



**General Certificate of Education
June 2012**

AS Archaeology 1011 ARCH2

Unit 2

Archaeological Skills and Methods

Final

Mark Scheme

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the students' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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SECTION A

Question 1

01 Study **Figure 1** and use your own knowledge
Explain why the Roman road can be seen between the arrows.

(8 marks)

(Target AO1 8; AO2 0)

- | | | |
|-----|---|------------|
| L1: | Generic response on aerial photography. If correct type also identified give 2. | 1-2 |
| L2: | Generic explanation of crop marks or sound explanation of shadow sites or soil marks.
(Limited generic explanation with passing reference to source = 4 marks) | 3-4 |
| L3: | Sound explanation of crop marks with reference to the source. | 5-6 |
| L4: | Sound explanation of crop marks with explicit reference to the source. (Must mention negative crop marks for 8 marks) | 7-8 |

Guidance

Expect:

Negative crop marks – shorter/stunted, sparser, road surface restricts availability of water and/or nutrients, no space for roots.

Source:

Linear feature is a road, leaves on trees, so unlikely to be soil marks, no shadows visible.

Question 2

02 Study **Figure 2** and use your own knowledge.
Explain the methods an archaeologist could use to produce a plan such as this.

(10 marks)

(Target AO1 8; AO2 2)

- | | | |
|-----|--|-------------|
| L1: | Vague and/or listed/thin generic points. | 1-2 |
| L2: | More detailed generic points (including possibilities e.g. maps, aerial photographs, field walking desktops or undeveloped points linked to earthwork survey or source. | 3-5 |
| L3: | More developed points linked to source and earth work survey. | 6-8 |
| L4: | Developed points explaining earthwork survey techniques fully, and utilising the source via conventions. Must discuss three ways in which a survey could be undertaken for 10 | 9-10 |

Guidance

Expect:

GPS, TST and EDM survey, manual survey using tapes and a dumpy level, hachure plans, CAD drawing.

Accept other possibilities e.g. maps, aerial photographs, field walking, geophysical survey and desktops, but limit to L2.

Question 3

- 03 Study **Figure 3a** and use your own knowledge
Explain how this type of feature can be effectively and safely excavated. (8 marks)

(Target AO1: 6; AO2: 2)

All answers must consider safety to achieve more than L1. This question can be answered from a Health and Safety point of view, or good exc. technique point of view or dealing with waterlogged deposits.

- L1 List of general health and safety considerations or excavation techniques suitable for deep excavation. More complete lists score 2. 1 H&S consideration plus source reference= 2 **1-2**
- L2: **EITHER**
General description on dealing with organic remains, but no link to source.
OR Description of a few health and safety considerations and explanation of why they are relevant, but no link to source.
OR General description of how to carry out deep excavation, but no link to source. **3-4**
- L3: Two parts of L2 with link to source. **5-6**
- L4: Discussion of at least 3 health and safety considerations or excavation methods specific to this type of feature or dealing with waterlogged deposits or some combination of the three and explanation of relevance. Explicit link to source required. **7-8**

Guidance

Part of the effectiveness of an excavation method will be related to health and safety considerations, e.g. shoring a trench.

Expect: Shoring, fencing off deep excavations, PPE, gas meters, no lone working, pumping/ sponging out water, bucket chains, bucket hoist.

Students may point out that this feature is deep enough to require shoring, and this should be credited.

NB Precautions for dealing with anaerobic conditions should be credited.

Question 4

- 04 Study **Figure 3b** and use your own knowledge
What is the meaning of the conventions marked **A, B, C, D** and **E**? (5 marks)

(Target AO1: 5; AO2: 0)

- A) Section number (1 mark)
B) Feature number – accept context number (1 mark)
C) Cut of well or uncertain edge or interpretation. (1 mark)
D) Hachures – accept steepness of slope or length of slope (1 mark)
E) Grid point/Grid peg/grid reference (ordnance survey grid references should not be credited.) (1 mark)

NB Please note that some students may answer C) and D) in a descriptive way and answers should be credited if meaning is conveyed.

Question 5

- 05 Study **Figure 4** and use your own knowledge.
Describe how an archaeologist would recover and extract pollen. (6 marks)

(Target AO1: 6; AO2: 0)

- L1: Brief and/or vague but correct answers. 1
 L2: Fuller description of extraction or processing. (If one method only discussed with no link to source 2 marks.) (If source mentioned 4 marks.) 2-4
 L3: Full description of extraction and processing. Link to source for 6 marks. 5-6

Guidance

Expect one or more of the following: Core samples, auger samples, use of Kubiena or monolith tins, chemical extraction in lab, centrifuge to separate organic components.

Flotation is incorrect and should not be credited.

