Practice Test 12

Reading Passage 1

You should spend about 20 minutes on Questions 1-13, which are based on Reading Passage 1 below.

Our Vanishing Night

” Most city skies have become virtually empty of stars “

A. If humans were truly at home under the light of the moon and stars, it would make no difference to us whether we were out and about at night or during the day, the midnight world as visible to us as it is to the vast number of nocturnal species on this planet. Instead, we are diurnal creatures, meaning our eyes are adapted to living in the sun’s light. This is a basic evolutionary fact, even though most of us don’t think of ourselves as diurnal beings any more than as primates or mammals or Earthlings. Yet it’s the only way to explain what we’ve done to the night: we’ve engineered it to meet our needs by filling it with light.

B. This kind of engineering is no different from damming a river. Its benefits come with consequences – called light pollution – whose effects scientists are only now beginning to study. Light pollution is largely the result of bad lighting design, which allows artificial light to shine outward and upward into the sky, where it is not wanted, instead of focusing it downward, where it is. Wherever human light spills into the natural world, some aspect of life – migration, reproduction, feeding – is affected. For most of human history, the phrase “light pollution” would have made no sense. Imagine walking toward London on a moonlit night around 1800, when it was one of Earth’s most populous cities. Nearly a million people lived there, making do, as they always had, with candles and lanterns. There would be no gaslights in the streets or squares for another seven years.

C. Now, most of humanity lives under reflected, refracted light from overlit cities and suburbs, from light-flooded roads and factories. Nearly all of night-time Europe is a bright patch of light, as is most of the United States and much of Japan. In the South Atlantic, the glow from a single fishing fleet – squid fishermen luring their prey with metal halide lamps – can be seen from space, burning brighter on occasions than Buenos Aires. In most cities, the sky looks as though it has been emptied of stars, and taking their place is a constant orange glow. We’ve become so used to this that the glory of an unlit night – dark enough for the planet Venus to throw shadows on Earth – is wholly beyond our experience, beyond memory almost. And yet above the city’s pale ceiling lies the rest of the universe, utterly undiminished by the light we waste.

D. We've lit up the night as if it were an unoccupied country when nothing could be further from the truth. Among mammals alone, the number of nocturnal species is astonishing. Light is a powerful biological force, and on many species, it acts as a magnet. The effect is so powerful that scientists speak of songbirds and seabirds being 'captured' by searchlights on land or by the light from gas flares on marine oil platforms, circling and circling in the thousands until they drop. Migrating at night, birds are apt to collide with brightly lit buildings; immature birds suffer in much higher numbers than adults.

E. Insects, of course, cluster around streetlights, and feeding on those insects is a crucial means of survival for many bat species. In some Swiss valleys, the European lesser horseshoe bat began to vanish after streetlights were installed, perhaps because those valleys were suddenly filled with fight-feeding pipistrelle bats. Other nocturnal mammals, like desert rodents and badgers, are more cautious about searching for food under the permanent full moon of fight pollution because they've become easier targets for the predators who are hunting them.

F. Some birds – blackbirds and nightingales, among others-sing at unnatural hours in the presence of artificial light. Scientists have determined that long artificial days — and artificially short nights — induce early breeding in a wide range of birds. And because a longer day allows for longer feeding, it can also affect migration schedules. The problem, of course, is that migration, like most other aspects of bird behaviour, is a precisely timed biological behaviour. Leaving prematurely may mean reaching a destination too soon for nesting conditions to be right.

G. Nesting sea turtles, which seek out dark beaches, find fewer and fewer of them to bury their eggs on. When the baby sea turtles emerge from the eggs, they gravitate toward the brighter, more reflective sea horizon but find themselves confused by artificial lighting behind the beach. In Florida alone, hatching losses number in the hundreds of thousands every year. Frogs and toads living on the side of major highways suffer nocturnal fight levels that are as much as a million times brighter than normal, disturbing nearly every aspect of their behaviour, including their night-time breeding choruses.

