



2007 Geography

Advanced Higher

Finalised Marking Instructions

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Section A

In both map interpretation questions answers MUST make extensive and detailed use of the OS map. Correct Grid References, actual heights, description of slopes and aspect are required in a series of examples. The use of the atlas should be explicit and useful in setting the area in its broader context and in helping with Geological timescale. Candidates are also expected to have a background knowledge of planning and environmental assessment to add depth in the decision making question. Answers which fail to INTERPRET the map with clear map evidence should be penalised. These questions are worth 30 marks which are generally awarded holistically in line with the overall AH descriptions of expected standards but it is necessary to earn the marks in each part by using the time to its fullest.

Question 1

- (a) There is no 'correct' location but sensible choices could be in the larger areas of woodland to east and north of Witney. However, there are other sites which have smaller areas of woodland and combined with interesting topography may be equally suitable. The site must be drawn to scale and candidates should be penalised by 2 marks if not. **4 marks**
- (b) Candidates are expected, and the mark allocation confirms this, to produce well developed answers and not lists of 'things they have noticed'. Quality reasoning backed up with accurate map reading, interpretation and good Grid Referencing should be the norm. Aspects of relief, drainage, communications as well as appreciation of planning, environment, archaeological, wildlife and other concerns should be well developed in better quality answers. An appreciation of the effect such a development may have on the economy of the area is important not just in the obvious jobs but in the knock on jobs and injection of £ into the local economy in the form of demands for quality eating places, gifts to take home and opportunities for a range of optional 'free time' recreational or leisure activities. Managerial level should have some money to spend. The description says that participants will be there for eg a long weekend or 5 working days – there is no on-site accommodation so candidates will require to appreciate this and suggest suitable places for overnight stays. As well as named/identified hotels, inns and pubs, candidates should realise that Witney may have enough varied accommodation whereas smaller villages could feel 'swamped'?! Transport to the area is also important and atlas use will help. **14 marks**
- (c) This question allows candidates to use the atlas to identify the importance of the SE as an area with high economic prospects through a variety of industries and commerce including hi-tech. Road, rail and air routes can be identified for communication both within and outwith the region. Good links to Europe should also be noted. Large potential 'customer group' from high population and density of SE. **6 marks**
- (d) This will depend to some extent on the chosen site but there could be development and space allocated nearby the chosen site for other activities like climbing walls, archery, go karts, target shooting and so on as well as other sympathetic recreational activities which may attract other visitors. On-site hotel accommodation; reaction of locals may influence discussion too. **6 marks**

Question 2

- (a) The main settlement is Witney and there are good opportunities for candidates to develop their map reading skills to explain why it has grown into the largest settlement in the area. A fairly extensive piece would be expected here. From the atlas they should realise that its current size may reflect its distance from Oxford. The site on the land above the flood plain of the Windrush can be studied and the older part of the town easily identified as are the 20thC developments and the A40 links to Oxford. A number of small villages can also be related to the Windrush valley. The site of Crawley 3411 eg could be noted. Many villages retain a farming 'feel' with the pattern of division of land eg Curbridge 3308, North Leigh 3813. The linear shape of many small villages will provide further comment and can be related to both physical features and the road pattern depending on the examples chosen. Some, like Witney, show evidence of more recent development. Farms and other isolated buildings deserve a mention too. Avoiding certain areas is also a legitimate observation in this answer especially the valley/flood plain of the Windrush and the ponds which appear to be relics of sand and gravel workings. Although there are no significant hills here there are still some steep slopes which affect distribution. **18 marks**
- (b) The obvious recent additions to Witney and area of 20thC housing should already have been noted and this may help candidates with this part of the question. Good use of the atlas will help with commuting distances eg to London and bring the area into the 'danger zone'. An appreciation of some form of conservation of rural areas eg a form of green belt, SSSIs and other protective measures will enhance this answer when combined with good map reading. The A40 and other main roads provide tempting commuter routes. Although the rail line is single track and not of great significance to the area of the extract good candidates could suggest that because the station at Finstock 3617 is still open it could be developed and since it is close to the edge of the extract they may assume or have an atlas which shows a better road system to the east! A balance between positive and negative effects would be expected but not necessarily 50/50. **12 marks**

Question 3

N.B. The published Question Paper sat by candidates contained some minor statistical errors. This marking scheme relates to the corrected version of the Question Paper which is available on the SQA website from October.

