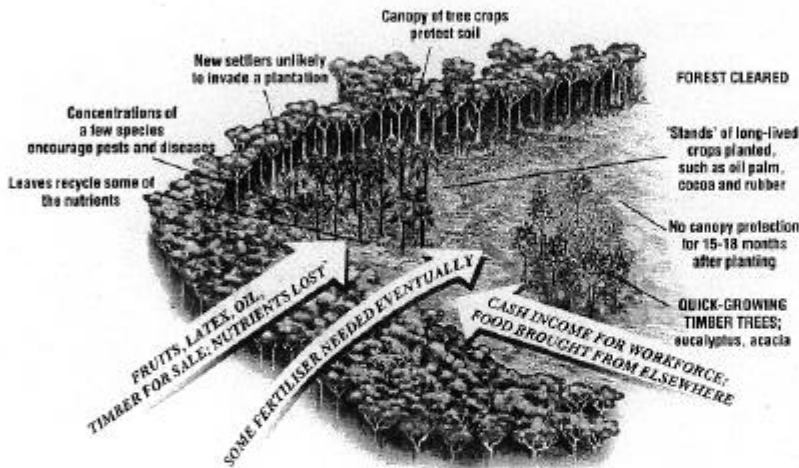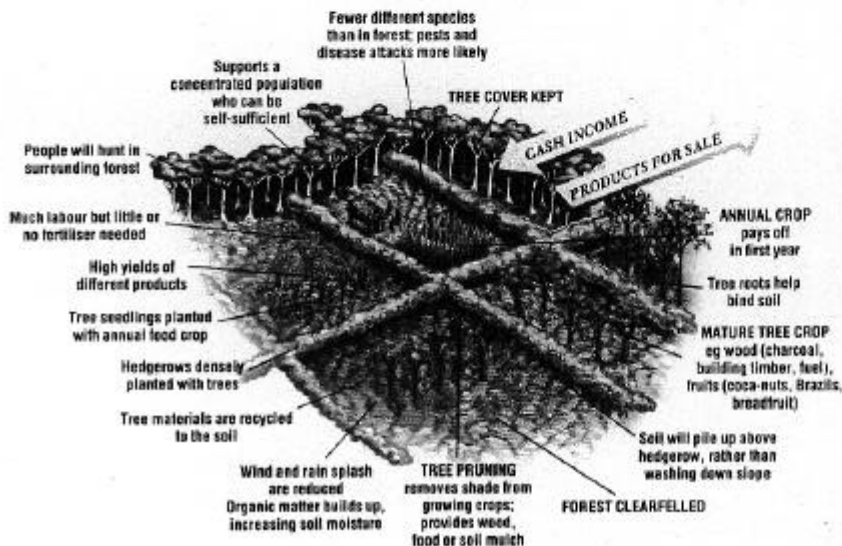to nearby areas

FOREST ROAD
MAY GIVE ACCESS TO
ILLEGAL LOGGERS

Forest plants
will only recolonise
close to cleared edges

Nutrients washed away
by rainfall

Silting downstream

Large profits
in short term

ABANDONED AREA
invites settlers who
will farm it

FOOD, EQUIPMENT AND
FUEL FOR LOGGERS

TIMBER EXPORTED, NUTRIENTS LOST

Rapid erosion on
cleared land; soil lost

AREA COMPLETELY CLEARED;
profitable timber taken out

Forest will only regenerate
if abandoned area is small
and left undisturbed

CHEAPEST METHOD OF EXTRACTING TIMBER;
SMALL NUMBER OF JOBS PROVIDED

Clearcutting

An area of forest is completely cleared, but only valuable species are taken out. The rest are left or burned.

Canopy of tree crops
protect soil

New settlers unlikely
to invade a plantation

FOREST CLEARED

Concentrations of
a few species
encourage pests and diseases

'Stands' of long-lived
crops planted,
such as oil palm,
cocoa and rubber

Leaves recycle some of
the nutrients

No canopy protection
for 15-18 months
after planting

FRUITS, LATEX, OIL,
TIMBER FOR SALE; NUTRIENTS LOST

CASH INCOME FOR WORKFORCE;
FOOD BROUGHT FROM ELSEWHERE

SOME FERTILISER NEEDED EVENTUALLY

QUICK-GROWING
TIMBER TREES;
eucalyptus, acacia

Trees for annual crops or timber

The forest is cleared and replaced by stands of tree crops or quick-maturing timber trees. Once the trees grow, they again provide a protective canopy.

Fewer different species
than in forest; pests and
disease attacks more likely

Supports a
concentrated population
who can be
self-sufficient

TREE COVER KEPT

CASH INCOME

PRODUCTS FOR SALE

People will hunt in
surrounding forest

ANNUAL CROP
pays off
in first year

Much labour but little or
no fertiliser needed

Tree roots help
bind soil

High yields of
different products

MATURE TREE CROP
eg wood (charcoal,
building timber, fuel),
fruits (coco-nuts, Brazils,
breadfruit)

Tree seedlings planted
with annual food crop

Hedgerows densely
planted with trees

Tree materials are recycled
to the soil

Soil will pile up above
hedgerow, rather than
washing down slope

Wind and rain splash
are reduced
Organic matter builds up,
increasing soil moisture

TREE PRUNING
removes shade from
growing crops;
provides wood,
food or soil mulch

FOREST CLEARFELLED

Agroforestry

This farming technique imitates the canopy and 'layer' structure of the natural forest by planting trees as well as shorter-lived farm crops. The idea is similar to that of the Indian forest 'gardens', but the area does not need to be abandoned for a fallow period.

