朗阁雅思阅读考题预测

Passage 1

The Sound of Dolphin

A

Each and every dolphin has a different sound just like you and me, a sound that other dolphins recognize as a particular individual. Even a new baby dolphin, (calf), can detect it's mother's whistle within the pod soon after birth. Utilizing their blowholes, air sacks and valves, dolphins can emit a very wide variety of sounds. In fact, the frequency levels range 10 times beyond what humans can hear.

B

This system is called "Echolocation", or "Sonar", just like what a submarine uses to navigate while underwater. Yet the dolphin's sonar is much more advanced than human technology and can pin point exact information about its surroundings ranging from size, distance and even the nature of the object.

C

Millions of years ago, toothed whales developed echolocation, a sensory faculty that enabled them to survive in often murky and dark aquatic environments. It is a process in which an organism probes its environment by emitting sounds and listening to echoes as the sounds bounce off objects in the environment. With sound travelling better in water than electromagnetic, thermal, chemical, or light signals, it was advantageous for dolphins to evolve echolocation, a capability in which acoustic energy is used, in a sense, to see underwater. Synonymous with the term "sonar" (sound navigation and ranging) and used interchangeably, dolphin echolocation is considered to be the most advanced sonar capability, unrivaled by any sonar system on Earth, man-made or natural.

D

Dolphins identify themselves with a signature whistles. However, scientists have found no evidence of a dolphin language. For example, a mother dolphin may whistle to her calf almost continually for several days after giving birth. This acoustic imprinting helps the calf learn to identify its mother. Besides whistles, dolphins produce clicks and sounds that resemble moans, trills, grunts and squeaks. They make these sounds at any time and at considerable depths. Sounds vary in volume, wavelength, frequency and pattern. Dolphins produce sounds ranging from 0.25 to 150 kHz. The lower frequency vocalizations (0.25 to 50 kHz) are likely used in social communication. Higher frequency clicks (40 to 150 kHz) are primarily used in echolocation. Dolphins rely heavily on sound production and reception to navigate, communicate, and hunt in dark or murky waters. Under these conditions, sight is of little use. Dolphins can produce clicks and whistles at the same time.

E

As with all toothed whales, a dolphin's larynx does not possess vocal cords, but researchers have theorized that at least some sound production originates from the larynx. Early studies suggested that "whistles" were generated in the larynx while "clicks"

were produced in the nasal sac region. Technological advances in bio-acoustic research enable scientists to better explore the nasal region. Studies suggest that a tissue complex in the nasal region is most likely the site of all sound production. Movements of air in the trachea and nasal sacs probably produce sounds.

F

The process of echolocation begins when dolphins emit very short sonar pulses called clicks, which are typically less than 50-70 millionth of a second long. The clicks are emitted from the melon of the dolphin in a narrow beam. A special fat in the melon called lipid helps to focus the clicks into a beam. The echoes that are reflected off the object are then received by the lower jaws. They enter through certain parts of the lower jaw and are directed to ear bones by lipid fat channels. The characteristics of the echoes are then transmitted direct to the brain.

G

The short echolocation clicks used by dolphins can encode a considerable amount of information on an ensonified object - much more information than is possible from signals of longer duration that are emitted by manned sonar. Underwater sounds can penetrate objects, producing echoes from the portion of the object as well as from other surfaces within the object. This provides dolphins with a way to gain more information than if only a simple reflection occurred at the front of the object.

H

Dolphins are extremely mobile creatures and can therefore direct their sonar signals on an object from many different orientations, with slightly different bits of information being returned at each orientation; and since the echolocation clicks are so brief and numerous, the multiple reflections from internal surfaces return to the animal as distinct entities and are used by the dolphin to distinguish between different types of objects. Since they possess extremely good auditory-spatial memory, it seems that they are able to “remember” all the important information received from the echoes taken from different positions and orientations as they navigate and scan their environment. Dolphins extremely high mobility and good auditory spatial memory are capabilities that enhance their use of echolocation. With much of the dolphin’s large brain (which is slightly larger than the human brain) devoted to acoustic signal processing, we can better understand the evolutionary importance of this extraordinary sensory faculty. Yet no one feature in the process of echolocation is more important than the other. Dolphin sonar must be considered as a complete system, well adapted to the dolphin’s overall objective finding prey, avoiding predators, and avoiding dangerous environments.

I

This ideal evolutionary adaptation has contributed to the success of cetacean hunting and feeding and their survival as a species overall. As a result, dolphins are especially good in finding and identifying prey in shallow and noisy coastal waters containing rocks and other objects. By using their sonar ability, dolphins are able to detect and recognize prey that have burrowed up to 1 ½ feet into sandy ocean or river bottoms - a talent that

has stirred the imagination (and envy) of designers of manmade sonar.

