IELTS READING (BENJAMIN BROWN) TEST 010

READING PASSAGE 1

You should spend about 2 minutes on **Questions 1-14** which are based on Reading Passage 1 below.

Questions 1-4 Reading Passage 1 has **7 paragraphs A- G.**

From the list of headings below choose the 4 most suitable headings for paragraphs **A, C, D,** and **E.**

Write the appropriate numbers **(i-ix).**

NB *There are more headings than paragraphs, so you will not use them all.*

List of Headings

i. The recovery of the Vasa
ii. Restoring Vasa as it was
iii. Chemical treatment using PEG
iv. Conservation of waterlogged wood
v. Technical prohlems for preservation
vi. Salt crystallization
vii. Procedures for treating metal
viii. Unique conditions that helped preserving Vasa
ix. Future steps lo he taken

Example	*Answer*
Paragraph B	**V**
1. Paragraph A	
2. Paragraph C	
3. Paragraph D	
4. Paragraph E	

The Raising of Vasa

A. The recovery of the Vasa froin Stockholm harbour in 1951 marked a revolutionary event in underwater archaeology. This ship was not excavated first and then lifted out of the water, but the reverse. She was raised in successive stages by passing heavy steel cables in tunnels dug below the hull and moved to shallower locations until she could be excavated in "dry-dock". This was possible only because the hull was in good condition. Vasa was In good condition after 333 years underwater thanks to a number of reasons. The ship was built chiefly of oak heartwood with high Iron content and was brand new at the time of sinking. Salinity in Baltic Sea Is 0,4% and the water surrounding the Vasa contained no oxygen, so that shipworms do not thrive. Neither ice nor currents had caused any damage, and an even water temperature between 4-1 to *fS$ also prwed crucial.

B. The raising of the ship to the surface represented an extraordinary technical feat. The work did not end here though. Conservation of the metal and wooden artifacts associated with the ship was an enormous problem to the technical teams charged with preserving the remains once exposed to air. Swedish king at that time. King Gustav VI Adolph, was an archaeologist and prime supporter of the recovery program. Lars Barkman was given the task of developing treatment for the estimated 700mJ waterlogged wood of Vasa's hull and its contents. He recognized that separate approaches had to be derived for each.

C. ships' timbers on exposure to air must be kept wet if drying and distortion is to be avoided. Direct wetting is required. And keeping the wood cool and dark Is Important. For the majority of large wooden material, some form of water spray system is the most feasible and economic solution. Chemical treatments were also developed. Methyl cellulose was initially tried but did not work. Barkman had found by using PEG3350 that the oak timbers from the Vasa received little or no impregnation to the Interior and especially to the heartwood. Then he used PEG1450. a lower molecular weight grade than PEG3350. PEG (polyethylene glycol) impregnation Is currently the most widely used conservation method for waterlogged wood of all dimensions. Surface application of PEG is done by hand-spraying or brushing. PEG is non-toxic, needs no extensive safety measures, relatively cheap and available worldwide. The disadvantage is that treatment takes a long time. The Vasa has been undergoing treatment since 1962. The treatment time perhaps could have been shortened ff the hull had been completely enclosed and protected and the public not allowed access to view the ship.

D. Metals brought up from a salt-water environment are threatened as soon as they are exposed to air. The main cause of deterioration occurs when salt (sodium chloride) combines with the metal which then crystallizes upon exposure to air. Conservation techniques such as electrolysis are aimed at eliminating salt crystallization in a gradual but effective manner. The most common metal will be iron, but there will also be copper alloys (i.e. brass) and probably lead. In all cases, the objects will have to be kept wet after excavation until they can be cleaned and stabilized. It is much easier to remove sediments or encrustations that have not dried out. To aid in cleaning, and toremove any soluble salts that might be present, electrolysis might be used. Electrolysis is especially effective at cleaning and stabilizing cast iron—the material that most of the cannon on the ships are made from. After cleaning, metal artifacts are usually washed with distilled water to remove residues of soluble salts and other chemicals. The metal can then be dried. The final step is almost always the application of a protective surface coating.

E. The aim of The Vasa Project is to present the ship In its original condition for public display. Mast of the Vasa ship underwent extensive preservation. The destroyed portions of the ship, the main deck the sterncastle. the bow of the ship and the fitments Inside the ship had to be rebuilt. This work was undertaken by ship technicians, shipwrights, and museum staff, using the original timbers and parts of the structure. An update on the conservation stage of the Vasa ship reveals that 95 per cent of the ship today Is made up of original parts. The conservationists ceased spraying the Vasa hull In 1979. Towards the end. the time between spraying sessions was extended. During the 198u's. they began to attach the loose parts such as sculptures and ornaments. Now during the 1990's, they have restored one of the three masts. The next step is a reconstruction of Vasa's upper deck. Only rarely are fake parts used.