H. It was once thought that light pollution only affected astronomers, who need to see the night sky in all its glorious clarity. And, in fact, some of the earliest civic efforts to control light pollution were made half a century ago to protect the view from Lowell Observatory in Flagstaff, Arizona. In 2001 Flagstaff was declared the first International Dark Sky City. By now the effort to control light pollution has spread around the globe. More and more dues and even entire countries have committed themselves to reduce unwanted glare.

Questions 1-7:

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1-7 on your answer sheet, write

TRUE, if the statement agrees with the information

FALSE, if the statement contradicts the information

NOT GIVEN, if there is no information on this

1 Few people recognise nowadays that human beings are designed to function best in daylight.

2 Most light pollution is caused by the direction of artificial lights rather than their intensity.

3 By 1800 the city of London had such a large population, it was already causing light pollution.

4 The fishermen of the South Atlantic are unaware of the light pollution they are causing.

5 Shadows from the planet Venus are more difficult to see at certain times of the year.

6 In some Swiss valleys, the total number of bats declined rapidly after the introduction of streetlights.

7 The first attempts to limit light pollution were carried out to help those studying the stars.

Questions 8-13:

Complete the table below.

Choose **NO MORE THAN THREE WORDS** from the passage for each answer. Write your answers in blank spaces next to 8-13 on your answer sheet.

CREATURE	**EFFECTS OF LIGHT**
Songbirds and seabirds they bump into 9…….	The worst-affected birds are those which are seabirds 8…….. which stand out at night
Desert rodents and badgers	They are more at risk from 10…….
Migrating birds not suitable on arrival.	Early migration may mean the 11……. are
Sea turtles	They suffer from a decreasing number of 12…….
Frogs and toads	If they are near 13……. their routines will be

upset.

Reading Passage 2

Is there a psychologist in the building?

— CHRISTIAN JARRETT reports on psychology's place in new architectural development. —

A. The space around us affects us profoundly – rebuilding of one south London school as a striking emotionally, behaviorally, cognitively. In Britain, that example of how building design can affect human space is changing at a pace not seen for a generation. But is anyone listening? 'This is a hugely recognised country's psychology research that is not only relevant but improved schools. At the moment we're talking to ourselves,' says Chris Spencer, professor of environmental psychology at the University of Sheffield. Spencer recalls a recent talk he gave in which he called on fellow researchers to make a greater effort to communicate their findings to architects and planners. 'I was amazed at the response of many of the senior researchers, who would say: "I'm doing my research for pure science, the industry can take it or leave it". But there are models of how to apply environmental psychology to real problems if you know where to look Professor Frances Kuo is an example.

B. Kuo's website provides pictures and plain English " The collaborative project currently summaries of the research conducted by her Human stands as a one-off experiment. " Among these is trainee architects will now go away with some a study using police records that found inner-city surrounded by more vegetation suffered 52 per cent fewer crimes than apartment blocks with little or no greenery. Frances Kuo and her co-researcher William Sullivan believe that greenery reduces crime – so long as visibility is preserved – because it reduces aggression, brings local residents together outdoors, and the conspicuous presence of people deters criminals.

C. 'Environmental psychologists are increasingly in demand,' says David Uzzell, professor of environmental psychology. 'We're asked to contribute to the planning, design and management of many different environments, ranging from neighbourhoods, offices, schools, health, transport, traffic and leisure environments for the purpose of improving quality of life and creating a better people-environment fit.' Uzzell points to the rebuilding of one south London school as a striking example of how building design can affect human behaviour positively. Before its redesign, it was ranked as the worst school in the area – now it is recognised as one of the country's twenty most improved schools.

D. Uzzell has been involved in a pioneering project between M.Sc students in England and Scotland. Architecture students in Scotland acted as designers while environmental psychology students in England acted as consultants, as together they worked on a community project in a run-down area of Glasgow. The psychology students encouraged

the architecture students to think about who their client group was, to consider issues of crowding and social cohesion, and they introduced them to psychological methodologies, for example, observation and interviewing local residents about their needs.' The collaborative project currently stands as a one-off experiment. 'Hopefully, these trainee architects will now go away with some understanding of the psychological issues involved in the design and will take into account people's needs,' says Uzzell.