J

Researchers, documenting the behaviour of Atlantic dolphins foraging for buried prey along the banks of Grand Bahama Island, have found that these dolphins, while swimming close to the bottom searching for prey, typically move their heads in a scanning motion, either swinging their snout back and forth or moving their heads in a circular motion as they emit sonar sounds. They have been observed digging as deep as 18 inches into the sand to secure a prey. Such a capability is unparalleled in the annals of human sonar development.

Questions 1-5

Do the following statements agree with the information given in Reading Passage 1?
In boxes 1-5 on your answer sheet, write

TRUE *if the statement is true*
FALSE *if the statement is false*
NOT GIVEN *if the information is not given in the passage*

1 Every single dolphin is labeled by a specific sound.
2 The system a dolphin uses as the detector could give a whole picture of the observed objects.
3 Echolocation is a specific system evolving only for animals living in a dim environment.
4 The sounds are made only in the area related to the nose.
5 When producing various forms of sounds, dolphins have the asynchronism as one characteristic.

Questions 6-8

Choose the correct letter, A, B, C or D.
Write your answers in boxes 6-8 on your answer sheet.

6 What feature do the sounds deep in the water emitted by dolphins possess?
A diverging
B tri-dimensional
C piercing
D striking

7 Which makes the difference between the dolphins and man when it comes to the treating of vocal messages?
A an acute sense of smell
B a bigger brain
C a flexible positioning system
D a unique organ

8 Which is the undefeatable characteristic the sonar system owned by dolphins compared with the one humans have?
A making more accurate analysis
B hiding the hunted animals
C having the wider range in frequencies
D comprising more components

Questions 9-13

Summary

Complete the following summary of the paragraphs of Reading Passage, using ***no more than three words*** *from the Reading Passage for each answer.*
Write your answers in boxes 9-13 on your answer sheet.

Whether 9..... exists or not has not been confirmed yet. 10..... is the bond between the baby dolphin and its mother. What's more, 11..... which are like different sounds made by human are also used by dolphins .The sounds are made at certain level of depth within a specific scope from a higher frequency aimed at

communicating to a lower one to echolocate. Sounds are vital to dolphins living in deep waters while 12..... is not that imperative. Similar to all toothed whales, vocal cords do not exist in 13..... but it produces some sound. The tissue in the nasal area is perhaps to do with the sound production.

Answer keys:

1 TRUE
2 TRUE
3 NOT GIVEN
4 FALSE
5 FALSE
6 C
7 B
8 B
9 a dolphin language
10 Whistle
11 clicks and sounds
12 sight
13 a dolphin's larynx

The sense for flavour

A

Scientists now believe that human beings acquired the sense of taste as a way to avoid being poisoned. Edible plants generally taste sweet; deadly ones, bitter. Taste is supposed to help us differentiate food that's good for us from food that's not. The tastebuds on our tongues can detect the presence of half a dozen or so basic tastes, including: sweet, sour, bitter, salty, and umami (a taste discovered by Japanese researchers, a rich and full sense of deliciousness triggered by amino acids in foods such as shellfish, mushrooms, potatoes and seaweed). Tastebuds offer a limited means of detection, however, compared with the human olfactory system, which can perceive thousands of different chemical aromas. Indeed, 'flavour, is primarily the smell of gases being released by the chemicals you've just put in your mouth. The aroma of food can be responsible for as much as 90% of its flavour.

B

The act of drinking, sucking or chewing a substance releases its volatile gases. They flow out of the mouth and up the nostrils, or up the passageway at the back of the mouth, to a thin layer of nerve cells called the olfactory epithelium, located at the base of the nose, right between the eyes. The brain combines the complex smell signals from the epithelium with the simple taste signals from the tongue, assigns a flavour to what's in your mouth, and decides if it's something you want to eat.

C

Babies like sweet tastes and reject bitter ones; we know this because scientists have rubbed various flavours inside the mouths of infants and then recorded their facial reactions. A person's food preferences, like his or her personality, are formed during the first few years of life, through a process of socialisation. Toddlers can learn to enjoy hot and spicy food, bland health food, or fast food, depending upon what the people around them eat. The human sense of smell is still not fully understood. It is greatly affected by psychological factors and expectations. The mind filters out the overwhelming majority of chemical aromas that surround us, focusing intently on some, ignoring others. People can grow accustomed to bad smells or good smells; they stop noticing what once seemed overpowering.

D

Aroma and memory are somehow inextricably linked. A smell can suddenly evoke a long-forgotten moment. The flavours of childhood foods seem leave an indelible mark, and adults often return to them, without always knowing why. These 'comfort foods' become a source of pleasure and reassurance a fact that fast-food chains work hard to promote Childhood memories of Happy Meals can translate into frequent adult visits to McDonalds', like those of the chain's 'heavy users', the customers who eat there four or five times a week.

