

# Mark Scheme (Results)

## Summer 2010

Principal Learning

### Environmental and Land-based Studies

### ES307 Sustainable Development of Resources

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question Number	Answer	Mark
1(a)(i)	Allocate up to 2 marks for direct use of Fig. 1a (e.g. proven reserves lower in 2008(1); rising annual production(1); data support(1)) Reserve 1 mark for interpretation of Fig. 1b i.e. rising prices as demand > supply (1); increasing shortages (1).	(3)

Question Number	Answer	Mark
1(b)	Responses offering basic idea of well-managed in context of natural resources = 1 mark. Award a 2 <sup>nd</sup> mark if definition developed e.g. resources used in way that supplies can be sustained; not using all resources today; ensuring will not run out of resources .. Max marks to include extension e.g. using resources today without preventing future generations from using them/without destroying natural environment; avoiding resource extraction rates exceeding renewal rates	(3)

Question Number	Answer
1(c)	
Level	Mark
1	1-4
2	5-7
3	8-10

Expect either relevant direct comments from Fig. 1c (e.g. local unemployment; vital to Zambian economy; rainforest ecosystem damage ..) or general basic comments about the importance of not running out of resources such as copper (e.g. living standards dropped; alternatives have to be found ..)

Expect both relevant direct comments from Fig. 1c and general basic comments about the importance of not running out of resources.

Expect more detailed analysis of importance of sustainability e.g. the need not to damage environments (i.e. eco-footprints); the effects of relying too heavily on non-renewables; the advantages of prolonging resource life... Reference to examples of resources other than copper.

Question Number		Answer
1(d)		
Level	Mark	
1	1-3	No direct credit for naming appropriate plan though max of Level 1 if not named. Expect basic statements, either generic or plan-specific about aspects of plan and its production e.g. consulting certain interested parties; auditing; checking against legislation, health & safety ....
2	4-6	Expect some analysis of a range of the plans facets in terms of sustainability e.g. will support economic development or otherwise; will not threaten habitats and endangered species; will be of value to new technology...
3	7-8	Expect detailed analysis which links resource sustainability to the named plan and to steps in the planning process i.e. expert opinion consulted; objectives set out; data collected, analysed and discussed with all parties; various options considered; conflicts avoided; plan published and later reviewed. Precise comments showing knowledge of named plan and nature of sustainable resource development as per part 1(b) and (c).

Question Number		Answer
1(e)		
Level	Mark	
1	1-2	Expect either an outline of one monitoring method (e.g. questionnaire) or a list of methods. Accept both generic responses or those referenced to plan named in 1(d) or another/others.
2	3-4	Expect monitoring methods to be relevant and referenced to a named plan. For responses offering only one method it must be linked to evaluation/effectiveness of plan. Responses offering more than one method may address the workings of the methods e.g. questionnaire sampling; recording of survey data; use of technology.
3	5-6	Expect more than one monitoring method and its practicalities linked to evaluating the effectiveness of a named plan. Should be evident in some detail how management plans are monitored.

Question Number	Answer	Mark
2(a)	Allocate 1-2 marks per need/priority with initial mark for stating only e.g. meet growing demand for electricity(1); not rely on dwindling fossil fuels(1); consider the safety issues around nuclear power(1)... Credit all valid and distinctive sustainability needs. Award 2 <sup>nd</sup> mark in each case for development of need so that sustainability issue explicit.	(4)

Question Number	Answer
2(b)	
Level	Mark
1	1-3
2	4-6
3	7-8

Expect either basic points in favour of nuclear power (e.g. no atmospheric pollution; plentiful energy ...) and opposing this power source (e.g. not entirely renewable) or one side of argument only well-made.

Expect both sides of argument raised but unbalanced in terms of quality i.e. one side well-made with other sketchy. Reference to a number of stakeholders e.g. local residents; energy companies; environmentalists.

Expect a balanced and well-made discussion of pros and cons related to named stakeholders so that concept of a controversy explicit.

Question Number	Answer
2(c)	
Level	Mark
1	1-3
2	4-6
3	7-8

Expect a brief in terms of scope and description but sustainable plan (e.g. extend dam and HEP distribution cables) with little or no justification in terms of SRD (e.g. HEP not polluting). Sustainability needs to be either obvious or justified.

Expect either a comprehensive plan with limited justification in terms of SRD or a simple (one-dimensional) plan well justified in terms of SRD (e.g. importance of renewables; value of energy mix; role of import-independence ...)

Expect strong description of plan whether comprehensive or simple (one-dimensional) and strong justification in terms of SRD.



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