I 次の文章を読み，問１から問７の設問に答えなさい。なお，本文中に ＊ の印が付いている語彙については本文の後ろに注があります。
（配点比率４３％）

Engineering is about the application of knowledge and experience to produce something, or to design a practical solution to a problem. In many ways (1)it is the friendly face of science, because it is all about putting science to work for the benefit of humanity. Indeed, engineering affects every aspect of human activity—work, leisure, health and education. Engineers are involved in the design and manufacture of almost everything, from cars to computers, from web pages to wings, from microchips to motorways. Many recent medical advances have been made as a result of work done by engineers, ranging from brain scanners to pacemakers. Indeed, increases in *life expectancy have been due to engineering advances just as much as to medical developments.

To appreciate how essential engineers are to preserve life, think of how urgently engineers are needed in the *aftermath of a natural disaster, to organise transport for food and medical supplies and the building of shelters—otherwise (2)more lives can be lost in the following weeks than in the event itself.

Engineering advances make fundamental changes to the way we live our lives. In the last hundred years, advances in transport and communications have brought people together in *unprecedented ways and (3)"shrunk" the world. International travel is now routine, and e-mail and the web mean that news and ideas can travel around the world in an instant. So engineering is very relevant. It is also great fun. Probably what I enjoy most about my work is the sheer variety: no two days are the same. As an engineer in a university, I interact with a wide range of people: undergraduates, my research group, industry and government.

The things I do are equally varied. Much of the research is *collaborative: we work in partnership with a number of European and US universities and with industries in Europe and Japan. There are therefore multiple opportunities for travel, and journeys vary from short trips for one-day meetings in mainland Europe to periods based abroad. My husband and I spent three months last year working in California.

Today, engineering is about more than the traditional forms of mechanical, civil and electrical engineering, although they are still vitally important and support many successful UK industries. Engineering also includes, for example, developments in software and biomedical engineering. Perhaps the next great challenges are associated with environmental issues. Creative ideas are needed to identify ways of using energy and natural resources more effectively. If you want to be an informed member of society, able to understand modern technology as well as the *infrastructure on which our society is built, then engineering is the subject to choose.

As a graduate engineer, you will have a good understanding of science and a firm foundation in mathematics. But an engineer is more than just a good scientist or mathematician. An engineer needs to have imagination and to be creative, so that he or she can apply knowledge to creating new products. (4)This is not something that can be taught, but it can be developed through practice. So in an engineering course you are encouraged to develop creativity and problem-solving approaches. This is usually done through design competitions and through project work.

Nearly all modern engineering projects are team efforts. Invariably, great engineering achievements are as much due to people working together effectively as they are to novel technology (and engineering failure can usually be traced to a break-down in communication in the team). Engineering courses therefore include many opportunities to work cooperatively with other people and to develop team-working skills.

As an engineer, you need to be able to put your ideas across clearly and effectively. Therefore multiple opportunities are provided to develop communication and presentation skills in most engineering courses. Moreover, since many engineering projects are multinational and many engineering companies global, a foreign language can be a distinct advantage. So, (5)in many engineering courses you will be offered the option of learning a foreign language and the possibility of studying abroad during part of your course.

An engineering course provides you with a foundation in science, specialist engineering knowledge, mathematics and computing skills, the ability to interpret data, (6)written and oral communication and presentation skills, creativity and problem-solving approaches, and (7)team-working skills. These are important skills, useful in many areas.

Even as students, the engineers are recognised by others as being well organised, and they often end up running many of the university clubs. Graduate engineers have a range of different careers open to them, and graduates from our course are always in great demand from employers in all the major industrial and commercial sectors—manufacturing, information technology, finance and the City.

According to recent statistics, the average starting salary of graduating engineers in Cambridge is now higher than for any other subject. Engineers find themselves in important positions throughout industry and business. More top UK companies are led by engineers than by any other professional group, including *accountants or lawyers. If you want to make a real difference to the world while pursuing a successful and rewarding career, then engineering is the choice for you.

（注）

アルファベット順

accountant	会計士
aftermath	直後の時期
collaborative	共同の
infrastructure	基幹施設，インフラ
life expectancy	平均寿命，平均余命
unprecedented	前例のない

問１　下線部(1)は具体的にどういうことですか。第一段落（**Engineering ... developments.**）の中から例をひとつ挙げながら日本語で説明しなさい。

問２　下線部(2)で「災害のときよりも，後になってから多くの生命が失われることがある」という趣旨の記述がありますが，どんな場合ですか。具体的に日本語で説明しなさい。