(a)

11			-0.31	0.06	0.96	0.004	-0.02
12			2.34	1.7	5.50	2.89	3.98
13			-1.35	-1.41	1.82	1.9	1.9
14			0.52	-0.41	0.27	0.17	-0.2
15			1.54	-0.11	2.37	0.01	-0.12
	$\Sigma 79.05$	$\Sigma 21.66$			$\Sigma 28.75$	$\Sigma 29.75$	$\Sigma 18.58$
	$\bar{x}=5.27$	$\bar{y}=1.44$					

$$r = \frac{18.58}{\sqrt{28.75 \times 29.75}} = \frac{18.58}{\sqrt{855.3}} = \frac{18.58}{29.24}$$

$$r = 0.64$$

4 marks

- (b) The result allows candidates to see that the result is moderate/fairly significant and shows a positive correlation in this case. As one variable increases so too does the other.

3 marks

- (c) It is suitable because it uses actual recorded values and recognises the magnitude of the differences which would be ignored in Spearman where ranking is used. It is a powerful technique.

3 marks

- (d) Answers may include reference to the size of the load, the duration of the rainfall event, the time between one event and the next, the rock type, soil depth and vegetation cover in the catchment area... the stream density will remain the same but a combination of the previous factors may combine to make it act in a different way. By studying the figures themselves, several variations can be observed and these may also form the basis for comment.

6 marks

- (e) Accept any suitable statistical method...eg Spearman, scattergraph, linear regression (student t-test is no longer in the course but may still be known by candidates and its relationship to Pearson discussed).

4 marks

Question 4

(a) **Random**

In this method, random numbers are used. These numbers are obtained from a published sheet or calculator that generates them – numbers chosen at random. Candidates should provide an example of its use.

Advantages

- Provides a means of getting samples which are free of human bias.
- Each number has an equal chance of being picked.

Disadvantages

- If sample size is too small you may get an unrepresentative result.
- Random numbers may miss an entire part of the survey area.

Systematic

This type of sampling is quicker than random numbers. Sample items are chosen at regular intervals. Candidates should give an example of its use.

Advantages

- Easier and quicker than other methods.

Disadvantages

- Important geographical features may be missed out.
- Biased answer can be given if sample size is too small so large areas are not included in the sample.

Stratified

This sampling technique is used if there are important groups or classes in the population eg rock types, racial groups. Method ensures that a representative sample of them is included in the sample. Candidates should give an example of its use.

Advantages

- Helps reduce bias that may arise if samples chosen completely at random.
- Ensures complete coverage of the survey area.

Disadvantages

- Identifying the relevant groups and type and number of sub-groups within these may prove difficult.
- May pick up some underlying irregularity that may result in bias.

9 marks

- (b) Candidates should recognise from the scenario that stratified sampling would be required due to the rock type groupings. They should describe how many soil samples of the 50 required would be taken from each group (eg 20 – limestone, 10 – clay, 20 – sandstone) so that sampling is representative of the whole sample area.

For collection of the required number of soil samples from each group, pH and soil moisture could be collected using either random or systematic approach.

Air temperature would also have to be representative of the whole sample area so stratified technique would be used to ensure coverage of the whole area eg 3 – limestone, 2 – clay, 3 – sandstone. To get each reading either random or systematic approach could be used.

Throughout this answer, the candidate must be able to justify why they are using their chosen techniques rather than any of the others that could be used. **11 marks**

[END OF MARKING INSTRUCTIONS]