

# Sample Oxbridge interview questions

Compiled by NACE trustee Sue Mordecai, this list of sample questions is intended to support schools and educators when helping students prepare for admissions interviews at Oxford, Cambridge and other leading universities.

In order to make best use of the questions, it is important to understand the qualities and aptitudes admissions tutors are attempting to assess, and how schools can help learners to develop and demonstrate these. For guidance on this, we recommend watching our webinar “Developing independent more able learners”, presented by Dr Matthew Williams, Jesus College Oxford. Additional guidance on this topic is also available on our blog.

## General

- “Actions speak louder than words” and yet “The pen is mightier than the sword”. Which lies nearest to the truth?
- “Art is meant to disturb: science reassures” (Braque). Discuss.
- “The camera may do justice to laughter but must degrade sorrow” (W. H. Auden). Discuss.
- $2+2=4$ . Under what conditions might this be incorrect?
- Are borders enough to distinguish between countries?
- Are there too many people in the world?
- Are there some topics you should not joke about?
- Can animals be said to have rights? Can plants?
- Consider the problems raised by the statement “God answers prayer”.
- Could there be an infinite number of songs ever written?
- Describe this saucer to me as if I wasn’t in the room.
- Define success in one sentence.
- Define risk.
- Defend tweeting.
- Does Google know us better than we do?
- Describe the sound of silence.
- Do you think feminism is dead?
- Do ideas have to be right to be valuable?
- Do you agree that politics is and should be a male domain?
- Do you think Britain is too small to ever rule the world?
- Do you like ambiguity?
- Does it matter if a forgery deceives? Is there any reason to believe an original is more valuable than a perfect copy?
- Do you think Chairman Mao would be proud of China today?
- Explain Naomi Campbell’s life.
- Great works of art and of literature are intrinsically worth the same; why does art sell for so much more?
- How does the way you think determine who you are?
- How would your friends describe you?
- How would you describe an apple?
- How are animals different from humans?
- How civilised was the Roman world?
- If you could change one thing on the planet now, what would it be?
- If you could have dinner with anybody from history, who would it be and why?
- If you could have one superpower, which one would you choose and why?
- If you had to choose to be a character from a book, who would you want to be and why?

- In which circumstances would you toss a coin to make a decision?
- If you had to bury a time capsule, what would you put in it?
- Is selective breeding tantamount to genetic engineering?
- Is *Eastenders* a reliable portrayal of East London life?
- Is mathematics a language and are languages mathematical?
- Is music a universal language?
- Is nature ever as beautiful as art?
- Is religion the real root of all evil?
- Is the British monarch anything other than a figure head?
- Is the past made up?
- Is there such a thing as beauty?
- Is ignorance bliss?
- Put forward an argument in favour of capital punishment.
- Tell me about snowflakes.
- The biggest puzzle of all is why we like them in the first place. Discuss.
- There can be no crime without a victim. Discuss.
- To be in prison when you didn't do it, or be free when you did? What would you choose?
- "Make poverty history" is a commendable thought – is it a practical one?
- Do you think getting involved in poverty abroad is interfering with others' freedom?
- What are the values enshrined in the interior of the house you live in?
- What colour is time?
- What distinguishes the natural from the supernatural?
- What features do traffic signs share with language?
- What, if any, are the advantages of binge watching?
- What is courage?
- What is genius? Does it take one to know one?
- What is the difference between an act of war, a reprisal, and an act of terrorism?
- What is the difference between intelligence, wisdom and cleverness?
- What is the point of learning?
- What is the point of mountaineering?
- What makes a good joke?
- What is more important: art or science?
- What was the last novel of note you read?
- What is truth?
- What is culture?
- What shape is the sky?
- What would an alien most need to know if its species wanted to take over our planet?
- What is the case for testing on animals? What is the case against it?
- When does a foetus become a child and therefore become worth saving?
- When, if ever, is it justifiable to break the law?
- Where you live is who you are. Discuss.
- Which is better – quantity or quality?
- With which famous person would you most like to be stuck on a desert island?
- Who is more corrupt, the man who gives bribes or the man who takes bribes?
- Who is your hero?
- Why are Darwin's ideas dangerous?
- Why do horses only have one toe?
- Why is the pole vaulting world record about 6.5m and why can't it be broken?
- Would the possession of a cloak that conferred complete invisibility change your behaviour?
- Would you choose a party over an essay?
- Would you rather be a zombie or a vampire?
- Who is the most influential: Obama, Merkel or Adele?
- Can machines make decisions?

- What is a lie? How do I know what you just said isn't a lie?
- How does a cheetah move so fast?
- How many letters does the Royal Mail deliver every day?
- What is the difference between history and literature?
- What is fate?

## Computer science

- Who invented the computer?
- Tell me about binary searches. What about their efficiency?
- The game of chess will be played perfectly by computers. Is this statement true?
- How would you ensure security between two people, A and B?
- How small can you make a computer?
- What happens when light has to pass through a medium denser than air?
- What is the one fundamental difference between a spreadsheet and a database?
- Explain the principle of the global positioning system (GPS). What factors contribute to its accuracy?
- Can computers think?

## English

- Are there too many books?
- Define irony.
- Do you think there is any point to reading criticism?
- Does every work of literature always have a moral? Is there such thing as an immoral book?
- Do you think books transfer well to films? Give examples of this.
- How important is biography in the study of literature?
- If it could take a form, what shape would the novel *To the Lighthouse* become?
- If you could make up a word, what would it be? Why?
- If you could design the A-level English course, which texts would you include?
- Is good spelling merely a matter of etiquette?
- Is the Bible a fictional work? Could it be called chick lit?
- Is an understanding of rhythm important when writing prose?
- Is an author's life important when looking at their work?
- Is a protagonist's gender important?
- Is it necessary to see the text of a play performed on stage to understand it?
- Is poetry meant to be difficult to understand?
- Is it important to study literature in chronological order?
- Is there a difference between innocence and naivety?
- What books are bad for you?
- What is the most important work of the 20th century?
- What is tragedy?
- What is the purpose of comedy?
- What is your favourite novel of all time?
- What makes a novel a classic?
- What makes a short story different from a novel?
- What is literature?
- What is a haiku? Why are they so different in structure to a sonnet?
- What is the difference between poetry and prose?
- What is the point of studying English?
- Why do you think an English student might be interested that *Coronation Street* has been running for 50 years?
- Why might it be useful for an English student to read the *Twilight* series?
- Why bother to write a poem?

- Why do we bother studying literature that is hundreds of years old?
- Would you rather be a novel or a poem?
- Was Shakespeare a rebel?
- Did Shakespeare write Shakespeare's plays?
- Don't you think *Hamlet* is a bit long?
- Hamlet speaks to the ghost; what significance does this have?
- Do you think Hamlet knows he is being listened to when he says "To be, or not to be?"
- What does the ghost in *Hamlet* have to do with madness?
- To what extent is Romeo a rebel?
- Which Romantic poems have you read?
- Have you ever visited an author's birthplace, or home, or a place that a text is about? Is it a valuable thing to do?
- Can you justify the imbalanced ratio of male to female writers in the canon of English literature?
- Compare and contrast *Harry Potter* and *The Lord of the Rings*.
- How can a work of literature be beautiful?
- Should politicians study English?

## Geography

- Would anything remain in the study of geography if we took the notion of place away?
- Give and explain some environmental impacts of industrial agriculture.
- Are fair-trade bananas really fair?
- How can computers aid geographers in understanding physical processes?
- How can volcanic eruptions change global climate, and at what timescales?
- How did the Ancient Greeks know that the Earth wasn't flat?
- How do we know that dinosaurs once existed?
- How do we know what is in the core of the Earth?
- How do we measure sea levels? Why is this a poor method?
- How does carbon dating work?
- Give an example of a geological phenomenon that has had a significant impact on humans.
- How does geography relate to *A Midsummer Night's Dream*?
- If I were to visit the area where you live, what would I be interested in?
- If you could take a non-geographer anywhere in the world to convince them geography was important, where would you take them and what would you say?
- Imagine you are hosting a BBC4 radio show on New Year's Day. What message would you send to the people listening?
- Is nature natural?
- Is it more important to focus on poverty at home or abroad?
- Is the environment a bigger crisis than poverty?
- What are the advantages for retailers to concentrate their activities in malls rather than disperse them through towns?
- What do you think about those who regard global warming as nonsense?
- What are natural hazards?
- What are the limitations of hard mapping?
- What is the difference between a volcano and a mountain?
- What is the impact of globalisation and multi-national corporations?
- What is the role of maps in modern society?
- What percentage of the world's water is contained in one watermelon?
- What would happen if a 10km-wide asteroid smashed into the Pacific Ocean?
- What would happen if the Earth had two moons of equal size?
- What are the issues surrounding world debt?
- Where would you survive longer – in the Arctic or Sahara?

