Assessment Objectives Grid for G1

	Knowledge and Understanding	Application	Skills	Total	Key Question
Question 1					
(a)	0	2	3	5	1.1
(b)	8	2		10	1.3
(c)	7	3		10	1.4
	15	7	3	25	
Question 2					
(a)	0	2	3	5	2.4
(b)	8	2		10	2.4
(c)	7	3		10	2.5
	15	7	3	25	
Question 3					
(a)	1	1	5	7	2.1
(b)	2	1	5	8	
(c)	3	2	5	10	
	6	4	15	25	

GEOGRAPHY - G1

CHANGING PHYSICAL ENVIRONMENTS

Q.1 **(a)** **Use *Figure 1* to compare the precipitation and temperature characteristics of the tropical rainforest and grassland biomes.** **[5]**

Tropical rainforest has higher amounts of rainfall; grassland has smaller range of rainfall. Tropical rainforest has a smaller range of temperatures; grassland survives at lower temperatures.

Allow one mark for comparative comment with a possible two extra for data from the graph – could quote data for both biomes to back up the comparative comment. Data could include comparison of range of temperatures: highest temperatures (1 mark); lowest temperatures (1 mark) with the same for rainfall. Allow comparison of data for 1 mark e.g. grassland starts at -9 $^{\circ}$C whereas tropical rainforest start at 13 – 14 $^{\circ}$C .

Award a maximum of 4 marks for lift of figures. To achieve 5 marks some comparison is required. Answers need to address both temperature and precipitation.

(b) **Explain how human activities have caused recent climate change.** **[10]**

There are two elements to this question: human activities and the processes leading to climate change. Some candidates may focus more on one element than the other which is acceptable.

This question allows candidates to demonstrate knowledge of recent climate change and above all the role of human activity in that change. Candidates could discuss the factors that have resulted in the enhanced greenhouse effect such as increased production of CO_2, methane and other greenhouse gases, the removal of carbon sinks, intensification of agriculture etc. Answers may detail the operation of the **enhanced** greenhouse effect and link this to human activity. There is also the opportunity to credit comment on the nature of recent climate change such as increased temperatures, shifting climate belts and extreme weather events.

Take care not to credit reference to other changes such as sea-level rise, glacier retreat etc. These are symptoms of climate change.

Some candidates may view human activity as strategies to halt recent climate change. The evidence for the reversal of climate change is very limited but some candidates may put up a spirited argument that could get to Level 2.

Examples **may** include: methods of human activity; changing climate; location; detail of atmospheric processes.

Level 3 8–10 marks	Developed and linked knowledge and understanding of human impact on recent climate change. Knowledge of climate change / activities. Development of examples.
Level 2 4–7 marks	Some knowledge and understanding of human impact on recent climate change. Some knowledge of climate change / activities. Examples are evident and enhance the explanation. Maximum level if only one element addressed.
Level 1 0–3marks	Basic knowledge and understanding of human impact on recent climate change. Basic knowledge of climate change / activities. Little use of examples.

(c) **Outline *two* impacts of climate change on society.** **[10]**

The question looks for two impacts. The material presented as impacts will vary according to the society or societies chosen but there will be some common elements such as economy, work, migration, disease, traditions etc.

Good answers should display depth of knowledge of the link between the effects of climate change and the impacts on selected elements of society. This depth of understanding may come in the form of detailed descriptions of the impacts or contain some elements of explanation – although these are not required to gain access to Level 3. Do not give credit to answers that examine the cause of climate change.

Some approaches can be seen below but be prepared to credit valid alternatives.

- Rising sea level may lead to migrations.
- Agriculture may be affected by salinisation of soils.
- Patterns of hunting may be altered.
- Settlements may be threatened and urbanisation may result.
- Reliance on aid and food supplies from outside the area may change diet and ways of life.
- Reef damage may lead to changes in tourism and economic problems.
- Extreme weather may lead to criminal activity.
- Changing climate may lead to changing patterns of disease.
- Productivity may decrease.
- Drought may cause issues with health and mortality in Africa
- Mortality.