E. Hilary Barker, a recent graduate in psychology, now works for a design consultancy. She's part of a four-person research team that contributes to the overall work of the company in helping clients use their office space more productively. Her team all have backgrounds in psychology or social science, but the rest of the firm consists mainly of architects and interior designers. 'What I do is pretty rare, to be honest,' Barker says. 'I feel very privileged to be able to use my degree in such a way.' Barker explains that the team carries out observational studies on behalf of companies, to identify exactly how occupants are using their building. The companies are often surprised by the findings, for example, that staff use meeting rooms for quiet, individual work.

F. One area where the findings from the environment- behaviour research have certainly influenced building is in hospital design. The government has a checklist of criteria that must be met in the design of new hospitals, and these are derived largely from the work of the behavioural scientist Professor Roger Ulrich,' Chris Spencer says. Ulrich's work has shown, for example, how the view from a patient's window can affect their recovery. Even a hospital's layout can impact on people's health, according to Dr John Zeisel. 'If people get lost in hospitals, they get stressed, which lowers their immune system and means their medication works less well. You might think that way-finding around the hospital is the responsibility of the person who puts all the signs up, but the truth is that the basic layout of a building is what helps people find their way around,' he says.

G. Zeisel also points to the need for a better balance between private and shared rooms in hospitals. 'Falls are reduced and fewer medication errors occur' in private rooms, he says. There's also research showing how important it is that patients have access to the outdoors and that gardens in hospitals are a major contributor to well-being. However, more generally, Zeisel shares Chris Spencer's concerns that the lessons from environmental psychology research are not getting through. 'There is certainly a gap between what we in social science knowledge and the world of designers and architects,' says Zeisel. He believes that most industries, from sports to film- making, have now recognised the importance of an evidence-based approach and that the building trade needs to formulate itself more in that vein and to recognise that there is relevant research out there. 'It would be outrageous, silly, to go ahead with huge building projects without learning the lessons from the new towns established between 30 and 40 years ago,' he warns.

Questions 14-20:

Reading Passage 2 has seven paragraphs. A-G.

Choose the correct heading for A-G from the list of headings below.

Write the correct number, h-x, in boxes 14-20 on your answer sheet.

List of Headings

1. A comparison between similar buildings
2. The negative reaction of local residents
3. An unusual job for a psychologist
4. A type of building benefiting from prescribed guidelines
5. The need for government action
6. A failure to use available information in practical ways
7. Academics with an unhelpful attitude
8. A refusal by architects to accept criticism
9. A unique co-operative scheme
10. The expanding scope of environmental psychology

14 Paragraph A

15 Paragraph B

16 Paragraph C

17 Paragraph D

18 Paragraph E

19 Paragraph F

20 Paragraph G

Questions 21-22:

Choose **TWO** letters, A-E

Write the correct letters in boxes 21 and 22 on your answer sheet.

Which TWO of the following benefits are said to arise from the use of environmental psychology when planning buildings?

A better relationships between staff

B improved educational performance

C reduction of environmental pollution

D fewer mistakes made by medical staff

E easier detection of crime

21

22

Questions 23-24:

Choose **TWO** letters, A-E

Write the correct letters in boxes 23 and 24 on your answer sheet.

Which TWO of the following research methods are mentioned in the passage?

A the use of existing data relating to a geographical area

B measuring the space given to a variety of activities

C watching what people do in different parts of a building

D analyzing decisions made during the planning of a building

E observing patients' reactions to each other

23

24

Questions 25-26:

Complete the sentences below

Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

Write your answers in blank spaces 25 and 26 on your answer sheet.