Question 6

- 06 Study **Figure 4** and use your own knowledge.
Describe changes in the vegetation in the rampart area at Pumsaint fort over time (4 marks)

(Target AO1: 4; AO2: 0)

- L1: Vague description of vegetation sequence. 1-2
 L2: Accurate description of changes in vegetation sequence with good links to source. Specific percentages must be mentioned for 4 marks. 3-4

Guidance

Expect:

Descriptions are most likely to be by phase or by plant type. Recognition that the sub-soil represents the area in its natural state, growth of grasses in phase 2, increase in shrubs in phase 3. Students may offer suggestions for changes. Credit anything sensible.

Question 7

- 07 Study **Figure 5** and use your own knowledge.
Which methods could archaeologists use to date the timber planks in **Figure 5** and which would be most appropriate?

(12 marks)

(Target AO1 6; AO2 6)

- L1: Names 1 dating method, brief explanation needed for 2 marks or list. **1-3**
L2: Names 2 dating methods with brief explanation or fuller explanation of why 1 method is or is not appropriate. **4-6**
L3: Fuller explanation of why 2 or more methods could be used with either appropriate technical vocabulary **OR** reference to the source. **7-9**
L4: Both elements of Level 3 with some attempt at justifying the methods deemed most appropriate. **10-12**

Guidance

Expect: C14, dendrochronology and stratigraphy and some discussion of accuracy and whether the method chosen is destructive

Question 8

08 Study **Figure 6** and use your own knowledge. Briefly describe the sequence of events in **Figure 6**. (You may use a diagram as part of your answer). (7 marks)

(Target AO1 7; AO2 0)

- L1: Simple appreciation: ditch dug, filled in and rampart built. **1-2**
- L2: Fuller description of the sequence of events with context numbers or simple appreciation with soil descriptions (e.g. dimensions, soil type). In this level, there will be some inaccuracy in sequencing or explanation beyond 512. **3-4**
- L3: Fuller description of the sequence of events with context numbers and some soil descriptions (e.g. dimensions, soil type). Must attempt to explain 512 for 7 marks. **5-7**

Guidance

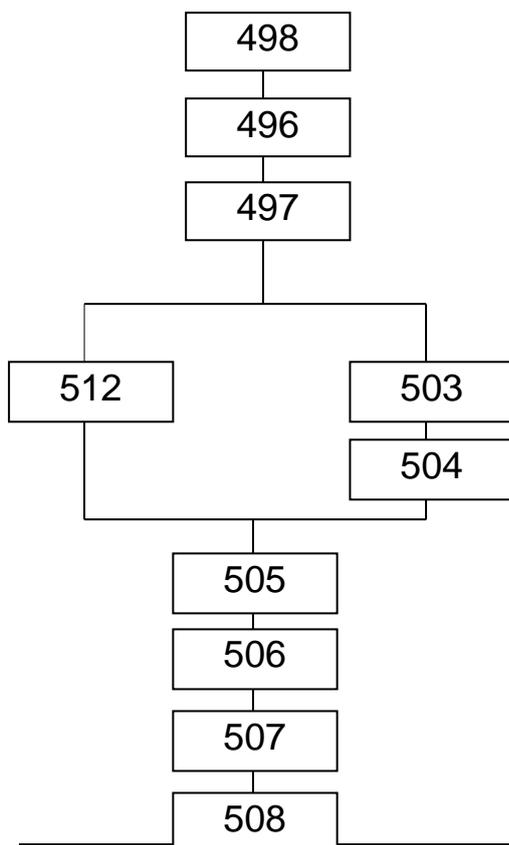
The sequence of events

Ditch 508 cut. Filled with 507, a soil made up of small gravel. 506, a silty sand (or sandy silt) deposited on top. Clay layer 505 deposited, followed by silty sand (504) and silt (503). Feature 497 cut into 503, 504 and 505. Filled with 496, clay with rubble in. 498 deposited on top. The relationship of 512 to the rest of the sequence is unclear as 497 destroys the relationship. Students might use soil composition to suggest that it is part of 503.

This is full guidance and it is unlikely that students will produce this level of detail in the time allowed. It is given for the benefit of schools and colleges.

Students do not have to produce a Harris Matrix to get full marks, but those who do should **explain** it.

Harris Matrix



Unit ARCH2: Marking Section B essays

The knowledge-based approach of this section enables students to select content from a wide variety of contexts. As a result, highly specific mark schemes are inappropriate. The scheme must be sufficiently flexible that it can embrace whatever case studies that teachers and students may select to study in that particular year.

Marking guidance therefore falls into two main types. A broad hierarchy of levels based on the assessment objectives for all essays and then exemplification for each particular question. In the latter case the contexts and lists of expected content are simply for the sake of illustration. There are many other sets of evidence, which would provide equally good answers.