Accept a location based approach which outlines a range of factors and /or impacts. To gain Level 3 in this approach there must be an ability to link the factors to an identifiable major impact.

Level 3 8–10 marks	Developed and linked knowledge and understanding of climate change on society. Good integrated development of examples.
Level 2 4–7 marks	Some knowledge and understanding of climate change on society. Some use of examples. Maximum level 2 if response covers only one impact.
Level 1 0–3marks	Basic knowledge and understanding of climate change on society. Little use of examples.

Q.2 **(a)** **Use *Figure 2* to describe the flood hydrograph at Taunsa.** **[5]**
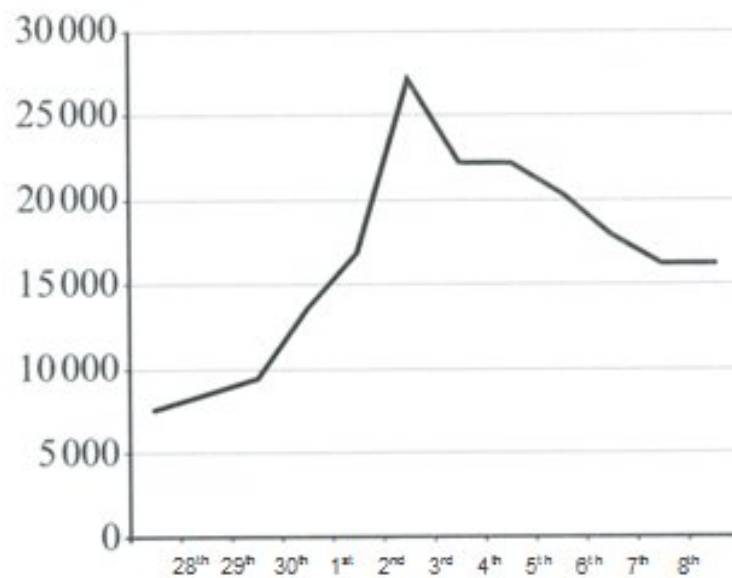
There is a:

- steady increase to 29th / 30th - from 7 – 9
- fast increase 30th / $31^{st -}$ - from 9 - 17
- most rapid increase to 1st / 2nd - from 17 – 27
- steep fall on 2nd / 3rd - from 27 – 22
- level rate 3rd / 4th - 22
- steady decrease 4th / 7th - 16
- level rate 7th / 8th - 16
- and is flashy.

Award 1 mark for each valid comment up to a maximum of 5 marks, although an extra mark for extraction of data from the hydrograph can be allowed.

(b) **Explain how *two* human factors affect the shape of flood hydrographs.**
[10]

There are two elements to this question: the operation of the factors and the impacts on the hydrograph.

Candidates may refer to a variety of factors but will need to develop an explanation of the processes that impact on the hydrograph. Popular choices for the factors may include the following factors.

- Urbanisation
- Deforestation
- Intensification of agriculture
- Afforestation
- Hard engineering
- Land drainage
- Extraction from, or addition of water to, rivers
- Other valid methods

Candidates must display an understanding of how the selected human factor impacts on the hydrograph. They could do this through:

- *either* a systems analysis of the passage of water through the system
- *or* through a description of how water movement is altered by the human factor.

Accept answers that comment on the production of a flashy response and/or a steady response.

Development may take the form of valid exemplar material.

Level 3 **8–10 marks**	Developed knowledge of human intervention in drainage basin hydrology. Developed and linked knowledge and understanding of impacts of humans on drainage basin hydrology and hydrographs.
Level 2 **4–7 marks**	Some knowledge of human intervention in drainage basin hydrology. Some knowledge and understanding of impacts of humans on drainage basin hydrology and hydrographs. Maximum level 2 if response covers only one element.
Level 1 **0–3marks**	Basic knowledge of human intervention in drainage basin hydrology. Basic knowledge and understanding of impacts of humans on drainage basin hydrology and hydrographs.

