**READING PASSAGE 3** *Questions 27–40*

*You should spend about 20 minutes on Questions 27–40, which are based on Reading Passage 3 below.*

# The Measurement of Time

The Industrial Revolution of the 18th and 19th centuries opened the way to a series of changes in daily life and human mentality. One example among many is the replacement of the rhythms of traditional agriculture with the uniform and precise schedule of industry.

Traditional agriculture depended on cycles of natural time and organic growth. Most societies were unable to make precise time measurements, nor were they very interested in doing so. Life went on without clocks and timetables, subject only to the movements of the sun and the growth cycle of plants. There was no uniform working day, and all routines changed drastically from season to season. People knew where the sun was, and watched anxiously for signs of the rainy season and harvest time, but they did not know the hour, and hardly cared about which year it was.

In contrast to medieval peasants and craftsmen, modern industry cares little about the sun or the season; it values precision and uniformity. For example, in a medieval workshop each shoemaker made an entire shoe, from sole to buckle. If one shoemaker was late for work, it did not hinder the others. However, in a modern, footwear-factory assembly line, every worker mans a machine that produces just a small part of a shoe, which is then passed on to the next machine. If the worker who operates one of the machines has overslept, it hinders all the other machines. In order to prevent such calamities, everybody must adhere to a precise timetable. Each worker arrives at work at exactly the same time, and everybody takes their lunch break together, whether they are hungry or not. Everybody goes home when a whistle announces that the shift is over – not when they have finished their project.

The Industrial Revolution turned the timetable and the assembly line into a template for almost all human activities. Shortly after factories imposed their time frames on human behaviour, schools too adopted precise timetables, followed by hospitals, government offices and grocery stores. Even in places devoid of assembly lines, the timetable became king.

A crucial link in the spreading timetable was public transportation. If workers needed to start their shifts by 08.00, the train or bus had to reach the factory gate by 07.55; a few minutes' delay would lower production and perhaps even lead to the lay-offs of the unfortunate latecomers. In 1784, a carriage service with a published schedule began operating in Britain, but its timetable specified only the hour of departure, not arrival. Back then, each British city and town had its own local time, which could differ from London time by up to half an hour. When it was 12.00 in London, it was perhaps 12.20 in Liverpool, and 11.50 in Canterbury. Since there were no telephones, no radio or television, who could know, and who cared?

The first commercial train service began operating between Liverpool and Manchester in 1830, and ten years later the first train timetable was issued. The trains were much faster than the old carriages, so the differences in local hours became a severe nuisance. Eventually, in 1847, British train companies put their heads together and agreed that from then on all train timetables would be linked to the time at the Greenwich Observatory in London, rather than to the local times of other towns. More and more institutions followed the lead of the train companies. Finally, in 1880, the British government took the unprecedented step of legislating that all timetables in Britain must follow Greenwich. For the first time in history, a country adopted a national time, and obliged its population to live according to one artificial clock rather than local ones, or sunrise-to-sunset cycles.

This modest beginning gave rise to a global network of timetables, synchronised down to the tiniest fraction of a second. When the broadcast media – first radio, then television – appeared, they entered a world of timetables and became enthusiastic enforcers. Among the first things radio stations broadcast were time signals, beeps that enabled far-off settlements and seafaring vessels to set their clocks. Later, radio stations adopted the custom of broadcasting the news every hour, and nowadays, the first item of every news broadcast is the time.

Meanwhile, in order to run the timetable network, inexpensive but precise portable clocks with simple winding mechanisms had spread everywhere. In the world's ancient cities there might have been at most a few sundials; in European medieval cities there was usually a single clock – a giant machine mounted on top of a high tower in the town square. Today, however, we are surrounded by timepieces: you can tell the time by looking at your wristwatch, glancing at your phone, peering at the alarm clock by the bed, or taking in the taskbar on your computer out of the corner of your eye. You need to make a conscious effort not to know what time it is. The typical person consults these clocks several dozens of times a day, because almost everything we do has to be done on time.

LIVEWORKSHEETS

*Questions 27–31*

*Complete the summary using the list of words/phrases, **A–J**, below.*

*Write the correct letter **A–J** in boxes 27–31 on your answer sheet.*

### Life before the Industrial Revolution

Up until the 18th century, there was little interest in the precise measurement of time. Activities were largely governed by natural processes, such as weather patterns and the position of the sun, as these affected 27 _____. There was no fixed routine for the 28 _____, as activities changed from one time of year to another.

For crafts such as shoe making there was no 29 _____. For individuals, in contrast to workers today, 30 _____ with others was not a matter of concern.

Even when clocks were invented, these were usually seen only in cities, and were often inaccurate. However, this general lack of regulation all changed with the arrival of 31 _____.

A working day
B trade
C good relations
D farming
E harvesting methods
F factories
G coordination
H special training
I division of labour
J women

*Questions 32–33*

*Below are some possible reasons why there were no detailed transport timetables in 18th-century Britain.*

*Which **TWO** of these reasons are mentioned by the writer of the passage?*

*Choose **TWO** letters, **A–E**.*

*Write your answers in boxes 32 and 33 on your answer sheet.*

A Roads were in poor condition.
B There were many different transport companies.
C Carriages suffered frequent breakdowns.
D There was no standard time.
E Means of communication were limited.

*Questions 34–39*

*Complete each sentence with the correct ending, **A–H**, from the list below.*

*Write the correct letter **A–H** in boxes 34–39 on your answer sheet.*

34 The first workplaces in Britain to operate according to a standard time were _____
35 The British government was the first in the world to enforce _____
36 From the outset, radio stations transmitted time signals for the benefit of _____
37 Nowadays, time is at the top of the agenda of all _____
38 Managing daily life according to timetables was made easier by the widespread introduction of _____
39 These days, individuals in many countries are surrounded by _____

A ships at sea.
B cheap, mechanical clocks.
C government offices.
D the train companies.
E news broadcasts.
F limits on working hours.
G objects which register the time.
H standard national time.

*Question 40*

*What is the main purpose of the writer of Reading Passage 3?*

*Choose the correct letter, **A**, **B**, **C** or **D**.*

*Write your answer in box 40 on your answer sheet.*

A to argue that modern life is needlessly dominated by timetables.
B to compare attitudes to time in various parts of the world.
C to outline how people's sense of time has changed over the centuries.
D to challenge the view that modern life is less stressful than life in the past.

LIVEWORKSHEETS