- Where should physical and human geography be looked at together?
- What is the population of Croydon?
- Why is climate so unpredictable?
- Why should we conserve?
- Why are temperatures rising more in polar regions than in tropical regions?
- Why do rainforests contain so much biodiversity compared to the Sahara Desert?
- Why is it that in some developing countries slum settlements have sprung up near wealthier neighbourhoods?
- Why are glacier melting rates non-linear?
- Why do we know so little about the depths of the ocean? How could this be rectified?
- Why is Antarctica so much colder than the Arctic?
- Why is biodiversity not evenly distributed around the world?
- Why is it important to know the number of living species on Earth?
- Would you rather conserve Antarctica or the Amazon?

## History of art

- What is your opinion of the Turner Prize?
- What work of art would you most like to own?
- Are the Old Masters overrated?

## History

- Assess the role of dance in history.
- Are verbal sources more useful than written sources?
- Are history and myth compatible?
- Define revolution.
- Does the past exist?
- How do you organise a successful revolution?
- How would you compare Henry VIII and Stalin?
- Is there such a thing as “race”?
- Is violence always political?
- Should historians be allowed to read science fiction novels?
- Can history stop the next war?
- Can we still learn lessons from 18th century warfare?
- Can losers ever write history? How?
- Compare and contrast the French and Russian revolutions.
- Compare and contrast WWI and WWII.
- Compare the French Revolution with a modern event.
- Do we ever learn from the past?
- Did the 9/11 attacks change the way we write history?
- Do you think the Bavarian peasants of 1848 had an ideology?
- Do you think the government should spend money preserving historical sites?
- Do you feel historical artefacts belong in the country of their origin?
- Do you consider history a science?
- Do you think that all history is the history of great men?
- Do you think history can have any practical purpose?
- How can we justify public funding of the study of history?
- How do we know what people in the past really thought?
- How is the Arab Spring similar to the Russian Revolution?
- How should we remember World War I?
- How would you research illiterate medieval craftsmen?
- How would a biography of a major political figure written while they are alive differ from one written after their death?

- How do historians obtain evidence?
- Is Marxist history still worth studying?
- Is Medieval history relevant to us today?
- Is national character a useful concept in history?
- Is religion important for modern historians?
- Is there such a thing as ideology?
- If you could have dinner with anybody that has ever lived, who would it be and why?
- Is history moving away from the study of great men to that of ordinary people?
- In the 1920s, did the invention of the Henry Ford car lead to a national sub-culture or was it just an aspect of one?
- To what extent can a historian remain impartial?
- What are the problems that come up when analysing colonial societies from a postcolonial context?
- What are the origins of your Christian name?
- What is the difference between modern history and modern politics?
- What do shoes tell us about the past?
- What do you think of when you hear the word “nostalgia”?
- What is the difference between a terrorist and a patriot?
- What is the role of student uprisings in historical progress?
- What is the position of the individual in history?
- What is the most useful source for a historian?
- When was the British Empire at its strongest?
- When was the English monarchy at its strongest?
- Where does history end?
- Who writes history?
- Who was a better leader: Alexander the Great or Napoleon?
- Why do historians differ in their views on Hitler?
- Why is there a United States of America but not a United States of Europe?
- Why did Henry VIII call his son Arthur?
- Why is it OK for one country to intervene in another?

## Law

- Can you define intellectual property?
- Define “at fault”.
- Does a girl scout have a political agenda?
- If a friend locks me in a room, and says I am free to come out whenever I like as long as I pay £5, is this deprivation of liberty?
- If a wife had expressed distaste for it previously, would her husband’s habit of putting marmalade in his egg at breakfast be grounds for divorce?
- If the punishment for parking on double yellow lines were death, and therefore nobody did it, would that be a just and effective law?
- If you could go back in time to any period of time, when would it be and why?
- Is someone guilty of an offence if they did not set out to commit a crime but ended up doing so?
- Is wearing school uniform a breach of human rights?
- Should prisoners have the vote?
- Should the use of mobile phones be banned on public transport?
- Should we have laws for the use of light bulbs?
- Should anyone be able to serve on a jury?
- Smith sees Jones walking towards the edge of a cliff. Smith knows Jones is blind, but doesn’t like him, so allows him to walk off the edge. Is this murder?
- What does it mean for someone to “take” another’s car?

- What effect on the whole of society does someone crashing into a lamppost have?
- What is the difference between intention and foresight?
- What is reasonable belief?
- Where does honesty fit into law?
- Where does the state have the right to violate privacy?
- Would you trade your scarf for my bike, even if you have no idea what state it's in or if I even have one?
- Do you think you are clever?
- Does law create morality or does morality create law?
- What is the difference between a rule, a command and a request?
- If there is a baby in a supermarket with a bomb strapped to it, would you shoot the baby to save X number of people?
- Describe "respect for the freedom of conscience".
- Can you imagine a world without laws?

## Maths

- If you could have half an hour with any mathematician past or present, who would it be?
- Derive the formula for the volume of a sphere.
- Do you know what a hyperbolic function is?
- How would you prove that the square root of 3 is irrational?
- How many 0s does the number 30 have?
- How long does a mirror have to be for you to see your whole body?
- If each face of a cube is coloured with one of six different colours, how many ways can it be done?
- I drove to an interview at 50 mph and will drive back at 30 mph because of the traffic. What is my average speed?
- Prove that any number consists of prime factors or is a prime number.
- Prove Pythagoras' theorem.
- There are 30 people in one room. What is the probability that any of them have the same birthday?
- What makes a tennis ball spin as it is travelling through the air?
- What is your favourite number and why?
- What are modular functions?
- What do you know about Fermat's last theorem?
- What is the significance of Euler's equations?
- Where did the multiplication sign come from?
- What do you think is beautiful in maths?
- You have a 3 litre jug and a 5 litre jug. Make 4 litres.

## Medicine

- At what point is a person dead?
- How would you describe a human to a person from Mars?
- How would you measure the weight of your own head?
- How would you poison someone without the police finding out?
- How would you simulate altitude in your living room?
- If you were a grapefruit, would you rather be seedless or non-seedless?
- Should someone sell their kidney?
- Tell me about drowning.
- What do you like most about the brain?
- What do you think of assisted suicide?
- What interests you most in current medical advances?
- What problems exist in the NHS?

- What role does ethics play in medicine?
- Why does your heart rate increase when you exercise?
- Why is it a disadvantage for humans to have two legs?
- Would you give a 60-year-old woman IVF treatment?

