

Examination Answer Books

12 Pages

Instructions to Candidates

- Please give the information requested in the boxes below.
- Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
- The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
- Write your answers in ink.
- Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
- No part of this book is to be torn out; it must be handed in complete.
- If more books than one are used, fasten them together using the tags available from the invigilator(s).
- Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.

1	Student Number	1700647
2	Title of Examination Paper	Introduction to Nautical Archaeology
3	Module Code	10.02.01
4	Date and Time of Examination	10-10 am
5	Examination Venue	Khalifa 1
6	Seat Number	
7	Number of Answer Books handed in	1

(Gweler yr ochr arall am y fersiwn Cymraeg)

Complete, fold and seal
(see note 2 below)

SURNAME: Seale

FORENAME(S): Nadia

(See the other side for English version)

7	Nifer y Llyfrau Atebion a gyflwynwyd	
6	Rhif Sedd	
5	Lleoliad yr Arholiad	
4	Dyddiad ac Amser yr Arholiad	
3	Cod y Modwl	
2	Teitl y Papur Arholiad	
1	Rhif Myfyrwr	
	Rhestrwch rifau'r cwestiynau a ymgeistwyd gennych	At Dibenion y Swyddfa

- Rhowch yr holl wybodaeth y gofynnir amdani yn y blychau isod.
- Rhowch eich enw yn y lle a ddarparwyd ar y dde, plygwch ef a'i selio i lawr (gan ddefnyddio'r label a ddarparwyd) i guddio'ch enw.
- Rhaid i'r atebion fod mewn llawysgriften ddarlennadwy. Gall yr Arholiwr naill ai anwybyddu sgrïpt annarllennadwy, neu drefnu iddi gael ei theipio a chael yr ymgeisydd i dalu.
- Ysgrifennwch eich atebion mewn inc.
- Dechreuwch bob ateb ar dudalen newydd. Gwnewch unrhyw fras nodiadau yn y llyfr atebion a thynnu llinell drwyddynt.
- Ni ddylid rhwgo unrhyw ran o'r llyfr hwn; rhaid ei gyflwyno yn gyfan.
- Os defnyddir mwy nag un llyfr, rhwymwch hwy gyda'i gilydd gan ddefnyddio'r tagiau sydd ar gael oddi wrth y gwyllywr/gwylwyr.
- Rhaid dychwelyd pob llyfr. Ni chaniateir mynd â llyfrau atebion, wedi eu defnyddio neu heb eu defnyddio, allan o'r lleoliad arholi o dan unrhyw amgylchiadau.

Cyfarwyddiadau i Ymgeiswyr

12 Tudalen

Llyfr Atebion Arholiadau

Llenwch, plygwch a seliwch

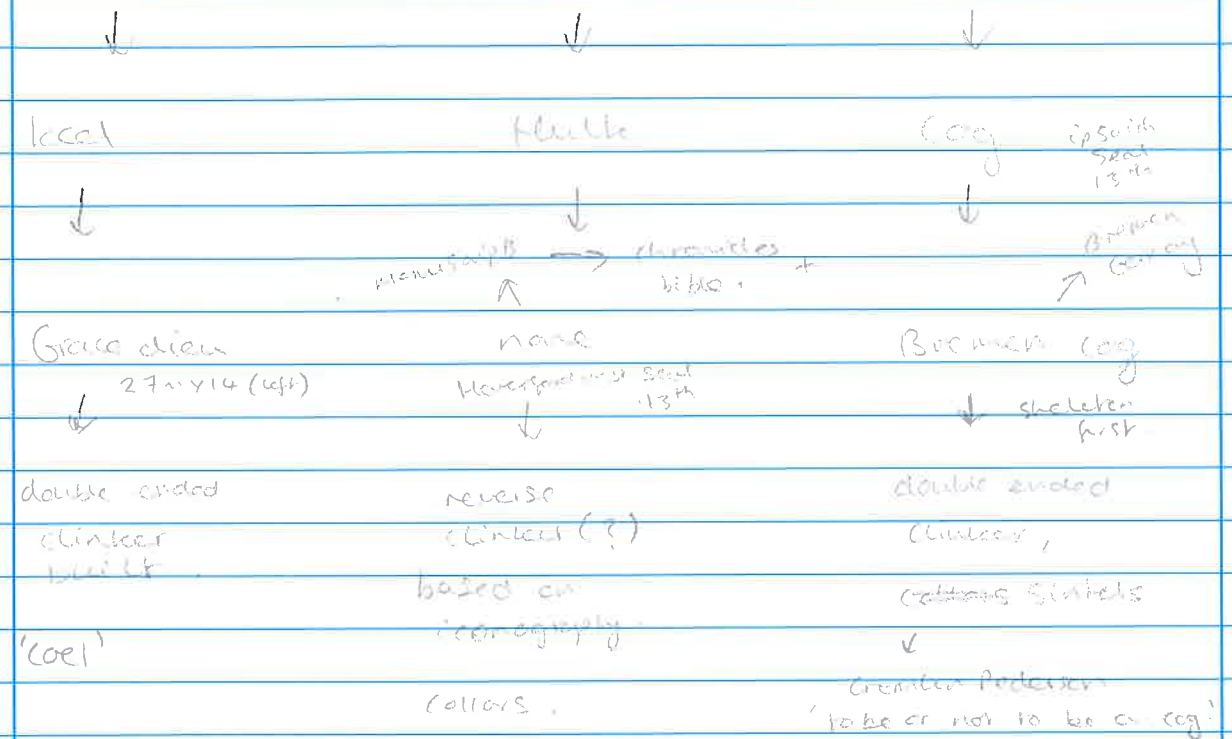
(gweler nodyn 2 isod)

