



**0173-513 JUNE 2018**

**Level 3 Technicals in Land and Wildlife**

Level 3 Land and Wildlife Management – Theory Exam (2)

If provided, stick your candidate barcode label here.

**Monday 11 June 2018  
13:30 – 15:30**

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.**

**You should have the following for this examination**

- a pen with blue or black ink

**General instructions**

- Use black or blue ball-point pen.
- The marks for questions are shown in brackets.
- This examination contains 14 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.



1 a) Name **two** nutritional disorders in fish. (2 marks)

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b) State the causes for the disorders identified in 1 a). (2 marks)

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2 Explain **three** factors influencing the nutritional efficiency of a fish feed. (6 marks)

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3 State **two** factors which cause Gas Bubble Disease. (2 marks)

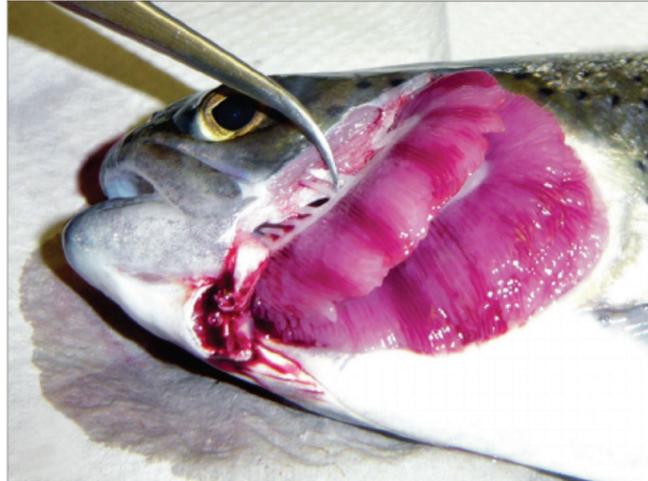
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4 Figure 1 below is an image of a fish with a gill disorder.



Source: <https://www.researchgate.net>

**Figure 1**

a) Identify the type of gill disorder shown in Figure 1. (1 mark)

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b) Name **two** causes for the disorder identified. (2 marks)

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5 Define the term zoonotic disease with an example for such a disease in fish. (2 marks)

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6 Describe the environmental risks associated with use of antibiotics to treat fish diseases. (3 marks)

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7 Photosynthesis is a chemical process seen in plants. Identify

a) gas produced as a by-product of photosynthesis (1 mark)

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b) the gas used during photosynthesis (1 mark)

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c) the chemical pigment used during photosynthesis (1 mark)

