Eton College King's Scholarship Examination 2022

GENERAL I

(**One hour**)

**Remember to write your candidate number on every sheet of answer paper used.**

**You must answer both questions.**
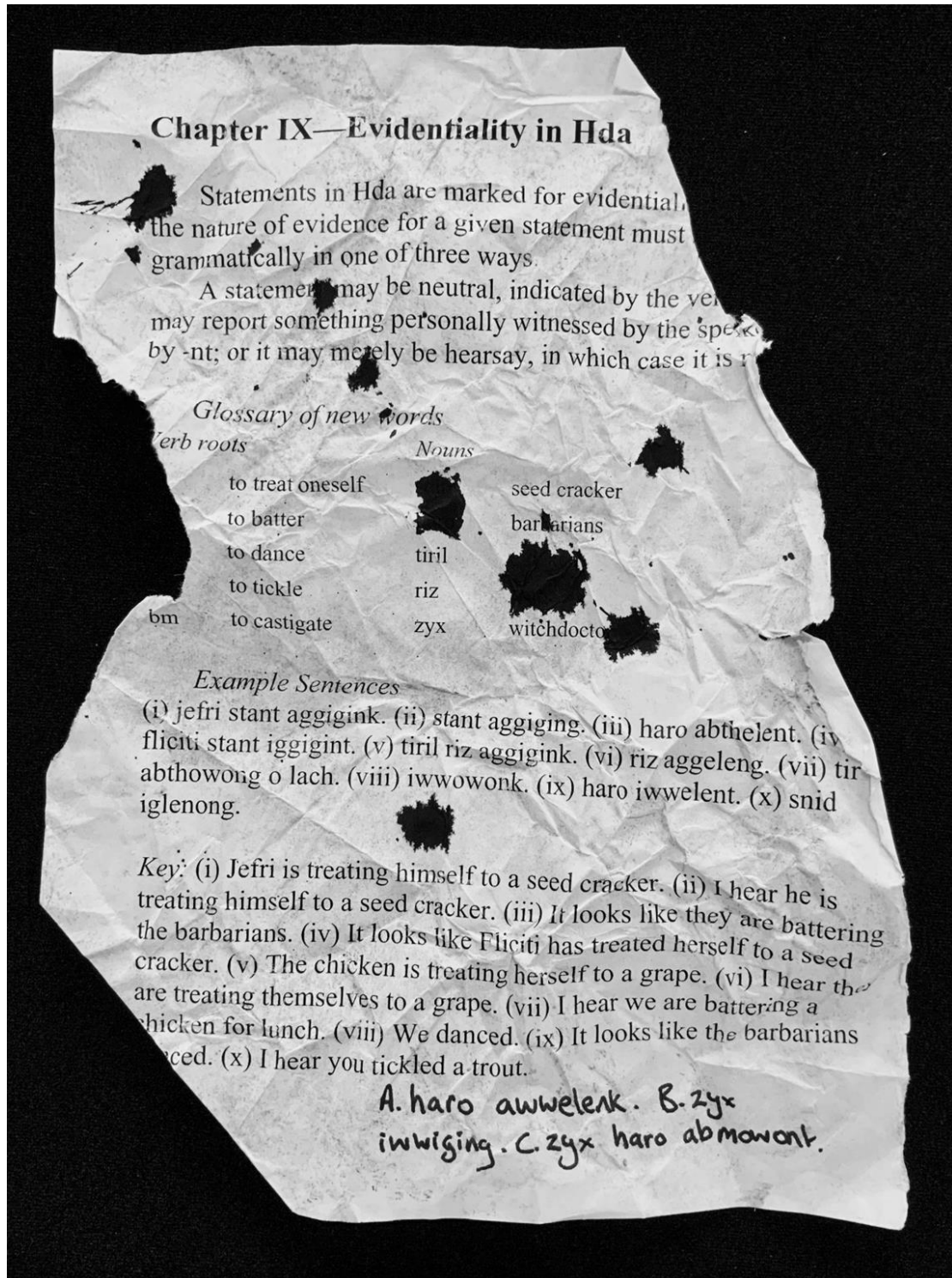_Each question is worth the same number of marks._

You need not answer the questions in the order set, **but you must start each one on a separate piece of paper.**

If you have not finished a question after 30 minutes, **you are strongly advised to leave it and go on to the other**. Return to any unfinished question if you have time left at the end of the paper.

ADDITIONAL MATERIALS: NONE

Do not turn over until told to do so.

SOURCE FOR QUESTION 1

Chapter IX—Evidentiality in Hda

Statements in Hda are marked for evidential[...] the nature of evidence for a given statement must [...] grammatically in one of three ways.