CYFENW:

ENW(AU) CYNTAF:

4
Qplan

medieval = 1066 - 1453 roughly (approximate).



When it comes to discussing the major ship and boat types that were around in the medieval period in Northern Europe, one thing that is open for debate is when the medieval period began and ended. As there is no exclusively correct date, I will be using the dates of 1066 to 1453 AD, which is when the Normans conquered England up until the loss of Gascony and the fall of ~~and~~ Constantinople by 1453.

During the medieval period, and more

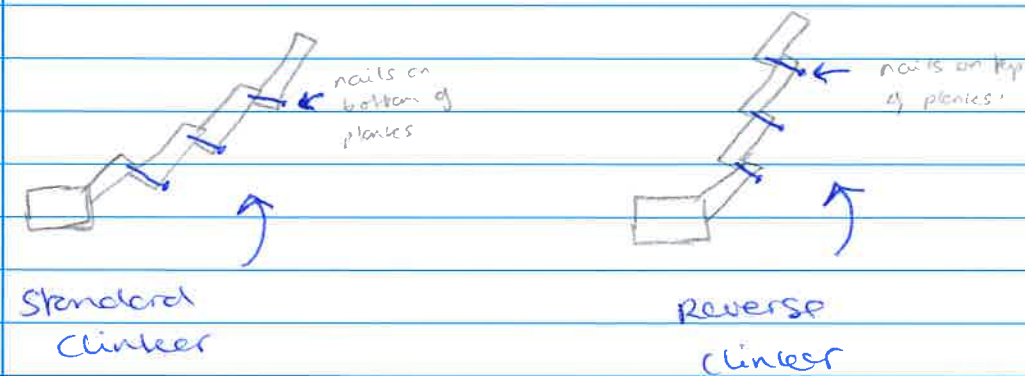
specifically the dates I have chosen, throughout this time there were three main types of ships that were in use. These types are known as keel, Hulk and cogs. The first type of medieval ship is what we today call a keel. Keel itself is a modern term that is used, but there is evidence of a similar sounding word, 'coel', being used for ships that have been identified as keels, which dates back to around 13th century England. Keels are predominantly double ended and built in the clinker style. Whether the boat was ~~built~~ built skeleton first, ~~from~~ ^{shell} first or bottom first is something that can differ from ship to ship.

The case study I ~~am~~ am using for keel type ships is the Grace Dieu.

This vessel was the flagship of the fleet owned by Henry V, and as it was built before 1453, but only by a few years, it can still be seen as a medieval ship. After Henry V's death in 1455, this ship was sold off to pay his debts, where she was eventually struck by lightning, caught fire and sunk below the waves. The ship roughly measures 27m x 16m, which is the length of the ship ~~is~~ as an incomplete find, so from the remains alone, the size of the ship ~~is~~ can be estimated to be very large.

The second type of medieval ship is called Hulk. For this type of ship, none have actually been found yet, and all of the examples and hints

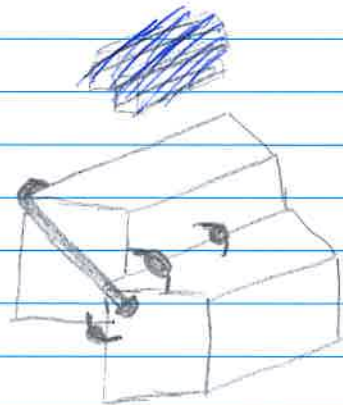
that the boat existed, ~~is~~ can be found as iconography. Chronicle books and the bible show pictures that nautical archaeologists have agreed are Hulks, but there is something unusual about the way hulks appear to have been built, as opposed to keels. Whilst keels were built in the standard clinker style, hulks can only be described as reverse clinker in style.



This way of building hulks mean that the shape of the boat would end up much more exaggerated, with a ship shape similar to a banana. Ships like this have been found in chronicle books, however it is worth noting that the images in chronicles tended to ~~for~~ feature a much more exaggerated depiction of the boat, as opposed to images in the bible, which showed boats in a much more realistic way. One other feature ~~of~~ that separates a Hulk from a keel is the appearance of 'rollers' at the top end of either side of the boats. The planking, based on some depictions, seems to gather in

at the collar, so perhaps it was a ~~for~~ feature that kept the planing bent at unusual angles to provide hulls with their unique shape.