問３　下線部(3)は具体的にどういうことですか。日本語で説明しなさい。

問４　下線部(4)はどのようなことを指していますか。日本語で述べなさい。

問５　下線部(5)について，その理由を日本語で述べなさい。

問６　下線部(6)(7)のそれぞれに関して，なぜそれらの能力が要求されるのか，その理由を日本語で述べなさい。

問７　この文の筆者について，その性別，職業は何で，どの国で働いていて，誰を対象としてこの文を書いていると推定できますか。日本語で述べなさい。

Ⅱ 次の文章を読み，問１から問６の設問に答えなさい。なお，本文中に ＊ の印が付いている語彙については本文の後ろに注があります。
（配点比率３７％）

Forgetfulness, as Plutarch says, "transforms every occurrence into a non-occurrence." His view is based on the common assumption that memory is an organ of perception into the past, much as the eyes and other senses are organs of perception into the present. As such, it counts as a source of knowledge, connecting us with previous events by the traces they have left in our minds. For *proponents of this view, the *causal links between originating experiences and present memories form a bridge to past time. The promise of this view seems great, because there are no other comparable roads into the past; all the documents and *remains used as evidence by historians are things that exist in the present, and their meaning is often vague.

Unfortunately, to regard memory as a source of knowledge is risky. Memories occur in the present, just like the historians' documents, and genuine memories are often indistinguishable from mistaken ones or from mere imaginings. There is no contradiction in regarding a given mental experience as a memory, without having a reliable connection between it and a past event. It is impossible to confirm a memory fully, because it is impossible to set the memory side by side with the event that may have caused it, thus testing its accuracy.

(1)<u>Even genuine memories can be unreliable</u>; no good court of law accepts the *uncorroborated recollections of a witness as conclusive. Support from the memory of someone else might help, but only to a limited degree; for memory is subjective, and as the police know to their frustration, two witnesses to the same event can give very different accounts of it. Memories can change, adding and losing details, distorting out of shape

under the pressure of time.

Although memory is an unreliable source of knowledge about the past, its role both in intelligence and self-identity is unquestionable. Intelligence *crucially involves memory; inability to make use of acquired information and past experience is a severe limitation on performance of mental and practical tasks alike. Similarly, memory is crucial to self-identity; when a person suffers memory loss, one of the most distressing results is loss of (2)the sense of self. On some views, what makes a person the same person through life is the accumulating set of memories he carries with him. When these are lost, he ceases to be that person and becomes someone else, new and as yet unformed.

And yet it seems that (3)too much memory is equally bad. In his story "Funes the Memorious" Jorge Luis Borges describes the agony of an individual who can forget nothing, and who is tortured by the burden of complete recall. In a *prescient remark made just before the *Holocaust, Sholem Asch wrote, "Not the power to remember, but its very opposite, the power to forget, is necessary to our existence," a truth later acknowledged by many survivors as an important part of the healing required before the proper work of remembering could begin.

Aeschylus called memory "the mother of the *Muses," giving it thereby the role of foundation of all the arts. The Greeks sometimes called the Muses "Mneiai," which means "the Remembrances." In this sense memory is not individual recollection but collective tradition, and Aeschylus's point is that without tradition in this sense there would be no literature or music, no history or science, for all these pursuits are *cumulative, depending for their progress on lessons learned and mistakes corrected beforehand. That is one reason why history, as the attempt to achieve an agreed collective memory—a tradition—is so important; (4)without an understanding of the past, we are always in danger of reinventing the wheel, sometimes in any

shape but round.

Tradition differs from individual memory in one very important respect: the latter can be true or false, but the former is neither—it just is what it is.

（注）

アルファベット順

causal link	因果関係
crucially	決定的に
cumulative	蓄積する
Holocaust	ナチスによるユダヤ人大虐殺
Muses	芸術・学問の女神たち
prescient	先見の明のある
proponent	提唱者
remains	遺物，遺跡
uncorroborated	裏づけのない

問１　第一段落（Forgetfulness ... vague.）で述べられている，記憶と視覚の役割の違いについて日本語で説明しなさい。

問２　下線部(1)の理由を日本語で述べなさい。

問３　下線部(2)とほぼ同じ意味の内容を表す英語を本文から抜き出して，そのまま書きなさい。

問４　下線部(3)の too much memory は何と対比されているか，本文から抜き出して英語で書きなさい。

問５　下線部(4)を日本語に訳しなさい。

問６　次の英文は本文の要約である。①から⑥のそれぞれの空欄に，本文から最も適切な一語を抜き出して入れなさい。

Memory is thought to be a source of (　①　) but as such, memory can be (　②　). However, memory plays an important role in (　③　) and self-identity. On the other hand, the power to (　④　) is necessary, too. In contrast to individual memory, memory as (　⑤　) is also important as the foundation of all the (　⑥　).

Ⅲ 次の文章を英語に訳しなさい。

（配点比率２０％）

病気であることは必ずしも不幸を意味するわけではありません。たとえ，あなたの大事な人が死に至る病に伏していても，それはあなたのせいではないし，その人が不幸であるということでもありません。大切なのはどう人生を生きるかであって，どれくらい長く生きるかではないのです。