0173-509 JUNE 2018
Level 3 Technicals in Land and Wildlife
Level 3 Land and Wildlife – Theory Exam (2)

If provided, stick your candidate barcode label here.

Candidate name (first, last)
First
Last

Candidate enrolment number

Date of birth (DDMMYYYY)

Gender (M/F)

Assessment date (DDMMYYYY)

Centre number

Candidate signature and declaration*

• If any additional answer sheets are used, enter the additional number of pages in this box.
• Please ensure that you staple additional answer sheets to the back of this answer booklet, clearly labelling them with your full name, enrolment number, centre number and qualification number in BLOCK CAPITALS.
• All candidates need to use a black/blue pen. Do not use a pencil or gel pen.
• If provided with source documents, these documents will not be returned to City & Guilds, and will be shredded. Do not write on the source documents.

*I declare that I had no prior knowledge of the questions in this assessment and that I will not divulge to any person any information about the questions.

General instructions
• Use black or blue ball-point pen.
• The marks for questions are shown in brackets.
• This examination contains 12 questions. Answer all questions.
• Answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
• Cross through any work you do not want to be marked.

You should have the following for this examination
• a pen with blue or black ink
1 a) State what type of rocks form through cooling and solidification of magma/lava. (1 mark)

b) List the **four** basic components of soil. (4 marks)

2 a) Describe the atomic structure of a water molecule. (2 marks)

b) Describe how the physical state of water is altered at a molecular level by increasing the temperature of liquid water beyond the boiling point. (2 marks)
3 a) Explain how energy moves through a food chain. (7 marks)
b) The population of each organism in a food chain can be shown in a sort of bar chart called a pyramid of numbers. The more organisms there are, the wider the bar.

Source: http://www.bbc.co.uk/schools/gcsebitesize/science

**Figure 1**

Explain the pyramid of numbers in Figure 1 above. (3 marks)

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________
4 If a cold air mass descends, state what happens to the surface pressure. (1 mark)

5 a) With regards to the water cycle, state what is meant by a catchment. (1 mark)

b) Within the Carbon cycle, give three examples of how carbon is released to the atmosphere. (3 marks)

6 a) State what is meant by a polyandrous mating system. (1 mark)

b) State which life history strategy is typically favoured in unstable environments. (1 mark)

c) Define the term Fecundity. (1 mark)

d) Give three reasons why monogamous relationships within the animal kingdom result in bi-parental care. (3 marks)
7 Explain how humans have caused habitat fragmentation and isolation. (4 marks)

8 a) State when the Forestry Commission was formed. (1 mark)

b) Give one aim of the Forestry Commission. (1 mark)

9 During the Neolithic period, the original wildwood that covered the British Isles was significantly reduced. State the reason for this. (1 mark)

10 Explain how coppicing was used to produce bronze and iron. (4 marks)
11  

a) Name **three** types of information included on a woodland management plan.  

__________________________________________________________  

__________________________________________________________  

__________________________________________________________  

b) Explain how a woodland ride should be managed to create a good variety of habitats within it.  

__________________________________________________________  

__________________________________________________________  

__________________________________________________________  

__________________________________________________________  

__________________________________________________________  

__________________________________________________________  

__________________________________________________________
12. You are a site ranger working for a local conservation charity. You manage a site that includes an extensive area of actively managed semi-natural coppice woodland on two hillsides. In the valley bottom there are extensive flood meadows and a seasonally fast flowing spate river.

Downstream of the site, the local village has in the past had issues with flooding.

Discuss how the woodland habitat and the management of them could help to alleviate the flood risk to the village by positively affecting the movement of water through the landscape. (12 marks)