The final type of ship that was used in the medieval period is Cog. much like keels, they were double ended and clinker built, but were built bottom up. One thing that separates Cog's from keels is the type of corking that was used. The type used by cogs was called sintels. Sintels varied



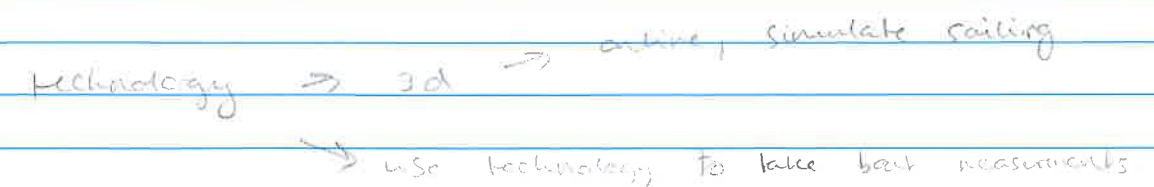
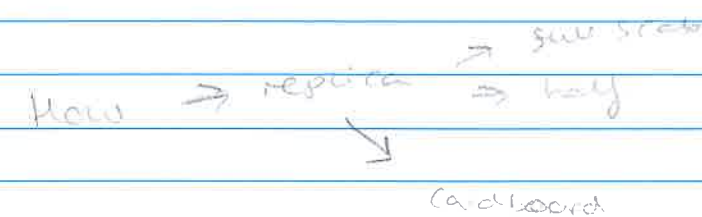
Slightly from the corking used by keels, as they were somewhat like staples, that held the planing together with the usual nails. These staple-like pieces were used on both the top of the plank as well as the bottom of the plank, with the nails corkinging moss, in order to keep the ship compact and water proof.

For this ship type the Case Study I have chosen is the Bremen cog. As the name would suggest, this boat was found in Bremen in Germany. For this cog, whilst it was built bottom first for some of the construction, it then

moved on to being skeleton built. There are also depictions of cogs found on 12th century town seals, such as the one of Ipswich. Notable works, such as O. ~~Gre~~ Kremlin Pederson's 'To Be or Not To Be a Cog' opens the debate that comes from naming ships and boats based on the location where they are found, as the Bremen cog is named as such as it was found in Bremen. It is difficult to be able to name a boat based on the actual location the timber was from or the boat site it may have been built at, but with increasing dendroanalysis being performed, Pederson suggested a renaming of the Bremen Cog, to a name that would show its true location of origin, not just the place where she was sunk.

Q5

Plan



Why → to find original shape of ship

✓
authenticity → public help

to public = not kept
authentic

When it comes to looking at why and how nautical archaeologists reconstruct the original form and performance of ancient boats and ship finds, the first part I will be looking at is how they manage to recreate ships and boats.

One of the ways they can recreate a ~~per~~ replica of a boat they find, is by using the measurements they can get from a boat, which can often be fragmented with parts missing, and estimate how it may have been built using traditional boat building methods. This process is time consuming, and once the boat is done, as there have been ~~to~~ estimations, the ship's proportions could be wrong and the ship could sink on its first voyage. This actually happened to the first replica that was made of the Oesberg Ship, as they had not made the calculations correct.

In order to reduce the waste of resources, nautical archaeologists build smaller scale replicas or make ones out of plastic and test it in a hydro-

chamber first, before they move on to making a scale replica.

Another way they can make replicas, especially today due to the advancement of technology, is via 3d programmes. By using technology to get an accurate ~~use~~ measurement for the ship, they can then create models on a computer and virtually test it, before they begin to use ~~reser~~ resources and people to make a physical reconstruction. Nautical archaeologists should use a combination of both traditional boat building methods, as well as tests carried out before hand using both technology and small scale replicas made out of an easily found material.

Whilst the how part of making replicas of ships is relatively simple to understand, the reasons why nautical archaeologists reconstruct the original form can be much more advanced. At the simplest reason, much like other branches of archaeology, nautical seeks to understand ships and how they have changed over time, how they are built and how they sail. Even if they build a small model on a computer and use it to see if the ship they found sailed, the best way they can find this out is by making a ship as authentically as they can. As most ship finds, that are wood, are normally incomplete, the only thing nautical archaeologists can do is a degree of guessing and estimating features and scale.

But building a full scale replica is still a lengthy and pricey task. In order

Question No.		Examiner Only	Question No.		Examiner Only
	to get around that, some replicas involve the public, and bring in volunteers that can help make the replica. But with this, nautical archaeologists have to be careful, as too much public interest would result in modern ~~sae~~ safety features being applied to the replica, which would be at odds with the authenticity of the replica and the original purpose it was built for. That is not to say that nautical archaeologists shouldn't involve the public, there is always going to be a medium that has to be reached in order to find out as much as they can about a boat that could only have half of it remaining or that could even just be skins left in the ground as the wood has rotted away. Replica and reconstruction, through methods like 3d modeling and actual construction, could be the only way that a ship can be seen in a complete form and then tested for its performance.				
Arholwr yn unig		Rhify Cwestiwn	Arholwr yn unig		Rhify Cwestiwn