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Advanced GCE

GEOGRAPHY SPECIFICATION B

Unit 2692: Issues in Sustainable Development

MARK SCHEME

Notes for examiners

1. Prior to the co-ordination meeting Team Leaders and assistant examiners should read, and provisionally mark (in pencil), a selection of scripts using the guidance given in this mark scheme. The scripts should be chosen to cover the mark range, and to exemplify any interpretations of questions which do not appear to be accommodated by the mark scheme. The scripts should be brought to the co-ordination meeting where they will be used as a basis for refining and exemplifying the mark scheme.

2. The notes which accompany each task in the mark scheme are intended to be a guide as to the most likely acceptable content of the candidates' answers. They should not be regarded as a definitive list of maximum or minimum requirements.

3. The levels mark schemes describe the general qualities required for the award of marks at different levels. A candidate demonstrating all the requirements for a level should normally be awarded full marks for that level. If the answer contains any additional material which is credit worthy but does not meet all the requirements of the next level, an intermediate mark should be awarded.

4. It is anticipated that further details will be added to the levels descriptors at the co-ordination meeting in the light of the candidates' responses to the questions. Given the open endedness of the tasks in this paper, examiners should be prepared to credit approaches which do not follow the most likely ones described in the levels descriptors, provided they are equally valid. In such cases a brief note should be added at an appropriate point in the script to indicate the reason(s) for the decision. Equally, given the access that candidates have to the resource booklet, care must be taken not to credit information from it which is not placed in the context of the task set.

5. The adoption throughout of a 'levels' as opposed to a 'points' mark scheme has been done in an attempt to encourage examiners in this new and innovative examination to:

   • use the full range of marks;

   • credit unusual but valid responses; and,

   • differentiate between candidates of different abilities.

6. As this is the synoptic module for this syllabus, the resource booklet and the tasks have been devised to provide opportunities for candidates to:

   • draw selectively upon their previous learning in other modules to develop and illustrate their responses;

   • require candidates to select, analyse, and synthesise data from the booklet using subject specific skills and different components of the **key skill** of **communication**.

7. Since the candidates are required to answer the question on this paper in continuous prose, attention should be given to their ability to organise, present and communicate information, ideas, descriptions and arguments, and date in a clear, logical and coherent manner taking into account their use of grammar, punctuation and spelling. The **quality of written communication** will be assessed using **levels of response** criteria as indicated below.

Level 5   Complex ideas are expressed very clearly and fluently; sentences and paragraphs follow on from each other smoothly and logically; arguments consistently relevant and well-structured; few if any errors of grammar, punctuation and spelling.

Level 4   In the main complex ideas are expressed clearly and fluently; sentences and paragraphs follow on from each other smoothly and logically; arguments generally relevant and well-structured; evidence of a few errors of grammar, punctuation and spelling.

Level 3   Simple ideas are expressed in a reasonably straightforward manner; evidence of incoherence in the way sentences and paragraphs are linked to each other; some relevant arguments alongside others of dubious significance; lack of clear structure; noticeable errors of grammar, punctuation and spelling.

Level 2   Only simple ideas are expressed clearly; clear evidence of incoherence in the way sentences and paragraphs are linked to each other; few relevant arguments alongside much else which is of dubious significance; errors of grammar, punctuation and spelling are intrusive and suggest weaknesses in written communication.

Level 1   Struggles to organise and express arguments; frequent and serious errors of grammar, punctuation and spelling giving a clear indication of weaknesses in written communication.

Notes on Tasks 1-4

1. It should be noted that although the bulk of the resources refer to tropical rain forests not all of them do. Credit responses which refer to other forests and to other case studies of the use and mis-use of resources, and of sustainable development.

2. The tasks have been written to provide a variety of responses including essay writing (task 1), analysing textual material (task 2), synthesising and structuring a report (task 3), and making decisions (task 4). These tasks relate to the Key Skill of Communication C3.4, which requires students to 'organise information coherently, selecting a form and style of writing appropriate to complex subject matter'. Examiners should keep in mind the different nature of these tasks when judging responses.

3. The tasks have been designed to require candidates to demonstrate an understanding of:

    •   The content of Module 2692 (Issues in Sustainable Development),
    •   The connections between the different elements of geography,

    and the ability to synthesis geographical information from various sources, and to incorporate information from other parts of their Advanced GCE course into their answers.

4. All candidates will have followed AS Modules 2687 and 2688 and should therefore be able to show an understanding of how physical and human processes and their management are relevant to sustainable development. Depending on which options were followed in Module 2691, candidates may draw upon a variety of ideas and case studies in their answers. They will also have studied the key ideas which make up the content of Module 2692, (Issues in Sustainable Development,) and a selection of the case studies which are listed in the specification. They should be credited for the effectiveness of the way in which they use them in their responses.