## Modern languages

- Are you surprised that there is no Russian word for “privacy”?
- Chekhov’s great, isn’t he?
- Can you only understand or analyse a text properly in its original language?
- Can a language ever truly die?
- Compare and contrast Spanish and Portuguese.
- Does language define our identity?
- Do you think the number of languages in the world will change in the next century?
- How does the literature you have read affect your opinion of that society?
- How does *Le Monde* differ from an English broadsheet?
- How can you tell if a noun is masculine, feminine or neutral in German?
- How has travel influenced your relationship with language?
- How is the German mindset different to the Russian mindset?
- How many cultures are grouped together under the label “China”?
- How many languages could someone learn?
- How would you improve Google translate?
- How do babies learn a language?
- What is the quickest way to learn a language?
- Should we learn the swear words of another language?
- In a world where English is a global language, why learn French?
- Is any one language better than another?
- Is there any point studying languages with the advent of modern electronic translators?
- If you had a million pounds to find out more about the origins of language, how would you spend it?
- To what extent does a country’s culture dictate a language’s vocabulary?
- Translation is reproduction. How do you respond?
- What gets lost in translation?
- What is language?
- What is the role of a translator?
- What attracts you to French/German/Spanish/Italian culture?
- What causes a language to evolve? Can this be stopped? How?
- What determines how easy a language is to learn?
- What difficulties do Europeans have with English? What about speakers of Asian languages?
- What is an accent? How do they arise?
- What is the difference between Chinese whispers and translation?
- What makes a language modern?
- What do you think Voltaire meant by “Il faut cultiver notre jardin”?
- What difficulties arise if you study two languages at the same time?
- Why do we desire fluency so badly when we can communicate adequately even as a beginner?
- Why do some languages have so many tenses, while others manage with very little grammar?
- Which French/German poetry have you read?
- Why should French food interest you?
- Which of your interests demonstrate a European outlook?
- Why did Dostoevsky choose a city and not the countryside as the setting for *Crime and Punishment*?
- What are the differences between Spain and Latin America?

## Music

- Do you feel that music is an art incomparable to history, in that history cannot be performed?
- How did Wagner's operas influence the history of Western music?
- How had the piano developed by the time of Beethoven?
- How is music related to free will?
- How do you think the current economic climate will affect music?
- Why has music developed the way it has?
- Consider the Spice Girls and football anthems with reference to the functionality of music.
- Which venue do you most like to play in acoustically?
- What would your desert island disc be?
- If you had to invent a new musical instrument, what kind of sound would it make?
- Writing about music is like dancing about architecture. Discuss.
- "Music came to a full stop with Brahms" (Wittgenstein). Discuss.

## Philosophy, politics and economics (PPE)

- Consider a production line. What could be done to help the worker get away from the routine?
- How would you market a rock band?
- Should governments subsidise agriculture?
- Would I be justified in saying that only morons play sport?
- Do bankers deserve their high pay or should government limit it?
- What is the difference between the buying and selling of slaves and the buying and selling of football players?
- What is the point of using NHS money to keep old people alive?
- How many petrol stations are there in America?
- Are there always winners and losers in politics?
- Do animals think?
- Can science and religion ever be comfortable bedfellows?
- If you are not in California, how do you know it exists?
- Is being hungry the same thing as wanting to eat?
- Put a monetary value on this teapot.
- Reflect on individual responsibility and the morality of air travel.
- Should there be an intelligence test to decide who could vote?
- What has been Britain's greatest political achievement of recent years?
- What is Communism?
- Why is there not a global government?
- How would you describe an apple?
- Should obese people have free NHS treatment?
- What is Christmas?
- Do you believe in selective education?
- Does the welfare state trap people in poverty?
- Is prison a successful answer to crime?
- Why don't we let the managers of IKEA run the country?
- How do you know the moon isn't made of cheese?
- What does it mean to be happy?
- What is an emotion?
- What is the difference between lie, deceive and mislead?
- Is it a matter of fact or knowledge that time travels in only one direction?
- Do you believe in free will? How far does it extend – to an oyster for example?
- Convince me you are real and not just in my dreams.
- Are you your body?
- Is society greater than the individual?

- How should we close the gender pay gap?
- Give an example of an argument with false premises but a true conclusion.
- Do governments ever do any good?
- How would you differentiate between power and authority?
- Is terrorism necessarily a bad thing?

## Psychology

- Can a thermostat think?
- Can we think without language?
- Does a snail have a consciousness?
- How many monkeys would you use in an experiment?
- How useful are twin studies?
- Should interviews be used for selection?
- What is “normal” for humans?
- What is crime and is there such a thing as a criminal mind?
- What is love?
- Why do human beings have two eyes?

## Sciences

- Are humans still evolving?
- Are parasites bad?
- On a hot day what should you do with a fridge?
- Can you change an endothermic reaction into an exothermic one?
- Calculate the speed a coin will hit the floor when dropped from 2 metres above the ground.
- Compare and contrast electronegativity and ionisation energy.
- Compare and contrast hydrochloric acid and phosphoric acid.
- Draw the shape of the molecule B<sub>2</sub>H<sub>6</sub>.
- Describe a heat engine.
- Does the snow falling on top of a train have an effect on its velocity?
- Explain the bonding in benzene.
- How does DNA fingerprinting work? What is its use?
- How can you store large amounts of hydrogen?
- How many atoms are there in a Brussels sprout?
- How many molecules are there in this room?
- How many molecules are there in a glass of water?
- How many pebbles would it take to fill a car?
- How much of human behaviour is genetically determined?
- How much water has to go through a hydroelectric power station in order for me to make a cup of coffee?
- How does glass transmit light?
- How does an aeroplane take off?
- How many grains of sand are there in the world?
- How would you travel through time?
- How do glow sticks work?
- How do you make aspirin?
- How do the double bonds in a hydrocarbon affect its solubility?
- How has the human diet changed in the last three decades and why?
- How can a plane fly upside down?
- How can light be both a wave and a particle?
- How do forest fires spread so quickly?
- How does depressing a piano key make a sound?
- How does a boat float?

- How high can I go up a mountain having only eaten a Mars bar?
- How would you explain what “momentum” means to a non-physicist?
- How would you go about calculating the number of atoms in the world?
- How would you reshape a cuboid wire to double its resistance?
- How would you weigh the Earth?
- How would you design a gravity dam for holding back water?
- If you could save either the rainforests or the coral reefs, which would you choose?
- If you have a helium balloon on a string in a car, and the car accelerates, what happens to the balloon?
- If you leave the fridge turned on in a thermally isolated room, what happens to the room?
- If I could fold this piece of paper an infinite number of times, how many times must I fold it to reach the moon?
- I’m bouncing a marble, what is happening to the particles at the top of the marble?
- Here is a piece of bark. Please talk about it.
- Ladybirds are red. So are strawberries. Why?
- Place a 30cm ruler on top of one finger from each hand. What happens when you bring your fingers together?
- Talk about a lightbulb.
- The nucleus and electrons are oppositely charged. Why do electrons not crash into the nucleus?
- What happens if I drop an ant?
- What is the density of air in this room? What about outside?
- What is centrifugal force?
- What makes a material hard?
- What is the equation for the motion of a pendulum?
- What evidence is there that humans are still evolving?
- What are the problems with the current taxonomy system?
- What causes the common cold and why is there no cure? How does the flu vaccine work?
- What techniques could be used to date how long a disease has existed in a population?
- What safety mechanisms prevent a plane from being damaged by lightning?
- What is the area of your skin?
- What is the main function of the nervous system?
- What percentage of the world’s water is contained in a cow?
- What is the concentration of water?
- What would you do if I were a magpie?
- What would happen if you drilled through the Earth all the way to the other side and then jumped into the hole?
- What are the advantages of the Human Genome Project?
- What problems do fish face underwater?
- What would be the most exhilarating ride: being dropped through a tube to New York or New Zealand?
- What happens if you throw a ton of gold out of a boat? Does the lake go up or down?
- What are the differences and similarities between diamond and graphite?
- What is the difference between entropy and enthalpy?
- What is wrong with the Periodic Table?
- What is your favourite element? Why?
- What makes drugs physiologically active?
- What determines whether an acid is strong or weak?
- What makes some chemicals explosive?
- What do you believe would be the major differences on Earth if there was no water?
- When do you think oil will run out?
- Why are big, fierce animals so rare?
- Why do a cat’s eyes appear to glow in the dark?