The balance of assessment objectives on this section between AO1 and AO2 is 33.3:66.6.

The primary aim of the assessments is to test students' understanding of key techniques and issues in practical archaeology (AO2). Depending on the questions chosen they will focus, to a greater or lesser extent, upon the basis of archaeological knowledge, its limitations, and the nature of the factors affecting continuity and change in the past.

Understanding of AO1 will also be a key factor in differentiating responses.

Good examining is, ultimately, about the consistent application of judgement. Levels of response mark schemes provide the necessary framework for exercising that judgement but cannot cover all eventualities. Where you are very unsure about a particular response, refer it to your team leader.

Generic Essay Levels Mark Scheme

Below Level 1 **0 marks**

Answers with no merit or relevance to the question set.

Responses at this level may be of reasonable length and may contain archaeological examples and material but they will not respond to demands of this specific question. The student may have incorrectly interpreted a concept or simply responded to a word or phrase in the question by writing all they can think of about that 'trigger'.

Level 1 **1-6 marks** **AO1 (2) AO2 (4)**

Weak or undeveloped answers.

Either: A Responses at the bottom of this level (1-3 marks) may provide some information which could be relevant to the question but it will be undifferentiated from irrelevant or inaccurate material – in other words it will randomly rather than purposely linked to the question. More typically (4-6 marks) the student will demonstrate some understanding of the thrust of the question but is unable to respond in an adequate manner. Some understanding may be shown by the selection of relevant material although this will be presented in a 'scattergun manner' with little discrimination, explanation or attempt to use it as part of a logical argument. The account will be superficial and may be within the context of a purely narrative or descriptive framework.

Or: **B** Alternatively the response may consist of a very weak description of technique(s) or a very thin account of a site(s), some of which may be relevant to the question but which are undeveloped. Nevertheless, some of these could have been developed into higher level responses.

At Level 1, where students submit full essays they are likely to display poor communication skills, work being characterised by disjointed prose, poor organisation and frequent lapses of spelling and grammar. This level also includes responses which do address the question but are only a few sentences in length or undeveloped lists or plans which had the potential to become higher level answers.

Level 2 **7-12 marks: AO1 (4) AO2 (8).**

Limited responses with some merit.

Either: Responses which demonstrate understanding by including some material relevant to the question. However, it is likely that the student has been unable to organise their work successfully in order to meet the demands of the question. Typically this may include the very basic description of techniques with little or no exemplification. Understanding of the issues in the question will be simplistic and there will be very little assessment of the data which will often be presented in a descriptive format.

Or: **B** Answers which do address the question and demonstrate some understanding of the issues, perhaps making several valid points. However, there will be very little or no relevant archaeological examples or explanation of technique(s) to support their case.

At Level 2, students are likely to display some poor communication skills. Some of their work may be characterised by disjointed prose, poor organisation and frequent lapses of spelling and grammar. This level also includes good, detailed essay plans and promising essays which have not been developed (e.g. very brief or truncated).

Level 3 **13-18 marks: AO1 (6) AO2 (12).**

Sound responses.

Either: **A** Responses which largely contains material relevant to this question and where the student has begun to organise and structure their work successfully in order to meet its demands. This may be of similar depth to Level 2 responses but will be largely focussed on issues raised by the question.

Or: **B** Answers which address the question and demonstrate a reasonable understanding of many of the issues it raises. They will be able to reach sensible conclusions but provide limited explanation of archaeological technique(s) to support their case. Include at this level: responses which are of Level 4 or 5 quality but which have only addressed half of a question which contains two main elements; good generic responses which include no exemplification; detailed accounts of archaeological sites which only partially address the question.

Introductions and/or conclusions are likely to be limited at this level and appraisal will be simple.

At Level 3 communication skills may remain limited and may be adequate at best. At the lower end of the level spelling and grammatical errors are likely to be frequent and answers will show limited powers of organisation. At the higher end there may still be insecure structuring of paragraphs and weaknesses of expression breaking the flow of the answer.

Level 4 19-24 marks: AO1 (8) AO2 (16).

Good responses.

Either: A Responses largely containing well focused, relevant material organised in the form of 1-2 explanations of techniques or a range of 3+ with some limited development. Reasonable exemplification will be present. Depth of understanding of terms may be very good but commentary and argument will be underdeveloped.

Or : B Well-focused responses which address the question directly and demonstrate a good understanding of the issues raised by it. The account is likely to have a coherent structure and may be argued consistently. However, explanations of techniques will still be limited despite being supported by some examples. Detailed appraisal of specific techniques will not therefore be possible.

Introductions and/or conclusions likely to be more developed at this level.

At Level 4 communication skills will generally be sound. Though spelling and grammar will be secure there may still be lapses with technical vocabulary. Organisation will be sensible but there may be passages of less well directed writing or an overly schematic approach.