5. Tasks 1 and 2 focus on the sustainability or otherwise of current systems. Tasks 3 and 4 are concerned with the effective management of people's use of the Earth's resources.

Task 1

Discuss the view that many current forms of development are unsustainable. Refer to at least two types of development **other than** *forests.* [30]

Level 5 (25-30)

Shows a wide range of knowledge of at least two other types of developments; uses the examples to demonstrate the interaction of physical and human processes and how they lead to unsustainable systems of resource use; discusses the extent to which they are sustainable; recognises both long and short term consequences and includes some reference to sustainable approaches.

Level 4 (19-24)

Shows a range of knowledge of at least two other types of development; uses it to demonstrate the interaction of physical and human processes and how they can lead to unsustainability; includes some reference to sustainable systems.

Level 3 (13-18)

Shows relevant knowledge and examples from two types of development, and comments on their impact on physical and human environments; includes some reference to sustainable systems.

Level 2 (7-12)

Some knowledge of one or two types of development; describes their impact on environments; incomplete grasp of the meaning of sustainability.

Level 1 (0-6)

Limited relevant knowledge of unsustainable forms of development; simple view of sustainability as conservation.

Task 2

The first part of the resource book is based on data gathered by World Wide Fund for Nature (WWF), one of the leading organisations working on behalf of the environment.

Explain

(i)   why WWF take the view that 'natural and modified forests provide human beings with a wealth of benefits' (resource book page 2, 'VALUE OF FORESTS')

and

(ii)   why natural forests nevertheless continue to be destroyed in many parts of the World.

[30]

Level 5 (25-30)

Interprets resource booklet by referring to a range of benefits including both products and maintenance of physical and human systems; includes some explanation of their beneficial effects; recognises that WWF may have distinctive view; may distinguish between natural and modified forests; links forest destruction to at least two of economic/population/social/political change; makes good use of own examples and from booklet.

Level 4 (19-24)

Refers to a range of benefits from resource booklet including both products and systems; includes explanation of some of the beneficial effects; recognises that WWF may have distinctive view; links forest destruction to state of development and includes some examples.

Level 3 (13-18)

Refers to several benefits from resource booklet including both products and systems; includes some brief explanation of some of them. Links forest destruction to economic and population conditions with some exemplification.

Level 2 (7-12)

Describes benefits with some attempt at explanation. Gives some reasons for forest destruction.

Level 1 (0-6

Lists some of benefits; describes forest destruction in general terms.

Task 3

The second part of the resource book is about forests and forest development in Malaysia.

You have been on a fact finding visit to Peninsular Malaysia. You are asked to prepare a report to help others achieve sustainable development of their forests. On the basis of what you learned on your visit, you decide to write your report using the following headings:

The impact of any forest development on natural systems, such as drainage basins, and on human communities needs careful monitoring.

Forest development needs careful planning to be sustainable.

Sustainable forest development and long term economic prosperity are closely linked.

Explain briefly why each of these headings would be suitable ones for your report. [30]

Level 5 (25-30)

Recognises that the headings could offer a basis for emphasising and summarising the main points; reinforces the case by referring to Malaysian experience, and draws effectively on own knowledge; shows a sound appreciation of the importance of interaction between natural systems, economic development, and population and settlement, as well as the need for proper sustainable management strategies.

Level 4 (19-24)

Recognises that the headings could offer the basis for covering the main points; refers to Malaysian experience and own knowledge; shows an understanding of the importance of the interaction between natural systems, economic development, and population and settlement, as well as the need for proper sustainable management strategies.

Level 3 (13-18)

Use headings to review interaction between natural systems, economic development, population and settlement, and the need for sustainable management strategies. Refers to Malaysian experience or own knowledge. Some attempt to justify headings.

Level 2 (7-12)

Provides a brief descriptive account under each heading with some exemplification from Malaysia or own knowledge; little attempt to justify the choice of headings.

Level 1 (0-8)

Provides brief account under each heading with little reference to Malaysia or own knowledge.

Task 4

*The last part of the resource book (pages 13–15) describes a number of different ways in which forests could be developed. Using these resources recommend **three** strategies which together would help a country wanting to use its forests in a sustainable way to increase living standards. Justify your choice.*

[30]

Level 5 (25-30)

Takes a logical approach to choosing complementary strategies which are both sustainable and contribute to living standards; discusses how each of three chosen strategies are linked and are sustainable; refers to rejected options as part of justification; supports answer by referring to examples.

Level 4 (19-24)

Takes a logical approach to choosing three complementary strategies; explains how they are each linked, are sustainable and linked to living standards. Supports answer with examples.

Level 3 (13-18)

Chooses three and gives reasons for the combination chosen; shows how they are sustainable; links their advantages to living standards.

Level 2 (7-12)

Chooses three and links them to living standards; suggests how they are sustainable.

Level 1 (0-6)

Chooses three with brief advantages of each derived from resource without demonstrating how they might complement each other.

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