F. in 1959 in Sweden the project to raise Vasa was under way, while In Denmark, Christensen had begun to develop methods for treating the Skuldelev Vking ships. Both projects had the effect of giving great Impetus to the field of underwater archaeology. Historic shipwrecks are attractive to maritime archaeologists because they preserve historical Information, for

example the studying the wreck of Mary Rose revealed Information about seafaring, warfare and life In the 1500s. Military wrecks that were caused by a skirmish at sea are studied to find details about the historic events and reveal much about the battle that occurred. Discoveries of treasure ships, often from the period of European colonization, which sunk in remote places leaving few Irving witnesses, such as the Batavia. do occur but only very infrequently.

G. Now that more and more underwater sites are being discovered the question of what to do with the vessels and the artifacts found must be answered. Each government has its own answers but the debate rages as to who actually owns the wrecks and what measures must be put in place to conserve and protect the sites from destruction. Further research may yet yield pertinent Information on these wrecks on seashore beaches and the people who once sailed them. Therefore, all shipwreck exploration and recovery activities needs to always be coordinated by approved professionals under archaeological guidelines.

Questions 5-10

Do the following statements agree with the information given in Rending Passage 1? In boxes 5-10 on your answer sheet write

YES if the statement agrees with the views of the writer
NO if the statement contradicts the views of the writer
NOT GIVEN if it is impossible to say what the writer thinks about this.

5. Vasa was not Hug out before it was raised from the water.
6. Barkman realized that Vasa's hull and its contents had to be treated in separate steps.
7. PEG impregnation worked very well for timbers from the Vasa
8. The treatment lime was shortened because the public was not allowed to view the shipwreck.
9. Metal objects brought up from salt water must always be kept wet.
10. Most of the Vasa ship on public display is original.

READING PASSAGE 2 Questions 11-14

Look at the following ships and the list of statements below. Match each ship with the correct statement.
Write the appropriate letter **A-H** in boxes **11-14** on your answer sheet.

A the first shipwreck excavated
B a warship
C provides an overview of 1500s maritime endeavour
D a Danish ship
E reveals details about how the battle occurred
F a new ship when it sank
G went down in a distant location not easily accessible
H left few survivors

11. Vasa
12. Batavia
13. Skuldelev
14. Mary Rose

You should about 20 minutes on **Questions 15 - 27** which are based on. Reading Passage 2 below.

<<<<Avalanches>>>>

Avalanches can be surprising, sublimely beautiful and deadly. They can sweep trains off their tracks, crush buildings, uproot trees and bury people. Some avalanches have even covered entire houses with people still inside them. Even though movies and news reports say that they "strike without warning", most deadly avalanches start when victims trigger them.

The Properties of Snow To understand how avalanches form, we need to understand the properties of snow crystals. Depending on the temperature, humidity and other atmospheric conditions, snow crystals can have a variety of shapes, but all are generally hexagonal or six-pointed. In areas that get a lot of snow, the snow on the ground forms a snowpack. The layers within the snow-pack have different qualities due to the shapes of the crystals in the layer. For example, six-pointed crystals can interlock more easily than needle-shaped crystals, so they create a steadier layer. On the other hand, when super-cooled water comes into contact with snow crystals in the air, it creates rime. Heavy rime deposits can cause pellet-like snow called graupel, which creates a very unstable layer.

Snowpack layers also have different qualities because of changes that take place once the snow is on the ground. Changes in the weather lead to changes on the snowpack's surface. If the top of the snowpack melts and re-freezes, it can form a layer of slick ice; if air just above the snowpack reaches the dew point, the snowpack can develop hoar, which is a light, feathery crystal that does not bond well to snow; and if the top of the snow pack freezes and thaws repeatedly, it can develop clusters of frozen particles with space in-between, which creates an unstable surface for the next layer of snow.

Changes within the snow pack take place due to the temperature gradient—the difference in temperature between the upper and lower layers. The snow near the bottom is relatively warm (close to 0°Celstus / 32°Fahrenheit) because of residual heat from the ground. The temperature in the upper layers depends on the temperature of the air. Snowfiakes within the snowpack undergo different types of metamorphosis depending on the size of the temperature gradient. In snowpacks with a high temperature gradient a large difference in temperature crystals tend to develop facets. The flat surface of a facet cannot bond well to other surfaces. Heavily faceted crystals located deep in the snowpack are called depth hoar and create dangerous instability. On the other hand, low temperature gradients and consistent sub-freezing temperatures cause rounding, which allows crystals to compress more tightly. The exchange of water vapor during rounding also creates bridges between crystals and parts of crystals, creating a firm, stable snowpack.