- Why do lions have manes?
- Why can't humans live forever?
- Why don't fish freeze?
- Why does iron rust and how can rusting be stopped?
- Why does heat rise?
- Why did the Titanic initially float? Why did it split in two?
- Why is there salt in the sea?
- Why can't you light a candle in a spaceship?
- Why does metal expand when it is heated?
- Why do we blow on soup to cool it down?
- Why are explosions a risk in flour mills? What stops bags of flour exploding in the kitchen?
- Why does the boiling point of water rise as salt is dissolved in it?
- Why are diamonds so expensive?
- Why are the transition metals good catalysts?
- Why are the transition metals so colourful?
- Why are there so many steps in the cascade of reactions?
- Why do we use water to dilute solutions?
- Why does food taste better when it is hot?
- Why is life carbon-based and not silicon-based?
- Why is vanadium so special?
- Why is glass transparent but the sand that it is made from not?
- Why is the sky blue?
- Why does an egg rot?
- Why are there only 20 amino acids?
- Would it matter if tigers became extinct?
- Where does chemistry end and physics begin?

## Theology

- How valuable do you think the Bible is to us today?
- How would you define faith?
- How is the portrayal of Jesus in John's Gospel different to his portrayal in the other Gospels?
- Do you think the Holy Spirit is a woman?
- Do you believe we should eradicate Christmas on the basis that it offends other religious groups?
- Could there still be a second –coming if mankind had disappeared from the planet?
- Will Jesus return? When? Or has he already?
- If God is omniscient, what is the point of praying?
- If there was an omnipotent god would he be able to create a stone that he couldn't lift?
- Is emotion an important part of religion?
- Is it morally wrong to climb a mountain?
- Is someone who risks their own life (and those of others) in extreme sports or endurance activities a hero or a fool?
- What are the moral implications, if any, of voluntary euthanasia?
- What is the best reason for believing in God?
- What would the world be like without any religion?
- Which of the arguments for the existence of God is the most convincing?
- Why does the word God have a capital letter?
- Would the existence of intelligent life elsewhere in the universe present any problems for the Christian faith?

## **Questions with guidance from admissions tutors:**

### **Would it matter if tigers became extinct?**

The question is not about hoping students will display their expert knowledge of tigers. Most applicants would instinctively answer “Yes...”, but it is the “because” that interests me, and can help to distinguish critical thinkers. I might follow up this question by asking if it would matter if less glamorous creatures – like fungi – went extinct.

### **If you could save either the rainforests or the coral reefs, which would you choose?**

I’d expect students to be able to use their general knowledge plus their common sense to come up with an answer – no detailed knowledge is required. Students might be asked about the importance of natural features, such as biodiversity and rare species, and human interests, such as the fuel and food, ecotourism and medicines we get from rainforests or reefs. Finally there are impacts to consider from climate change, soil erosion, pollution, logging, biofuel replacement, overfishing etc. The final answer doesn’t matter – both reefs and rainforests must be managed sustainably to balance conservation and human needs

### **Why might it be useful for an English student to read the *Twilight* series?**

There are several reasons I might ask this one. It’s useful in an interview to find some texts the candidate has read recently and the *Twilight* books are easily accessible and popular. Also, candidates tend to concentrate on texts they have been taught in school and I want to get them to talk about whatever they have read independently, so I can see how they think rather than what they have been taught. A good English student engages in literary analysis of every book they read. The question has led to some interesting discussions about narrative voice, genre and audience.

### **If the punishment for parking on double yellow lines were death, and therefore nobody did it, would that be a just and effective law?**

Candidates are not meant to give a right or wrong answer to this question. They need to demonstrate that they have recognised the various issues that arise. The candidate who distinguishes between “just” and “effective” does best. The issues are different once the distinction is made. A just law might not be effective, or vice versa. The issues of how proportionate the punishment is to the crime refer to the justness of the law. The answer to its effectiveness is already in the question – “and therefore nobody did it”.

### **What does it mean for someone to “take” another’s car?**

There is no right answer to this question. For example, can you take a car without driving it, or even without moving it? The focus is on the candidate’s reasoning – how he or she formulates an initial definition and who he or she then applies and refines that initial definition in response to hypothetical examples provided by the interviewers. One example might be: I am walking along the street when it starts to rain. I open the door of an unlocked car and sit there for 15 minutes until the rain passes. Have I “taken” the car? The aim of the interview is to give the candidate a chance to show his or her application, reasoning ability and communication skills.

### **In a world where English is a global language, why learn French?**

Given the nature of the modern languages course, I would be interested in responses about the French language as a “window” into French culture/literature/history, knowledge of which is valuable in itself and essential to understanding today’s world etc. But I would also be happy to

see candidates investigate some of the assumptions underlying the question: Is English a global language? What about Mandarin Chinese, Spanish etc? Can we not in fact still consider French a global language? And so on.

**If I were to visit the area where you live, what would I be interested in?**

The question gives candidates an opportunity to apply concepts from their A-level geography course to their home area. They might discuss urban planning and regeneration, ethnic segregation and migration, or issues of environmental management. The question probes whether they are able to apply “geographical thinking” to the everyday landscapes around them. It reveals the extent to which they have a curiosity about the world around them. By asking specifically about their home area the question eliminates any advantage gained by those who are more widely travelled and have more experience of a variety of geographical contexts.

**What is language?**

Students sometimes say they like studying Spanish, for example, because they “love the language”. In order to get a student thinking critically and analytically, the question would get them to consider what constitutes the language they enjoy – is it defined by particular features or by function (what it does)? How does form relate to meaning? And so on.

**Why does your heart rate increase when you exercise?**

The simple answer, which all students can provide, is because you need to deliver more oxygen and nutrients to muscles and remove metabolic products. But follow-up questions would probe whether the student appreciates that there must be a way for the body to know it needs to raise the heart rate and possible ways for achieving this. Answers might include sensing lowered oxygen or raised carbon dioxide levels. In fact, gas levels might not change much, so students are further asked to propose other signals and ways in which those possibilities could be tested. This probes selection criteria such as problem solving and critical thinking, intellectual curiosity, enthusiasm and curiosity and the ability to listen.

**How would you design a gravity dam for holding back water?**

The candidate first has to determine the forces acting on the dam before considering the stability of the wall under the action of those forces. Candidates will probably recognise that the water could push the dam over. The candidate would then be expected to construct simple mathematical expressions that predict when this would occur. Some may also discuss failure by sliding, issues of structural design, the effects of water seeping under the dam, and so on. The candidate will not have covered all the material at school so guidance is provided to assess how quickly new ideas are absorbed. The question also probes the candidate’s ability to apply physics and maths to new situations and can test interest in and enthusiasm for the engineered world.

**JK Rowling has recently published a book for adults after the hugely successful *Harry Potter* series. In what ways do you think that writing for children is different to writing for adults?**

Candidates who have grown up on *Harry Potter* might have read Rowling's new book and have thought both about Rowling's change of audience and their own change as readers from child to adult. But even without knowing Rowling's work at all candidates could say something about themselves as readers, and how as readers they approach different kinds of books, and how writers develop a body of work and write for different audiences. Mainly I always want to know that whatever they are reading, candidates are reading thoughtfully and self-consciously, and are able to think as literary critics about all the books they read. I worry that not all candidates might

have the same access to a wide range of literature, and I am careful to judge them on what they know, not on what they don't know. If I asked that question about Shakespeare some candidates might have a view of his literary output, but many wouldn't. If I start with Harry Potter, everyone at least has a starting point of recognition. And I think Rowling deserves a mention as I am sure that there are many people applying to study English at university this year who became avid readers because of her books.

### **Why do human beings have two eyes?**

This question may result from a more general discussion about the human senses. It can develop in a number of different directions, partly depending upon the knowledge and expertise of the interviewee. For example, two eyes are important for three-dimensional (3D) vision. Why is it that we can still see in 3D when only looking through one eye? What determines the optimum position and distance between the two eyes? Why is it that we see a stable view of the world even though we are constantly moving our head? How can an understanding of mathematics, physics and biology help us explain 3D vision? The discussion may develop into a consideration of the different senses and the role they play in us interacting in our environment, including interacting with other people, and the nature of perceptual experience.