A stateme[nt] may be neutral, indicated by the ve[...] may report something personally witnessed by the spe[...] by -nt; or it may merely be hearsay, in which case it is [...]

Glossary of new words

Verb roots		Nouns
to treat oneself		seed cracker
to batter		bar[b]arians
to dance	tiril	
to tickle	riz	
to castigate	zyx	witchdocto[r]

bm

Example Sentences

(i) jefri stant aggigink. (ii) stant aggiging. (iii) haro abthelent. (iv [...] fliciti stant iggigint. (v) tiril riz aggigink. (vi) riz aggeleng. (vii) tir [...] abthowong o lach. (viii) iwwowonk. (ix) haro iwwelent. (x) snid iglenong.

Key: (i) Jefri is treating himself to a seed cracker. (ii) I hear he is treating himself to a seed cracker. (iii) *It looks like they are battering the barbarians.* (iv) It looks like Fliciti has treated herself to a seed cracker. (v) The chicken is treating herself to a grape. (vi) I hear the[y] are treating themselves to a grape. (vii) I hear we are battering a chicken for lunch. (viii) We danced. (ix) It looks like the barbarians [dan]ced. (x) I hear you tickled a trout.

A. haro awwelenk. B. zyx inwiging. C. zyx haro abmowonk.

Question 1: *START A NEW SHEET OF PAPER NOW.*
If you have not finished this question after 30 minutes, you are strongly advised to leave it and go on to the other.

THIS QUESTION REFERS TO THE SOURCE ON Page 2

During the recent renovations of an Eton house, an intriguing scrap of paper was found between the floorboards. The page appears to have been ripped from the primer of a language called Hda. Perhaps the page was ripped out in anger; perhaps the boy responsible was ashamed of spilling ink all over a book belonging to the school.

Little is now known about Hda. Using the information available, undertake the following tasks:

(a)   Copy and complete the glossary of new words.

(b)   Explain in your own words how past tense is indicated in the examples given.

(c)   Reconstruct the missing parts of the second paragraph ('A statement may be neutral…') and write in full how you think the paragraph ought to read, thereby explaining evidentiality in Hda.

(d)   A boy has attempted to write several sentences in Hda at the bottom of the page. Identify which one is **incorrect** and indicate how it should read.

[Total mark for Question 1: 25]

Question 2: *START A NEW SHEET OF PAPER NOW.*
If you have not finished this question after 30 minutes, you are strongly advised to leave it and go on to the other.

Where there are multiple marks, most of the credit will be given for clear reasoning, rather than just the final answer.

Three gunfighters, Mr Good, Mr Bad and Mr Ugly, are engaged in a three-way duel.

Good will hit whatever he aims at every time, Bad will hit $2/3$ of the time, and Ugly will hit $1/3$ of the time.

The three gunfighters are all known to each other and they are all aware of each other's accuracy.

They work on the assumption that their opponents will act logically.

They take it in turns to fire a shot until only one is left alive.

They draw lots to see who goes first, and a coin toss determines whether they will go in the order Ugly—Good—Bad—Ugly etc., or Ugly—Bad—Good—Ugly etc.

(a)   Suppose the coin toss determines the cyclical order will be:
Ugly—Bad—Good—Ugly etc.

(i)   If Good gets the first shot, what should he do with it?

[2]

(ii)   If the result of the draw to see who goes first tells Bad that he has no chance of survival, who won that draw?

[2]

(iii)   If Bad gets to go first, does he have any chance of survival if he chooses to aim at Ugly?

[3]

(iv)   If Ugly gets to go first, what should he do with his shot to give himself the best chance of winning?

[5]

(b)   Suppose the coin toss determines that the order will be Ugly—Good—Bad—Ugly etc. If Ugly still gets to go first, does this affect what he should do to give himself the best chance of winning now, and if so, how?

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[3]

(c)   For this part, no particular shooting order is assumed.

   (i)   What is the maximum number of shots fired in total if Good wins in the end?

[2]

   (ii)   If Bad ends up winning after 6 shots in total were fired,
         who fired each of those 6 shots, and what was the outcome of each one?

[4]

(d)   Suppose Good, Bad and Ugly each know their own accuracy, and the accuracy of the
      other two, but none of them knows which is which of the other two, (so that Good knows
      that Bad hits $2/3$ of the time and Ugly $1/3$ of the time, but doesn't know which of his
      opponents is which). The shooting order is Ugly—Bad—Good—Ugly etc.

   (i)   If Good gets to go first, (so has to make a random 50-50 choice of whom to shoot
         at), how do the chances of Bad and Ugly ending up dead compare?

[2]

   (ii)   Ugly gets to go first, but misses. What will Bad do, and why?

[2]

[Total mark for Question 2: 25]

[END OF PAPER]