Avalanche Formation Regardless of whether they are the result of temperature gradients, atmospheric conditions during snowfall or melting and refreezing, strong and weak layers of snow make avalanches possible. Avalanches have three ingredients snow, a sloped surface and a trigger. A weak layer within the snow pack, caused by ice, surface or depth hoar, faceted crystals or graupel also contributes to the process. If the weak layer is near the surface, it causes a stuff a cascade of loose, powdery snow in an inverted "V" shape down the slide of the mountain. Stuffs are like sand rolling down a dune, and they usually cause minimal damage to people and property.

If the weak layer is deeper in the snowpack, it can cause a slab avalanche, which is far more dangerous. In a slab avalanche, a strong, cohesive layer of the snowpack slides down over a bed layer of snow, like thawing snow sliding down a car's windshield.

Sometimes, the entire unfair
and slides over the ground. The strength of a slab avalanche depends on the properties of the slab and the depth of the weak layer, also called the failure layer. Hard, cohesive slabs create very large chunks of solid snow, while softer slabs create smaller blocks. Slabs of wet snow cause generally slower avalanches than dry slabs, but they typically hit obstacles with more force. Avalanches usually start on mountain slopes that are at a 25 to 60 degree angle to the ground. Slopes less than 25° generally aren't steep enough to produce avalanches, and slopes steeper than 60 degrees usually sluff their snow constantly, giving slabs little chance to develop. Most avalanches begin on 35 to 45 degree slopes. Most slab avalanches take place on leeward, rather than windward, slopes. They can have a natural trigger, like a sudden change in the weather, a falling tree or a collapsing cornice—an icy overhang of wind-driven snow near the ridge. In spite of what movies and cartoons depict, the trigger is almost never a loud noise. In most fatal avalanches, people create the trigger. Once they begin, they have three segments; • A starting zone, often above the tree line and near the ridge, where the slab breaks away from the rest of the snow.

- A track, or the course the avalanche follows down the mountain. You can often see avalanche tracks even in the summer because of missing trees.
- A runout, where the sliding snow and debris eventually comes to a stop. When the snow stops, it compacts and sets up like concrete. This is what makes avalanches so dangerous to skiers, hikers and snowmobiles—they generally cannot dig themselves out and must wait for rescue.

Avalanche Prevention and Control Avalanche fatalities are most common in the winter months, but since early-season snowfalls and spring thaws are also dangerous, they can occur in every month of the year. In addition to the threat to human life, avalanches can cause tremendous damage to buildings and property. They can also close roads, cover train tracks and disrupt local economies. So, ski patrols and other organizations usually take steps to prevent major avalanches. One technique is to deliberately trigger small, controlled avalanches when no i one is on the slope. Staff and researchers first study the snowpack (either by digging pits and analyzing each , layer or by using radar technology. They then start an avalanche with explosives or artillery fire. On small test slopes, they may also perform ski checking by deliberately skiing along fracture lines high on the slope. People performing ski checking always work with at least one partner, who remains in a safe location in the event that the skier gets caught in the avalanche.

Other techniques involve preventing the conditions that lead to avalanches or interrupting the flow of snow. In some locations, fences, posts, nets, anchors and windbreaks change the way snow collects, reduce the size of the slab or provide physical obstacles in the event of an avalanche. Authorities in parts of the United States and Canada have also reforested areas that underwent heavy logging, and clear-cutting in avalanche-prone areas is illegal in most of Europe,