### **Why do a cat's eyes appear to glow in the dark?**

This question builds on commonly held knowledge and on material covered in biology at school about visual processes. The question assesses criteria such as scientific curiosity (has the applicant ever wondered this themselves? Have they formulated any theories?) and scientific reasoning, based on information provided by the interviewer as the interview progresses. After establishing that the applicant understands that light is detected by photoreceptors in the eye (and exploring and explaining this concept if it is a new one), the discussion would consider how the glow might be advantageous to the cat, seeing whether the applicant can appreciate that it may help the animal to see in the dark. Possible explanations for the glow would be discussed with an expectation that applicants might recognise that the light could be generated within the eye or alternatively that light entering the eye is in some way reflected back out. Having established the second possibility as more being more plausible, the interviewer would probe to see whether the candidate recognises the significance of giving photoreceptors two chances to capture light as rays pass into and then out of the eye and why at night this might enhance vision.

### **Is violence always political? Does “political” mean something different in different contexts?**

This pair of questions allows the interviewer to deal with historical material from any period the candidate is studying or knows about from more general reading. It could also be answered extremely well from contemporary or current affairs knowledge. The aim of the question is to get the candidate to challenge some received notions about what constitutes politics, and to think about how political history might be studied away from the usual kings, parliaments etc. A good candidate would, with assistance, begin to construct categories of when violence looks more and less political. A very good candidate would, with assistance, begin to construct a useful definition of 'political', but this is challenging. The main aim would not be to solve these problems, but to use them to find some new interest in a subject that the candidate already knows something about.

### **How hot does the air have to be in a hot air balloon if I wanted to use it to lift an elephant?**

When I actually used this question in interviews, no-one actually got as far as an actual “X degrees C” answer in the 10 minutes or so we allowed for it, nor did we expect them to. We use this sort

of question to try to find how applicants think about problems, and how they might operate within a tutorial. We make this clear to interviewees before even giving them questions of this type. Things we are looking for include how readily they can see into the core of a problem (what's the essential physics in this? – what concepts and equations might be useful?); how they respond to hints and suggestions from us (can they take a hint or two and run with it, or do they have to be dragged through every step?); their approach to basic concepts (how does a hot air balloon work, anyway? What else operates like one?); estimates (typical size of balloon, weight of elephant) and sorting out what's important (what about the weight of the balloon itself?); and how they use “rough maths” to get a quick idea of the likely sort of answer, using sensible approximations in working through formulae, and keeping track of units.

### **Should poetry be difficult to understand?**

This question arose out of discussion of a few poems that a candidate said he had read, and we were talking through how these poems were conveying meaning (through things such as tone and the imagery they used). We wanted to push the candidate into more conceptual thinking to test his intellectual curiosity and how he would handle moving from familiar particulars (the poems he knew) to less familiar ways of approaching them. What's important for candidates to realise is that we don't expect a single correct answer to such a question; it's a starting point for a new direction of discussion: what sorts of 'difficulties' might we have in mind? Are these specific to poetry or do they also feature in other types of writing? And so on.

What most interests us is that candidates are willing to venture down a new path, however uncertain this may feel: to have a go and show that they have the potential to develop their thinking further – and thus thrive on the sort of course we offer. Literature forms an important part of a modern languages degree at Oxford, but we know that most candidates won't have studied literature formally before in the language for which they're applying. What we want to know isn't that they've read a certain number of texts to prove their interest, but that they have the aptitude for studying texts: that they're able to think carefully and imaginatively about whatever they've had chance to read (poems, prose, drama) that's interested them, in any language.

### **I'm having trouble with the meaning of three words: lie, deceive, mislead. They seem to mean something a bit similar, but not exactly the same. Help me to sort them out from each other.**

When I used this question, candidates adopted a number of strategies. One was to provide definitions of each of them – which turned out to be less easy than one might think without using the other words in the definition. Or they could be contrasted in pairs, or, like a good dictionary, examples might be given of sentences where they are used. No particular strategy was “correct”, and a variety of interesting discussions developed. A few candidates were inclined to think that it might be possible to lie without intending to; most reckoned that one could unintentionally mislead. A fertile line of discussion centred on misleading someone by telling them the truth. When Lucy tries to console Mr Tumnus, the faun, in Narnia, she tells him that he is “the nicest faun I've ever met”. Which does sound comforting. She's only ever met one faun, though – him – so he's also the nastiest faun she's ever met. If he had felt comforted by her remark, would he have been deceived? And, in saying something true, had she deceived him, or had he deceived himself? Questions of this sort help us to test a candidate's capacity to draw nuanced distinctions between concepts, and to revise and challenge their own first moves in the light of different sentences containing the key words. Discussion may well lead into areas which could crop up during a degree in philosophy, including questions in ethics, the philosophy of mind and of language. It's not, though, a test of “philosophical knowledge”, and the content of the discussion

begins from words which candidates should have a good familiarity with. Until asked this question, they would probably think that they knew their meanings pretty well. Those for whom English isn't a first language might be thought to be at a disadvantage, but they often do strikingly well at such questions, better indeed than native speakers. There may well be reasons for this, which could form the basis of a different interview question.

### **What is “normal” for humans?**

We're keen to point out to potential psychology applicants that primarily psychology is the study of normal human beings and behaviour; in part this is because of a suspicion that potential undergraduates are attracted to psychology to help them study forms of human life they find strange (neuroses, psychoses, parents). There are various ways that this question might be approached, but some approach that distinguishes the normal from the statistical average is a good start. Issues such as whether normality is to be judged by 'biological' factors that might be held to be common to humans, or whether it's normal within a particular culture or at a particular period of history, might also be worth addressing. We are mainly looking for a line of thinking which could be developed and challenged. Once candidates show a defensible position regarding what might serve as the basis of normality, we extend the discussion to (for example) the relation between abnormality and eccentricity.

### **Is someone who risks their own life (and those of others) in extreme sports or endurance activities a hero or a fool?**

Theology and Religion doesn't require A-level Religious Studies, so we always want to find issues that enable us to see how a student is able to handle and unpick a question, relating the particular to more general concepts. This question appeared to work well because there really isn't a single answer – it's open not least because we could state the opposite case and observe how flexible, reasoned and committed each student was. The question is properly approached from many perspectives and opens up many topics – is there something distinctively human about going beyond boundaries? Is this impulse selfish, or does it contribute to the whole of humanity's attainment? Is the heroism of those who respond to the needs of the sportsperson more heroic still? What debts do individuals owe to society, and society owe to individuals? What is a hero, and is that category in opposition to folly? What we found with this question is that it did manage to open what is a stressful occasion into a real discussion, and we want to offer places to gifted candidates who are willing to think out loud with us in tutorials, and in a college community, whilst they are still explorers into truths.

### **Why do some habitats support higher biodiversity than others?**

This question encourages students to think about what high-diversity habitats such as rainforests and coral reefs have in common. In many cases, patterns or correlations can help us to identify the underlying mechanisms. For example, a student might point out that both rainforests and coral reefs are found in hot countries and near the equator. The best answers will attempt to unravel exactly what it is about being hot or near the equator that might allow numerous types of plant and animal to arise, persist and coexist. Do new species evolve more frequently there, or go extinct less frequently? Once students have come up with a plausible theory, I'd follow up by asking them how they would go about testing their idea. What sort of data would they need?

### **Here's a cactus. Tell me about it.**

We wouldn't actually phrase the question this way – we give the student a cactus in a pot and a close-up photo of the cactus's surface structure and ask them to describe the object in as much

detail as possible using the plant and the photo. We are looking for observation, attention to detail, both at the large and micro scale. We ask them to account for what they see – this means they don't have to use memory or knowledge about cacti (even if they have it) but to deduce the uses and functions of the shapes, sizes, structures that they have just described. So for example, why be fat and bulbous, why have large sharp spines, surrounded by lots of very small hair-like spines? Why does it have small cacti budding off the main body? There will frequently be more than one logical answer to these questions, and we are likely to follow one answer with another question – for example:

“The big spines are to stop the cactus being eaten, yes, but by what sort of animals?” We would also bring in more general questions at the end of the cactus discussion, such as what are the problems faced by plants and animals living in very dry habitats such as deserts.