25 The students from England suggested that the Scottish students should identify their …….

26 John Zeisel believes that if the of a building is clear, patient outcomes will improve …….

Reading Passage 3

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

A. Our ancestor, Homo erectus, may not have had culture or even language, but did they have teenagers? That question has been contested in the past few years, with some anthropologists claiming evidence of an adolescent phase in human fossil. This is not merely an academic debate. Humans today are the only animals on Earth to have a teenage phase, yet we have very little idea why. Establishing exactly when adolescence first evolved and finding out what sorts of changes in our bodies and lifestyles it was associated with could help us understand its purpose. Why do we, uniquely, have a growth spurt so late in life?

B. Until recently, the dominant explanation was that physical growth is delayed by our need to grow large brains and to learn all the behaviour patterns associated with humanity – speaking, social interaction and so on. While such behaviour is still developing, humans cannot easily fend for themselves, so it is best to stay small and look youthful. That way your parents and other members of the social group are motivated to continue looking after you. What's more, studies of mammals show a strong relationship between brain size and the rate of development, with larger-brained animals taking longer to reach adulthood. Humans are at the far end of this spectrum. If this theory is correct, and the development of large brains accounts for the teenage growth spurt, the origin of adolescence should have been with the evolution of our own species (Homo sapiens) and Neanderthals, starting almost 200,000 years ago. The trouble is, some of the fossil evidence seems to tell a different story.

C. The human fossil record is extremely sparse, and the number of fossilised children minuscule. Nevertheless, in the past few years, anthropologists have begun to look at

what can be learned of the lives of our ancestors from these youngsters. One of the most studied is the famous Turkana boy, an almost complete skeleton of Homo erectus from 1.6 million years ago found in Kenya in 1984. Accurately assessing how old someone is from their skeleton is a tricky business. Even with a modern human, you can only make a rough estimate based on the developmental stage of teeth and bones and the skeleton's general size.

D. You need as many developmental markers as possible to get an estimate of age. The Turkana boy's teeth made him 10 or 11 years old. The features of his skeleton put him at 13, but he was as tall as a modern 15-year-old. Susan Anton of New York University points to research by Margaret Clegg who studied a collection of 18th- and 19th-century skeletons whose ages at death were known. When she tried to age the skeletons without checking the records, she found similar discrepancies to those of the Turkana boy. One 10-year-old boy, for example, had a dental age of 9, the skeleton of a 6-year-old but was tall enough to be 11. The Turkana kid still has a rounded skull, and needs more growth to reach the adult shape,' Anton adds. She thinks that Homo erectus had already developed modern human patterns of growth, with a late, if not quite so extreme, adolescent spurt. She believes Turkana boy was just about to enter it.

E. If Anton is right, that theory contradicts the orthodox idea linking late growth with the development of a large brain. Anthropologist Steven Leigh from the University of Illinois goes further. He believes the idea of adolescence as catch-up growth does not explain why the growth rate increases so dramatically. He says that many apes have growth spurts in particular body regions that are associated with reaching maturity, and this makes sense because by timing the short but crucial spells of maturation to coincide with the seasons when food is plentiful, they minimise the risk of being without adequate food supplies while growing. What makes humans unique is that the whole skeleton is involved. For Leigh, this is the key.

F. According to his theory, adolescence evolved as an integral part of efficient upright locomotion, as well as to accommodate more complex brains. Fossil evidence suggests that our ancestors first walked on two legs six million years ago. If proficient walking was important for survival, perhaps the teenage growth spurt has very ancient origins. While many anthropologists will consider Leigh's theory a step too far, he is not the only one with new ideas about the evolution of teenagers.

G. Another approach, which has produced a surprising result, relies on the minute analysis of tooth growth. Every nine days or so the growing teeth of both apes and humans acquire ridges on their enamel surface. These are like rings in a tree trunk: the number of them tells you how long the crown of a tooth took to form. Across mammals, the rate at which teeth develop is closely related to how fast the brain grows and the age you mature. Teeth are good indicators of life history because their growth is less related to the environment and nutrition than is the growth of the skeleton.