(c) **Outline the physical impacts of flooding within *one or more* drainage basins.** **[10]**

Answers may focus on physical impacts in either/or a human or natural context. Impacts in a natural context may address the formation of flood plains, ox bow lakes, sediment transport and deposition, natural vegetation, coastal landforms etc.

Alternatively answers may look at the physical impacts of flooding on buildings, infrastructure, methods of transport, drainage systems, flood defences etc. Avoid crediting responses that develop this approach by focusing further on economic, social and demographic factors.

Some answers may approach this question by outlining how flooding has led to drainage basin management causing changes to the physical characteristics of the drainage basin e.g. stream straightening, levees and afforestation.

Answers could analyse the processes by which flooding causes the selected impacts to establish the link between process and outcome. Depth of analysis will reflect the case study approach – it could be more developed with few cases studies or less developed with more studies.

Level 3 **8–10 marks**	Developed and linked knowledge and understanding of physical impacts and processes that cause them. Good development of examples.
Level 2 **4–7 marks**	Some knowledge and understanding of physical impacts and processes that cause them. Some use of examples.
Level 1 **0–3marks**	Basic knowledge and understanding of physical impacts and processes that cause them. Little use of examples.

Q.3 **(a)** **Use *Figure 3* to describe the distribution of earthquake hazard zones in India.** **[7]**

Candidates could examine the overall pattern and comment upon the greater hazard in the north and north east in particular. Anomalies are seen in Gujarat, Maharashtra and the Andaman Islands. Areas of lesser hazard are seen in 4 regions. These can be named from the states / cities on the map or described using compass directions and the scale provided.

Answers could be organised around hazard zones i.e. zone 5 is in the north east etc.

Level 3 **6–7 marks**	Shows clear and detailed identification and description of distribution of earthquake hazard. Addresses more than one hazard zone. Extensive use of resource.
Level 2 **3–5 marks**	Shows some ability to identify and describe distribution of earthquake hazard. Uses some information from resource.
Level 1 **0–2marks**	Limited ability to identify and describe distribution of earthquake hazard. Limited use of resource.

(b) **Describe the strengths and weaknesses of this type of map in the investigation of changing physical environments.** **[8]**

The strengths of this type of map allows for:
- an easy presentation technique
- a good visual impression of **patterns**
- **easier spotting of** geographical trends.

The weaknesses are however that:
- it gives a false impression of abrupt change at the boundaries
- variations within each area are hidden, particularly if a wide data range is used
- reading exact data figures from the map is not possible
- the key does not provide specific information about the strength of the earthquake or the amount of damage
- it lacks detail on information such as size of population, preparedness etc. that can be applied to its use in further investigation.

Level 3 **6–8 marks**	Good knowledge of strengths and weaknesses but some may be developed in more detail. Developed description.
Level 2 **3–5 marks**	Some knowledge of strengths and weaknesses. May lack balance – **either** good knowledge of strengths **or** weaknesses. Some description.
Level 1 **0–2marks**	Limited knowledge of strengths and weaknesses. Basic description.

(c) **Discuss the main conclusions of an investigation into a changing physical environment that you have completed**. **[10]**

You should state clearly the question that you have investigated.

The content of the answer will vary considerably as there will be a wide range of investigations. Answers should discuss the main conclusions which could vary from a small number to more in less detail. They should be related to the original question set but could review identified patterns, relationships, changes over time, proof of processes operating and characteristics of the subject under investigation.

A detailed description of the outcomes is sufficient to reach the top of Level 3. Alternatively there may be less detail about conclusions but some discussion of the outcomes that may review their validity or examine areas for further investigation.

Level 3 **8–10 marks**	Developed description or clear and integrated discussion of main conclusions.
Level 2 **4–7 marks**	Some description or some discussion of main conclusions.
Level 1 **0–3marks**	Basic description of main conclusions.