### **Why do lions have manes?**

Some of the best interview questions do not have a “right” or a “wrong” answer, and can potentially lead off in all sorts of different directions. Applicants might have picked up ideas about the function of a lion's mane from independent reading or from watching natural history documentaries. That's fine – but I'd follow up their response by asking how they would test their theory. When I've used this question in interviews I've had all sorts of innovative suggestions, including experiments where lions have their manes shaved to investigate whether this influences their chances with the opposite sex or helps them win fights over territory.

### **Why do many animals have stripes?**

The main aim of the question is to get applicants to think about biological topics and put them in the context of successful adaptations to life on earth. So I might expect students to start by thinking of some stripy animals, then move on to thinking about categories of striped animals – for example those that are dangerous (such as wasps, tigers, and snakes), those that have stripes for camouflage (such as zebras but also tigers), and those whose stripes are harmless mimics of dangerous ones. They might think of specific examples for detailed comparison: tigers and zebras for example both have stripes for camouflage and blending in with background, one to hide from prey and the other to hide from predators.

Other things that would be worth considering include whether stripes may only occur in the young of a species; whether the colour of the stripes matters rather than just the contrasting stripe pattern, and why do stripe size, shape, width and pattern vary in different species. There are no right or wrong specific answers to the questions – I'm just interested in candidates' speculations about the advantages of having stripes.

### **Ladybirds are red. So are strawberries. Why?**

Many biological sciences tutors use plant or animal specimens – often alive – as a starting point for questions and discussion, so applicants shouldn't be surprised if they are asked to inspect and discuss an insect or a fruit. Red can signal either “don't eat me” or “eat me” to consumers. I'm interested in seeing how applicants attempt to resolve this apparent paradox.

### **Is it easier for organisms to live in the sea or on land?**

First candidates should define “easier” – does it mean less complexity, less energy expenditure, less highly evolved, less likely to be eaten etc? Then candidates could think of problems caused by living in the sea, such as high salinity, high pressure, lack of light etc. Problems living on land include extra support for the body, avoiding desiccation, the need for more complex locomotory

systems (legs, wings etc) and hence better sensory and nervous systems etc. Then ask in which of the two ecosystems have animals and plants been more successful? So now they have to define "successful"...

**Imagine we had no records about the past at all, except everything to do with sport – how much of the past could we find out about?**

I would say this to a candidate who had mentioned an interest in sport on their personal statement, though it could equally be applied to an interest in something else – like film, drama, or music. What I would be looking for is to see how the candidate might use their imagination, building on something they know about (probably much more than I do) to tackle questions of historical research.

Answers could relate to the racial/class/gender relations in society (who played the sports, and which sports, at any given time); international politics/empire (which countries were involved, did groups of countries play the same sport); economic development (the technological development of sports, how sport was watched); the values within a society (bloodthirsty sports to more genteel sports); health (participation rates); or many other issues – the list is long. I would usually ask supplementary questions, to push the students further – and often, I would have no answer in my mind, but would simply be interested in seeing how far the student could push their analysis.

**Which person (or sort of person) in the past would you most like to interview, and why?**

Candidates know that this is not a right/wrong type question. The question is not so much about which person the candidate wants to meet, but what sort of issues the candidate wants to find out about (which can be quite revealing) and then working out the best way to do so. Meeting Elizabeth I or Winston Churchill might be exciting, but if the candidate wants to find out about, say, their leadership style, they might be better off asking questions of a courtier or member of the war cabinet. Or if they wanted to find out what we don't know about any given period, they might want to interview people who didn't leave any written records. Sometimes we might encourage the candidate to think through whether the person they selected would be willing or able to reveal the information they sought (and we allow plenty of time for the candidate to change the issue they want to find out about, and reconsider their choice of person).

**Place a 30cm ruler on top of one finger from each hand. What happens when you bring your fingers together?**

Almost everyone in this example will expect the ruler to topple off the side where the finger is closest to the centre of the ruler, because they expect this finger to reach the centre of the ruler first. They then complete the "experiment" and find both fingers reach the centre of the ruler at the same time and the ruler remains balanced on two fingers. We like to see how candidates react to what is usually an unexpected result and then encourage them to repeat the experiment slowly. With prompting to consider moments and friction, the candidate will come to the conclusion there is a larger force on the finger that is closest to the centre of the ruler. This means that there is more friction between the ruler and this finger and therefore the ruler slides over the finger furthest from the centre first. This argument will apply until the fingers are the same distance from the centre. The candidate should then be able to explain why both fingers reach the centre of the ruler at the same time as observed. We might even discuss the fact that the coefficient of static friction is higher than the coefficient of dynamic friction. Therefore the "moving" finger gets closer to the centre than the static finger before the finger starts to move over the other finger.

### **Can archaeology prove or disprove the Bible?**

I would be looking for an answer that showed the candidate could appreciate the Bible was a collection of documents written and transmitted over several centuries, and containing important traditions that have a bearing on history, but that academic study of the Bible means it has to be examined carefully to see when and where these traditions had come from and for what purpose they had been written. They should recognise archaeology relies on non-literary sources preserved from ancient periods such as the remains of buildings and tools. These can often be dated by scientific means (and so appear more objective than literature), but we still frequently need additional information such as inscriptions or evidence from other similar sites in order to make sense of the ancient remains. In the end I would hope the candidate would work towards a realisation of the very different nature of these types of evidence, which sometimes gives a complementary picture, while in others it may be contradictory. Both require very careful interpretation, and just arguing that "The Bible says" or that "Archaeology proves" is much too simplistic.

### **Do bankers deserve their high pay or should government limit it?**

A simple answer might be that since banks are generally private firms and workers are free to work where they wish, then the pay they receive is just the outcome of a competitive labour market. In this story, bankers earn a lot because they are very skilled and have rare talents. It is hard to see a reason for government intervention in this case, though on equity grounds one may want to have a progressive income tax system that redistributes some of this income.

A good candidate would wonder why seemingly equivalently talented people can get paid so much more in banking than in other occupations. Do we really believe bankers are so much better than other workers in terms of skill? An alternative story is that the banking industry is not competitive and generates profits above what a competitive market would produce. In this case, there is a role for government intervention to make the market more competitive. The key point is for candidates to think about the economics of pay rather than just whether they think it is fair or not.

### **Imagine 100 people all put £1 into a pot. Each person has to choose a number between 0 and 100. The prize goes to the person whose number is closest to 2/3 of the average of all the numbers chosen. What number will you choose and why?**

Some people's first guess is 2/3 of 100, i.e. 66 or 67, in which case I'd ask them what numbers everyone else would have to pick for them to win. In this case, everyone else would have to choose 100, which is unlikely. More often people first guess 2/3 of 50 (= 33), which seems intuitively more likely. At this point, and usually without prompting, the recursive nature of the solution becomes clear: If there is good reason for me to choose 33, then maybe everyone else will choose 33 too, in which case I should choose 2/3 of 33... but then everyone will think this and choose 2/3 of 33 too, so I should choose 2/3 of that number... and so on. Assuming everyone thinks like this, then everyone will eventually settle on zero as their choice - this is the formal "game theory" solution. At this point, I'd ask questions that bring out the candidate's broader reasoning skills in terms of thinking how we could define what it is rational to do in this game...

The question also has a psychological angle in thinking about reasons for people's behaviour and choices. Will everyone put in the same effort? Will everyone be motivated to win? We're interested in seeing how people think through a problem, figure out what are the relevant factors and respond when new information is provided.

### **Why is sugar in your urine a good indicator that you might have diabetes?**

This question builds on general knowledge and material studied at school in biology and chemistry to assess how students approach a clinically relevant problem. It's commonly known that diabetes is associated with sugar (glucose) in the urine. This question asks students to think about why this occurs. Students have usually learnt that the kidneys filter blood to remove waste products, such as urea, that must be eliminated from the body but many other useful substances which must not be lost, including glucose, are also filtered. Given that glucose is not normally found in the urine, students are asked to speculate as to how it can all be recovered as the urine passes through the kidney's tubules. The process involves reabsorption by a carrier protein that binds the glucose molecules and moves them out of the renal tubule and back into the blood. Students should appreciate that, in binding glucose, the carrier will share properties with enzymes, about which they will have learned at school: the capacity to reabsorb glucose is finite because once all of the carriers are working maximally, no further glucose reabsorption can occur. A successful applicant will make the connection that an elevated level of glucose in the blood in diabetes leads to increased filtration of glucose by the kidneys and saturation of the carriers that perform the reabsorption, resulting in "overspill" of glucose in the urine.