Level 5 25-30 marks: AO1 (10) AO2 (20)

Very good responses.

Either: A Responses containing considerable, well focused relevant material either in the form of 1-2 detailed explanations of techniques or a range of 3+ with relevant development. (Expect the equivalent of a couple of sentences on each.) Analysis will be present although at the bottom of this level this will not necessarily be consistent and not all the data will be necessarily appraised. Exemplification will be sound. Evaluation and assessment of the relative merits of different sources and lines of argument will be present. .

Or: **B** Responses which address the question directly and precisely, and demonstrate a very strong understanding of the issues raised by it. The account will be well-structured and should be argued consistently. Appraisal of specific case studies via supporting evidence will be sound.

Introductions and/or conclusions likely to be fairly sophisticated at this level.

At Level 5 communication skills will be generally effective and organisation clear and logical. Spelling and grammar will be sound, though there may be occasional errors.

Deciding on marks within a level

One of the purposes of examining is to differentiate between responses in order to help awarders distinguish clearly and fairly between students. We want to avoid too much “bunching” of marks which can lead to regression to the mean. A key element here is the way examiners approach the work. Given the constraints of time and circumstance, students will not produce perfect work. Ideally you should take a ‘cup half full’ rather than ‘cup half empty’ approach to responses above Level 2. This should help you to use the full range of marks available. Start by allocating the essay to the level which best describes it even though it may not be a perfect fit. If you really cannot decide between a level, award the response the top mark of the lower level where the decision is between levels 1-2 or 2-3 and at the bottom of the higher level in all other cases.

Where you are confident about a level, you should start by placing the essay on one of the middle marks for that level. Next consider whether you feel that mark to be about right, slightly generous or slightly harsh in comparison with other responses at that level. In the latter cases move the essay out to the lower or higher mark in the level. In making decisions away from the middle of the level, examiners should ask themselves whether the response is:

- Precise in its use of factual information?
- Technically accurate?
- Appropriately detailed?
- Factually accurate?
- Appropriately balanced, or markedly better in some areas than in others?
- Generally coherent in expression and cogent in development (as appropriate to the level awarded)?
- Well-presented as to general use of syntax, spelling, punctuation and grammar?

The latter two points indicate how the student’s quality of written communication might influence the award of marks within a given level of response and complement the information given elsewhere.

Question 9

09 Compare and contrast the merits of survey and excavation in investigating multi-phase sites such as Dolaucothi-Pumsaint. (30 marks)

(Target A01 10; AO 2 20)

Use generic levels mark scheme

Indicative content

Students are most likely to draw on case studies local to themselves, but may mention sites like Wroxeter, Altinum, Silchester, Coppergate, and so on. Expect students to discuss factors such as cost, preservation in situ, time taken, and perhaps amateur/professional involvement in relation to non invasive methods (aerial photography, geophysics, field walking, geochemical survey, landscape survey) and invasive methods (excavation).

Question 10

10 Outline the difficulties and the advantages of excavating underwater sites compared to sites on land. (30 marks)

(Target A01 10; AO 2 20)

Use generic levels mark scheme

Indicative content

Responses are likely to draw contrasts between what is possible on land and what is possible under the water. Students are most likely to refer to the Mary Rose, the Yassi Ada wreck, and the Uluburun wreck. Accept references to the well at Dolaucothi Pumsaint.

Expect:

Advantages	Disadvantages
Good preservation of organics Don't have to walk across the archaeology Easier to remove soil/excavate (eg airlift as opposed to trowel) Pompeii premise/time capsule	Health and safety, e.g., currents, nitrogen narcosis, the bends, hypothermia, etc Reduced visibility Expensive Access issues (equipment, diving skills) Tides No public access/outreach opportunities

N.B. Magnetometers work underwater.

Question 11

11 Outline the methods archaeologists use for studying inorganic artefacts. (30 marks)

(Target A01 10; AO 2 20)

Use generic levels mark scheme

Indicative content

Responses are likely to discuss lithics, ceramics and metals. They are likely to consider quantification and use of reference collections and techniques of visual examination, eg typology. Experimental archaeology is likely to feature, in terms of microwear studies, replication and use wear analysis. Accept but do not expect petrological thin sections, isotope analysis, neutron activation analysis, organic residue analysis and X-ray Fluorescence.

Expect a range of sites known to students locally and others such as Boxgrove, Flinders-Petrie's Egyptian sites, Schick and Toth's work on stone tools, and the Gundestrup cauldron for metals.

Note that this is **NOT** simply a dating question, and students who concentrate on dating are unlikely to score highly.

Marking Grid

Question Number	AO1	AO2
9	10	20
10	10	20
11	10	20

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