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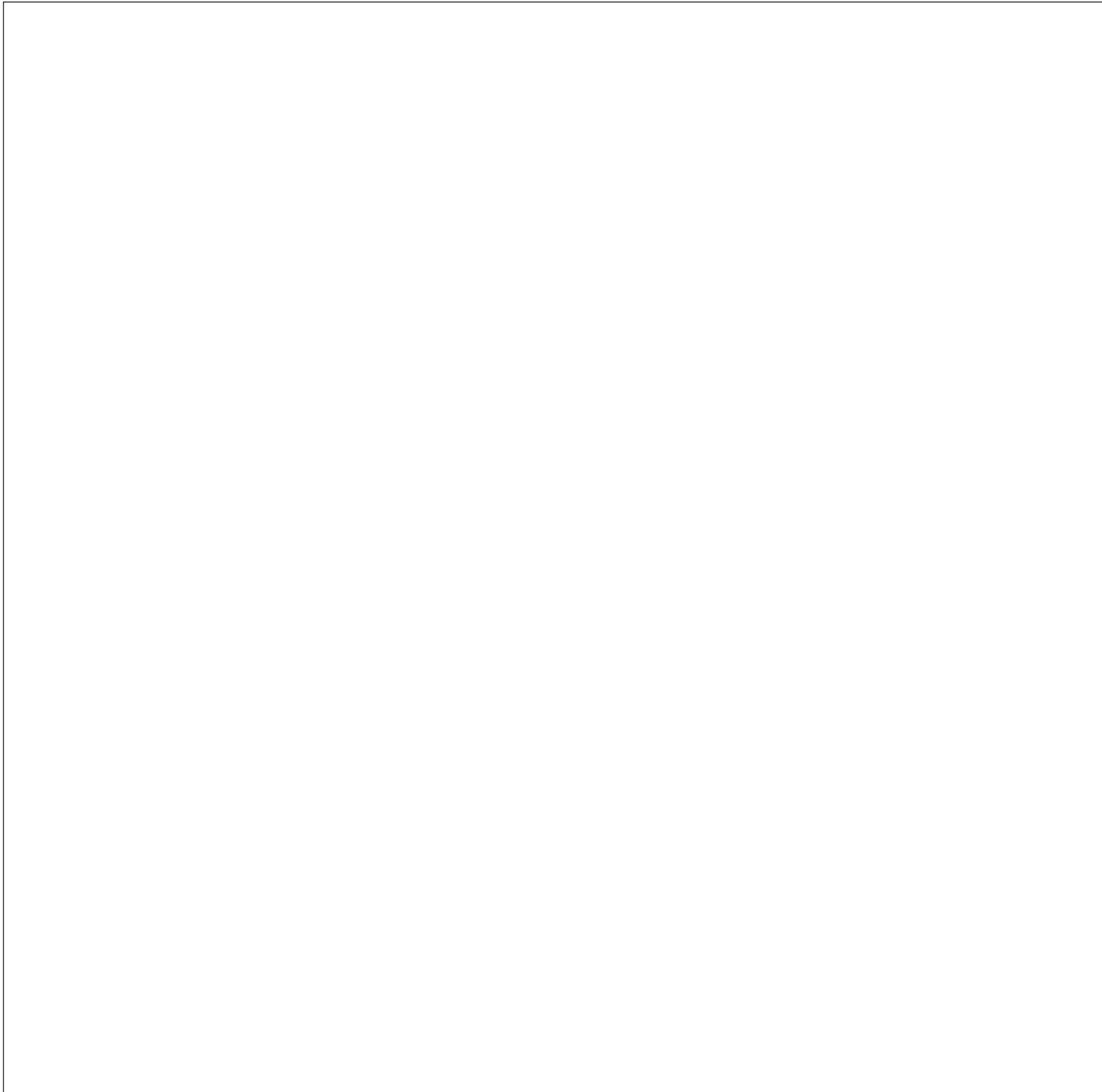
d) the carbohydrate produced during photosynthesis. (1 mark)

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8 Draw a labelled diagram of the nitrogen cycle in an aquatic system.

(6 marks)





- 11 Fish farmers commonly feed fish to appetite, for the best growth rates, dependant on their behaviour. (2 marks)
- a) Name **two** types of behaviour that would encourage the fish farmer to feed. (2 marks)

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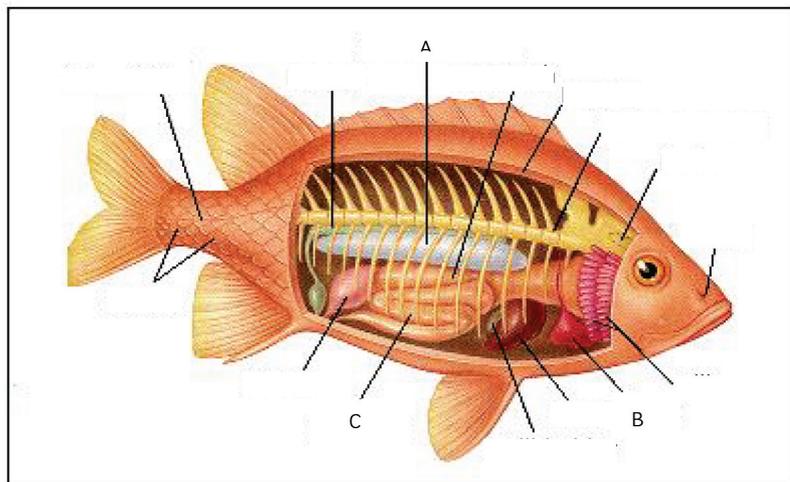
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- b) Name **two** types of behaviour that would discourage the fish farmer from feeding. (2 marks)

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- 12 Name the **three** internal organs A, B and C in Figure 3. (3 marks)



Source <http://www.tutorvista.com/content/biology/biology-iii/animal-kingdom/phylum-chordata.php>

**Figure 3**

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- 13 State **one** method used to reduce fish stress as a result of pH changes. (1 mark)

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