### **Why is income per head between 50 and 100 times larger in the United States than in countries such as Burundi and Malawi?**

The question is focused on perhaps the most important economic question there is: why are some countries rich and some countries poor? As with most economics questions, there is no simple or unique answer. Candidates need to think about all the potential reasons why such income gaps exist.

### **What makes a novel or play political?**

This is the sort of question that could emerge from a student's personal statement, where, in speaking about their engagement with literature and culture of the language they want to study, they state a keen interest in works (of whatever type they mention, such as a novel, play or film) that are "political".

We might start off by discussing the specific work that they cite (something that isn't included in their A-level syllabus), so they have chance to start off on something concrete and familiar, asking, for instance, "in what ways?", "why?", "why might someone not enjoy it for the same reason?"

We'd then look to test the extent of their intellectual curiosity and capacities for critical engagement by broadening the questioning out to be more conceptually orientated and invite them to make comparisons between things that they've read/seen (in whatever language).

So, in posing the overall question "what makes this political?" we'd want the candidate to start thinking about what one means in applying the label: what aspects of a work does it evoke? Is it a judgment about content or style? Could it be seen in and of itself a value judgment? How useful is it as a label? What if we said that all art is, in fact, political? What about cases where an author denies that their work is political, but critics assert that it is – is it purely a question of subjective interpretation? And so on.

The interviewers would provide prompt questions to help guide the discussion. A strong candidate would show ready willingness and very good ability to engage and develop their ideas in conversation.

It would be perfectly fine for someone to change their mind in the course of the discussion or come up with a thought that contradicted something they'd said before – we want people to think flexibly and be willing to consider different perspectives; ideally, they would recognise themselves that they were changing their viewpoint, and such awareness could indicate aptitude for sustained, careful reflection rather than a 'scattergun' effect of lots of different points that aren't developed or considered in a probing way.

Undoubtedly, the candidate would need to take a moment to think in the middle of all that – we expect that “ermmm”, “ah”, “oh”, “well”, etc. will feature in someone's responses!

**About 1 in 4 deaths in the UK is due to some form of cancer, yet in the Philippines the figure is only around 1 in 10. What factors might underlie this difference?**

This is a typically open question, with no single correct answer, which aims to stimulate the sort of discussion that might be encountered in a tutorial teaching session. The discussion could take any one of a number of directions, according to the candidate's interests.

Some candidates will ask useful clarifying questions, such as “Where do these data come from, and how reliable are they?” or “What is the average life expectancy in these parts of the world?” Some candidates will seize on the idea that various aspects of the typical lifestyle in the UK are inherently unhealthy, which can make for an interesting discussion in itself.

Others, especially if they appreciate that life expectancy in the Philippines is substantially lower than in the UK, will realise that other causes of death are more common in the developing world, and that this is the major factor that gives rise to the difference alluded to in the question.

This probes selection criteria including problem-solving, critical thinking, intellectual curiosity, communication skills, ability to listen and compatibility with the tutorial format.

**What exactly do you think is involved in blaming someone?**

Questions like this help draw out a candidate's ability to think carefully and precisely about a familiar concept, evaluating proposals, coming up with counter-examples, disentangling considerations, and being creative in proposing alternative approaches.

Obviously the notion of blame is an important one in moral theory but insofar as blame is an emotional attitude it also brings in issues in the philosophy of mind. Debates about the nature of blame are going on right now in philosophy so the question is also partly a prompt for doing some philosophy together – which is exactly what we hope to achieve in a tutorial.

With a question like this we're not looking for a right answer but instead whether the candidate can be creative in coming up with examples and suggestions, and can think critically and carefully through their implications. So, for example, many candidates start out by suggesting that for A to blame B, A would have to think that B had done something wrong.

Many might also make the point that B needn't actually have done anything wrong. We can use this opening suggestion to consider a simple theory of blame: blame is just thinking that someone has done something wrong.

When this is put to candidates, most recognize that blame seems to involve more than this. This shows their capacity to evaluate a proposal, and we'll typically ask them to illustrate their verdict

with a counter-example: a case where someone thinks someone has done something wrong but doesn't blame them.

Candidates will then be encouraged to offer and test out more sophisticated proposals about the nature of blame. Some might suggest that blame involves a more complex judgement than just that someone has done something wrong.

Others instead might argue that real blame requires feelings of some kind on the part of the blamer: anger, or resentment, for example. And again we can put these proposals to the test by looking for counter-examples. Good interviews will often generate all kinds of interesting and revealing discussions that show a candidate's ability for analytical thought: for example about self-blame, cases of blame where the blamer knew the blamed had done nothing wrong, and indeed cases of blaming something inanimate (such as a faulty printer or phone).

**A large study appears to show that older siblings consistently score higher than younger siblings on IQ tests. Why would this be?**

This is a question that really asks students to think about lots of different aspects of psychology, and we guide students when discussing it to think about both scientific factors such as maternal age (mothers are older when younger siblings are born – could that play a role?) and observational analysis about how birth order might affect behaviour and therefore performance on IQ tests.

It's a great question because students begin from the point they are most comfortable with, and we gradually add more information to see how they respond: for example, noting that the pattern holds true even taking into account things like maternal age.

This can lead them to think about what the dynamics of being an older sibling might be that produce such an effect – they might suggest that having more undivided parental attention in the years before a sibling comes along makes a difference, for example. Then we introduce the further proviso that the effect isn't observable in only children – there is something particular to being an older sibling that produces it. Eventually most students arrive at the conclusion that being an older sibling and having to teach a younger sibling certain skills and types of knowledge benefits their own cognitive skills (learning things twice, in effect). But there isn't really a 'right' answer and we are always interested to hear new explanations that we haven't heard before. What we are interested in is the kinds of reasoning students use and the questions they ask about the study – what it takes into account, what it might not – that tells us about their suitability for the course. And of course it doesn't matter if you have a sibling or not – though depending on family dynamics, that can add an interesting twist to the conversation!

**The viruses that infect us are totally dependent on human cells for their reproduction; is it therefore surprising that viruses cause human diseases?**

Like most good interview questions, this could be a starting point for any number of interesting conversations. Most candidates will have a reasonable understanding that viruses are essentially parasitic genetic entities, but the interviewers are not really looking for factual knowledge. In a tutorial-style discussion, strong candidates will engage with the paradox that viruses need us for their own reproduction, and yet cause us damage. They might point out that some of our responses to viral infection (such as sneezing) favour the spread of the virus. The interviewer might steer the discussion towards viral infections associated with high mortality, and the idea that any virus that killed off its host entirely would run the risk of extinction – unless it could infect other host species too. Candidates may have come across examples of viruses that jump

from non-human animals to human hosts in this way. We might then ask if the candidate considers it possible that there are viruses that infect humans and reproduce successfully, but do not cause any disease. How might we go about finding and characterising such viruses? These questions probe selection criteria including problem-solving, critical thinking, intellectual curiosity, communication skills, ability to listen and compatibility with the tutorial format.

**What are the different ways in which you listen to music? How does that change the way in which you think about what you're listening to?**

Music interviews often have several parts: there may be questions about your interests or on broad topics, and many colleges will give a reading and/or a short piece of music to look at beforehand, which you will be asked questions about. Some colleagues play music in the interview and, similarly, ask what your thoughts are about it. The point of all this isn't to find out what you don't know but to get a sense of how you read a text or understand a piece of music, and how you think through issues or material. We are very much aware that the types of music people play and care about are varied and the course itself covers a wide range, from global hip hop to Mozart, medieval song to sound art. It's not a question, then, of liking the right stuff but of finding out how curious you are, and how well you can apply what you already know to something new.