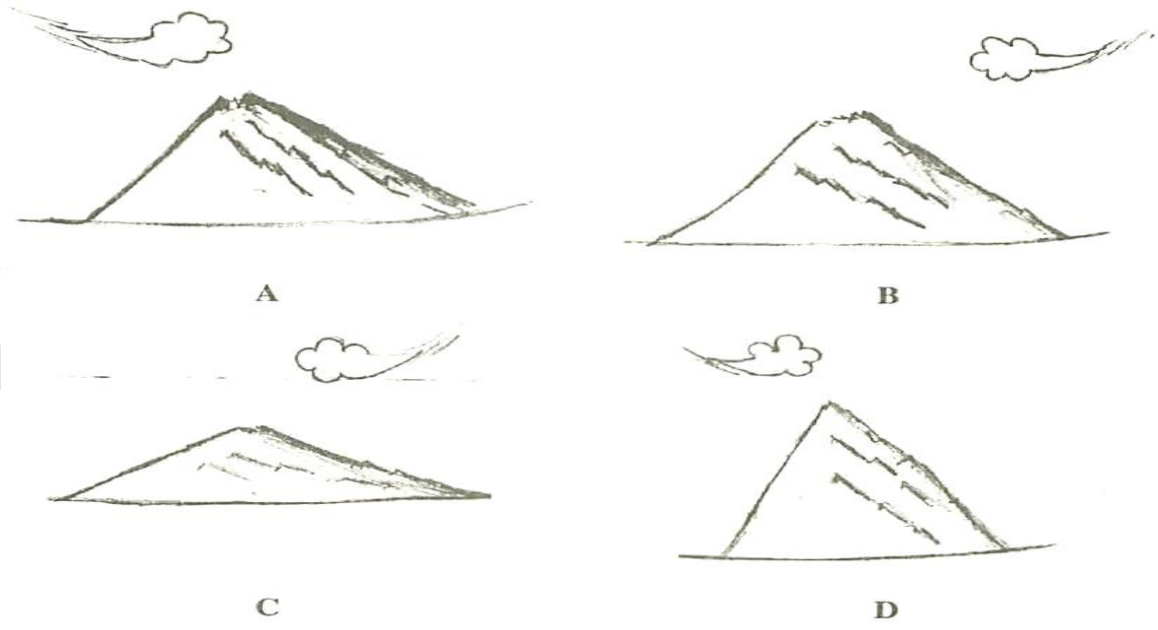
Questions 15-19 *Classify the following forms of snow as being*
A. Stable **B.** Unstable

15. Rounding **16.** Depth hoar
17. Graupel **18.** Hexagonal crystals
19. Needle-shaped crystals

Questions 20-22

20. According to the text, which type of avalanches cause the least damage to people and property?
A. A wet slab avalanche. **B.** A deep slab avalanche.
C. A sluff avalanche. **D.** A dry slab avalanche.

21. Which of the structures described in the following illustrations is the most avalanche-prone?



22. Which of the following is niosi unlikely to trigger an avalanche?

A. A falling tree. **B.** A crash of ice overhang.
C. People. **D.** A loud noise.

Questions 23-27 Choose **NO MORE THAN THREE WORDS** from the passage to complete the summary below.

Various measures are taken on a regular basis by organizations such as **….23……** to prevent avalanches. One approach involves **…….24……** controlled artificial avalanches. After carefully studying the snowpack, specialists start an avalanche using dynamite or **……..25 …….. …….26……** is also performed by staff in pairs along fracture lines. Preventing the conditions that cause avalanches also proves essential. To do this, United States and Canada have made an effort to **…..27……** areas that heavy logging took place, and clear-cutting is forbidden in most European countries.

READING PASSAGE 3

You should spend about 20 minutes on **Questions 28 - 40** which are based on Reading Passage 3 below.

An Englishman's Home Is His Castle
A History of Domestic Architecture in Britain

Before the Roman invasion of Britain people generally lived in the kind of building B that made preservation unlikely. The hunters who followed the seasonal movements of animals across the land bridge into Britain would have lived, for the most part, in temporary shelters. People were basically camping in Britain for many thousands of years, making the most of the warm periods between periodic ice ages, and retreating when the weather became too cold.Around 4500BC, once the climate had improved, people started farming and life became more settled. The first houses were generally round houses. In low land areas the favoured design was a ring of timber uprights supporting a wall of wickerwork, with a roof of thatch. From about 750BC the Bronze Age gave way to the improved technology of the Iron Age and changes occurred in the style of house building. Roofs became steeper, so that rain water drained off more easily. The steeper pitch also meant that the internal circle of supporting poles could be done away with, giving more space.

The Iron Age society in Britain came to an end with the arrival of the Romans. The Roman period produced a revolution in architecture, and remains of Roman buildings can be seen at many sites. The Roman revolution, impressive as it might have been, led to nothing as far as Britain was concerned. When the Roman's left around 410AD their civilisation and architecture vanished with them. The Saxon invaders who came into the country after the Roman withdrawal were not urban people. They brought their own habits of house building with them. Roman buildings fell slowly into ruin, and largely disappeared.