H. A more decisive piece of evidence came last year when researchers in France and Spain published their findings from a study of Neanderthal teeth. Neanderthals had much-

festered tooth growth than Homo erectus who went before them, and hence, possibly, a shorter childhood. Lead researcher Fernando Ramirez-Rozzi thinks Neanderthals died young – about 25 years old — primarily because of the cold, harsh environment they had to endure in glacial Europe. They evolved to grow up quicker than their immediate ancestors. Neanderthals and Homo erectus probably had to reach adulthood fairly quickly, without delaying for an adolescent growth spurt. So it still looks as though we are the original teenagers.

Questions 27-30:

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

Write the correct letter next to 27-30 on your answer sheet.

27 In the first paragraph, why does the writer say 'This is not merely an academic debate'?

A Anthropologists' theories need to be backed up by practical research.

B There have been some important misunderstandings among anthropologists.

C The attitudes of anthropologists towards adolescence are changing.

D. The work of anthropologists could inform our understanding of modem adolescence.

28 What was Susan Anton's opinion of the Turkana boy?

A He would have experienced an adolescent phase had he lived.

B His skull showed he had already reached adulthood.

C His skeleton and teeth could not be compared to those from a more modern age.

D He must have grown much faster than others alive at the time.

29 What point does Steven Leigh make?

A Different parts of the human skeleton develop at different speeds.

B The growth period of many apes is confined to times when there is enough food.

C Humans have different rates of development from each other depending on living conditions.

D The growth phase in most apes lasts longer if more food is available.

30 What can we learn from a mammal's teeth?

A A poor diet will cause them to grow more slowly.

B They are a better indication of a lifestyle than a skeleton.

C Their growing period is difficult to predict accurately.

D Their speed of growth is directly related to the body's speed of development.

Questions 31-36:

Do the following statements agree with the claims of the writer in Reading Passage 3?

In boxes 31-36 on your answer sheet, write

YES, if the statement agrees with the claims of the writer

NO, if the statement contradicts the claims of the writer

NOT GIVEN, if it is impossible to say what the writer thinks about this

31 It is difficult for anthropologists to do research on human fossils because they are so rare.

32 Modern methods mean it is possible to predict the age of a skeleton with accuracy.

33 Susan Anton's conclusion about the Turkana boy reinforces an established idea.

34 Steven Leigh's ideas are likely to be met with disbelief by many anthropologists.

35 Researchers in France and Spain developed a unique method of analysing teeth.

36 There has been too little research comparing the brains of Homo erectus and Neanderthals.

Questions 37-40:

Complete each sentence with the correct ending, A-G, below.

Write the correct letter, A-G, in blank spaces 37-40 on your answer sheet.

37 Until recently, delayed growth in humans until adolescence was felt to be due to ……

38 In her research, Margaret Clegg discovered ……

39 Steven Leigh thought the existence of adolescence is connected to ……

40 Research on Neanderthals suggests that they had short lives because of ……

1. inconsistencies between height, skeleton and dental evidence.
2. the fact that human beings walk on two legs.
3. the way teeth grew.
4. a need to be dependent on others for survival.
5. difficult climatic conditions.
6. increased quantities of food.
7. the existence of much larger brains than previously.

Answers

[restrict paid=true]

Reading Passage 1

1.	TRUE
2.	TRUE
3.	FALSE
4.	NOT GIVEN **-> TRUE**
5.	NOT GIVEN
6.	FALSE **-> TRUE**
7.	TRUE

8.	immature
9.	brightly lit buildings
10.	predators
11.	nesting condition
12.	dark beaches
13.	(major) highways

Reading Passage 2

14.	vii
15.	i
16.	x
17.	ix
18.	iii
19.	iv
20.	vi
21.	B
22.	D
23.	A
24.	C
25.	client group
26.	(basic) layout

Reading Passage 3

27.	D
28.	A
39.	B
30.	D
31.	YES
32.	NO
33.	NO
34.	YES
35.	NOT GIVEN
36.	NOT GIVEN
37.	D
38.	A
39.	B
40.	E

[/restrict]