Standalone questions like this one are more unusual, but suggest the kinds of topics that might be used to prompt discussion. The question allows students to use their own musical experiences as a starting point for a broader and more abstract discussion about the different ways people consume music, the relationship between music and technology, and how music can define us socially. There might be follow-up questions about whether students think a particular way of listening has more worth than the others, for example. It could also prompt other discussions; for example, we tend in Western Europe to be silent in concert halls: why might that be and what is the effect? Does it encourage a certain kind of attentiveness and respect? Might it put some people off? What would be the effect of, say, clapping between movements of a symphony to your understanding of how the music works?

I might also expect to discuss whether particular types of music suit being listened to in particular ways; whether listening on headphones changes the way you experience what's going around you; and what makes some soundtracks better than others. We are interested in probing their understanding of music and its contexts, so thinking about how you share music with others and how the environment in which you listen to music affects the way you experience it – if you hear the same tracks live, at a festival or concert, what factors change how you hear and think about the music? The study of music is about more than just examining composed works, and a question like this gets at that aspect of the course.

**How many different molecules can be made from six carbon atoms and 12 hydrogen atoms?**

This question gives candidates an opportunity to demonstrate a wide understanding of chemistry and there is no simple, immediate answer.

Most candidates would start by drawing some molecules to construct some that satisfy the requirement of six carbons and twelve hydrogens. If the candidate gets stuck, the interviewer may ask them to explain how many bonds they'd expect each carbon and each hydrogen to form. This part of the interview tests candidates' familiarity with different kinds of molecules, their ability to visualise molecules in three dimensions and then draw them, and their ability to decide if two differently-drawn molecules are actually equivalent. During this process, the interviewer would also be looking at how well the candidate responds to prompting.

After a few minutes, the interviewer may use the question to move the discussion toward concepts such as chirality, cis-trans isomerism, ring strain, and isotope effects. Candidates may not have heard of these before, which is fine and to be expected; the interviewer wants to see how quickly the candidate picks up new concepts and whether they can offer plausible explanations for them. The interviewer might finish the discussion with a rather more difficult question, such as 'is a molecule only stable if all the carbons form four bonds?', thus challenging what is taught at school and getting the candidate to think critically about the nature of a chemical bond.

### **Is religion of value whether or not there is a God?**

This is a question we would hope any candidate for Theology and Religion would enjoy answering. It raises a number of issues for them to explore. What is our definition of religion, and how fluid is that definition? What do we mean by value, and how might it be measured? Are the effects of religion in the past as important as its consequences in the present?

A candidate might also want to ask what we mean when we say 'there is a God?' Is affirming this statement enough, or should religious or theological enquiry be more specific – is talk of God in the abstract as helpful as discussion of particular religious ideas or texts? How would we construct a case for the value of religion in the absence of belief in God?

A good answer could engage with one or more of these problems, and we would hope in conversation develop further questions. For example, can we adjudicate competing claims in conversations such as these? Is a worldwide religion such as Christianity or Islam intrinsically more or less valuable because of its number of adherents? Do ethics or aesthetics have a part to play: can I claim religious ideas have value if they inspire great art or music or poetry? Who gets to decide what is great? Does religion affect this decision?

All these possible questions represent directions in which the conversation might go – none is particularly wrong or right, but strong candidates will see a number of different routes available for them to explore, and could choose whichever interested them most.

### **How can we estimate the mass of the atmosphere?**

This question can be addressed in variety of ways and addresses several of our selection criteria: an aptitude for analysing and solving a problem using a logical and critical approach; lateral thinking and hypothesis generation; the ability to manipulate quantities and units; and the ability to apply familiar concepts (pressure, force etc.) to unfamiliar situations.

Candidates often like to start off by thinking about the composition of the atmosphere, and how we might know that, what its density is, and then to ways of estimating its volume. We look to see if there are ways of simplifying the problem: for example, could you treat the Earth and atmosphere as a sphere slightly larger than the Earth and subtract the volume of the Earth from the larger sphere to get a volume for the atmosphere? The difficulty with this approach often lies with determining where the atmosphere ends and how the density might vary with altitude, how applicable concepts like the ideal gas law are in these circumstances, and these are uncertainties that we might explore in a discussion.

An alternate approach is to see if there are properties of the atmosphere that we can observe at the surface that might enable us to estimate the mass. One such property is atmospheric pressure, which is a force per unit area. The force can also be described as a mass multiplied by an acceleration, which on Earth is the acceleration due to gravity. Hence, if we have some idea about atmospheric pressure we can calculate the mass pressing down on a unit area. If we can

estimate the total surface area of the earth (approximated by the surface area of a sphere) we can therefore calculate the total mass of the atmosphere.

### **Tell me what this rock looks like.**

For this question, you are given a hand sample of rock to examine, and are asked to describe what you see. In the second part of the question, you are asked to suggest how the rock formed, and why it looks the way it does (it is made of crystals of several different types, and the types of crystal vary in their average size).

This question does not rely on pre-existing knowledge of geology or rocks. In fact, what we are interested in is whether the candidates can make accurate and critical observations (what does the rock look like?) and are able to interpret the meaning of those observations using their knowledge of physical and chemical processes (reasoning ability: aptitude for analysing and solving problems using logical approaches). As with many of our questions, we don't want candidates necessarily to tell us the 'right' answer straight away. We want to see that they are motivated, and keen to engage with the topic. We don't want to intimidate or overwhelm the candidates with difficult questions that they haven't encountered before. But we do want to see that they can get to grips with new information and use it in their reasoning. So we often provide suggestions and small questions that help to guide the conversation at various points.

In the first part of the question, when describing the rock, we want candidates to organise their observations, so they have some structure. For example, the rock is made of crystals, some of which have well-defined shapes. The crystals vary in colour and size, and probably represent different chemical compositions (different minerals). The smaller types of crystals generally have less well-defined edges.

In the second part of the question, we want to see that candidates can use their knowledge of crystal formation – from GCSE and possibly A-level – to interpret why the rock appears as it does. The crystals indicate that the rock formed by crystallisation of molten rock from a liquid to a solid. Some crystals might be larger because they took longer to form. Crystals with poorly-defined shapes may have formed last, fitting into whatever space was available at the end of the process. These observations can be used to discuss the history of cooling of molten rock.

### **What can historians not find out about the past?**

The aim of this question is to encourage candidates to think critically, creatively and comparatively about how historians know what happened in the past. I would use this sort of open question to allow a candidate to talk about the availability of historical evidence in whatever time period, place or theme interested them from their school-work or wider reading. For instance, a candidate might start off by saying that they had been studying Tudor England and historians don't know much about the lives of the poor because they were less likely to be able to write. Given these lower levels of literacy, we could then talk about what sources historians can use to learn about the lives of the majority of the population in sixteenth-century England. This would require the candidate to think creatively about alternative sources (and their drawbacks), such as, for instance, criminal court records in which people who could not write were required to give oral testimony as witnesses.

Historians are always interested in explaining continuity and change over time, so I might then ask the candidate to compare what historians can know about Tudor England to another time period or place that interests them. For instance, if they had also studied the USA during the Depression, I might ask the candidate whether the gaps in historical evidence are different in

interwar America. By thinking comparatively across four hundred years and in different continents, a candidate might be able to draw some thoughtful conclusions. They might want to think about how structures of power have altered over time or about how social norms for what can be recorded and kept in archives have changed. This is the sort of conversation that no candidate could predict in advance. The hope is that the discussion allows candidates to show their understanding of, and enthusiasm for, history, and – most importantly – their ability to think independently, flexibly, and imaginatively about the past.

## **Additional reading and resources**

### **NACE resources**

- [Blog post: 8 myths about Oxford University that need to be busted...](#)
- [Blog post: Oxbridge admissions interviews: “4 Cs” for success](#)
- [Blog post: 8 ways to develop independent learning skills](#)
- [NACE Essentials guide: CEIAG for more able learners](#)
- [Webinar: Developing independent more able learners](#)

### **Oxford and Cambridge University resources**

- [Oxford undergraduate admissions: guidance for applicants](#)
- [Cambridge undergraduate admissions: guidance for applicants](#)
- [Oxford and Cambridge collaborative outreach network](#)
- [Oxplore – “the home of Big Questions”](#)