The Saxons lived in timber houses, or in houses sunk into the ground, called "Grubenhauser" . Traces of these buildings have been found at West Stow in Suffolk, and based on the evidence of excavations an Anglo Saxon village has been recreated. The Vikings, who in their turn invaded Saxon England, added little to architecture. York has the best Viking remains in the country, but the Viking houses in York are no different to typical Anglo Saxon buildings. Building did not change much as viking and Saxon areas of the country began to work more as a single country. The majority of the population was rural, and London was the only town of any size. In the tenth and eleventh centuries Londoners often lived in sunken floored huts. There were some slightly more substantial timber framed buildings, almost all of which were roofed with thatch.

By the twelfth and thirteenth centuries the wooden huts of the early Anglo Saxon settlers haci developed into timber framed buildings, usually of a "crucks" type. A curving tree was cut in two to make matching supports. The frame was then erected, and the gaps filled in with a weave of oak staves or hazel branches. This weave was then coated with a mixture of mud, clay, straw, animal hair and cow dung. Paint waB applied, usually a lime waeh, although bulls blood was sometimes added to give a pink colour. The oak timbers of the frame were left unpainted. Painting them black was a Victorian fashion. Smoke from the central fire was still vented through open eaves at the edge of the roof. One of the most complete surviving examples of this type of building in its original location is the Baron's Hall at Penshurst Place in Kent, which dates from the fourteenth century.

The buildings that have survived from medieval times are almost always the stronger, better built structures of the wealthy. From about 1400 the old manor houses that survived the decline caused by the ravageB of the Black Death were extended. People now wanted more privacy, which meant that the old communal open halls of the manor houses were becoming increasingly unpopular. The most usual way to modify the old open hall was to build a wing at one or both ends. As for the houses of the majority of the medieval population, not much remains. In Scotland some traditional long houses survive from medieval times, built of stone with a turf roof, the "but" at one end for livestock, the "bin" at the other end as a living area.

So far in this history it has been rather inaccurate to talk of architecture, Bince there were few architects to design buildings. Buildings were "home made" to an established form. But this was to change. By the mid eighteenth century "polite" cottages were being built, that is buildings designed by architects or taken from builders' pattern books. ThiB trend began on the great landowners estates in the cottages built for estate workers. The Industrial

Revolution was now gathering pace and people were living more frequently in towns. This hastened the move towards a more standardised form of architecture.The idea for the terraced house took off in the 1670s. The English seem to prefer living in their own houses, at ground level, preferably with a garden. To achieve this as efficiently aB possible terraced housing was the best solution. The Great Fire of London in 1666 forced a vast rebuilding programme. The stability of the Restoration following the years of the English Civil War also contributed to this revolution in housing and living. In 1661 the Earl of Southampton let twenty four lots at Bloomsbury Square, and in the following year the Earl of St. Albans erected St. James's Square. These two developments set the pattern. From 1670 until 1700 the entrepreneur Nicholas Bourbon purchased huge areas of building land all over London, on which he built a standardised design of terraced house. His work can still be seen, in Bedford Row, numbers 36-43, and, in St James Street. The terraced design reached its culmination in monumental schemes of the nineteenth century, and the Georgian fashion for terraces left its mark on many towns . Bath has many famous terraces, and the New Town of Edinburgh has a Georgian townscape centred on George Street, with Queen Street and Princes Street on either side. The same fashion of housing uBed for the rich was also used for the working classes. Workers' houses were also terraced. To save space the lines of houses were often built back to back. These houses have now largely been demolished and replaced, although some back-to-back streets remain in northern towns such as Manchester and Leeds .

Questions 28-30
Answer the following questions **USING NO MORE THAN THREE WORDS** from the passage.
28. How did prehistoric hunters come to Britain?
29. What makes the internal circle of supporting poles obsolete?
30. When did Human's withdraw from Britain?

Questions 31-34
Look at the following diagrams **(Questions 31 -34),** and the list of types of house below. Match each diagram to **a-f.** Choose the correct letter **a-f** and write them in boxes **31 — 34** on your answer sheet.

A Earliest houses in Britain
B An Iron Age house
C Grubenhauser
D A Scottish traditional long house
E a Victorian building
F Houses of Georgian fashion

31

32

33

34

Questions 35-40 Do the following statements agree with the information given in Reading Passage 3?
In boxes **35-40** on your answer sheet write
TRUE if the statement is true
FALSE if the statement is false
NOT GIVEN if the information is not given in the passage.

35. Roman architecture revolutionized the style of British architecture.
36. Viking houses resembled those of the Saxons.
37. People preferred to paint the wooden frames of buildings black in the twelfth and thirteenth centuries.
38. Before the Industrial Revolution there were no architects in Britain.
39. The English Civil War gave rise to developments such as Bloomsbury Square and St James's Square.
40. The terraced design was most popular in the nineteenth century.