E

The human craving for flavour has been a large unacknowledged and unexamined force in history Royal empires have been built, unexplored lands have been traversed, great religions and philosophies have been forever changed by the spice trade. In 1492, Christopher Columbus set sail in order to try to find new seasonings and thus to make his fortune with this most desired commodity of that time. Today, the influence of flavour in

the world marketplace is no less decisive. The rise and fall of corporate empires soft-drink companies, snack-food companies and fast-food chains — is frequently determined by how their products taste.

F

The flavour industry emerged in the mid-1800s, as processed foods began to be manufactured on a large scale. Recognising the need for flavour additives, the early food processors turned to perfume companies that had years of experience working with essential oils and volatile aromas. The great perfume houses of England, France and the Netherlands produced many of the first flavor compounds. In the early part of the 20th century, Germany's powerful chemical industry assumed the lead in flavour production. Legend has it that a German scientist discovered methyl anthranilate, one of the first artificial flavours, by accident while mixing chemicals in his laboratory. Suddenly, the lab was filled with the sweet smell of grapes. Methyl anthranilate later became the chief flavouring compound of manufactured grape juice.

G

The quality that people seek most of all in a food its flavour, is usually present in a quantity too infinitesimal to be measured by any traditional culinary terms such as ounces or teaspoons. Today's sophisticated spectrometers, gas chromatographs and headspace vapour analysers provide a detailed map of a food's flavour components, detecting chemical aromas in amounts as low as one part per billion. The human nose, however, is still more sensitive than any machine yet invented. A nose can detect aromas present in quantities of a few parts per trillion. Complex aromas, such as those of coffee or roasted meat, may be composed of gases from nearly a thousand different chemicals. The chemical that provides the dominant flavour of bell pepper can be tasted in amounts as low as 0.02 parts per billion; one drop is sufficient to add flavour to the amount of water needed to fill five average-size swimming pools.

Questions 1-5

Do the following statements agree with the information given in Reading Passage?
In boxes 1-5 on your answer sheet, write

TRUE *if the statement is true according to the passage*
FLASE *if the statement is false according to the passage*
NOT GIVEN *if the information is not given in the passage*

1 The brain determines which aromas we are aware of.
2 The sense of taste is as efficient as the sense of smell.
3 Personal tastes in food are developed in infancy.
4 Christopher Columbus found many different spices on his travels.
5 In the mid-1880s, man-made flavours are originally invented on purpose.

Questions 6-11

Complete the sentence below.
*Choose **ONE** word from The Passage for each answer. Write your answers in boxes 6-11 on your answer sheet*

It is thought that the sense of taste was 6)..... in order to 7)..... the foods which are harmless to us from those that are not 8)..... . The sense of smell, which gives us the flavour we detect in our food, helps us to take pleasure in our food. Indeed this 9)..... for flavour was, in the past, the reason why so many explorers ventured to distant lands to bring back new 10)..... which were greatly sought after in Europe. Here they were used in cooking to enhance the usual 11)..... and unappetizing dishes eaten by rich and poor alike.

Questions 12-13

*Write **NO MORE THAN TWO WORDS** from Reading Passage 1 for each answer.*
Write your answers in boxes 12-13 on your answer sheet.

12 We associate certain smells with the past as they are ..... .
13 Modern technology is able to help determine the minute quantities of ..... found in food.

Answer keys:

1 NOT GIVEN
2 NOT GIVEN
3 TRUE
4 NOT GIVEN
5 FALSE
6 acquired
7 differentiate / avoid
8 good
9 aroma
10 seasonings
11 flavour
12 indelible
13 chemical aromas

Passage 2

What does the consumer think?

A

Marketing people are no longer prepared to take your word for it that you favour one product over another. They want to scan your brain to see which one you really prefer. Using the tools of neuroscientists, such as electroencephalogram (EEG) mapping and functional magnetic-resonance imaging (fMRI), they are trying to learn more about the mental processes behind purchasing decisions. The resulting fusion of neuroscience and marketing is inevitably, being called 'neuromarketing'.

B

The first person to apply brain-imaging technology in this way was Gerry Zaltman of Harvard University, in the late 1990s. The idea remained in obscurity until 2001, when BrightHouse, a marketing consultancy based in Atlanta, Georgia, set up a dedicated neuromarketing arm, BrightHouse Neurostrategies Group. (BrightHouse lists Coca-Cola, Delta Airlines and Home Depot among its clients.) But the company's name may itself simply be an example of clever marketing. BrightHouse does not scan people while showing them specific products or campaign ideas, but bases its work on the results of more general fMRI-based research into consumer preferences and decision-making carried out at Emory University in Atlanta.

C

Can brain scanning really be applied to marketing? The basic principle is not that different from focus groups and other traditional forms of market research. A volunteer lies in an fMRI machine and is shown images or video clips. In place of an interview or questionnaire, the subject's response is evaluated by monitoring brain activity. fMRI provides real-time images of brain activity, in which different areas 'light up' depending on the level of blood flow. This provides clues to the subject's subconscious thought patterns. Neuroscientists know, for example, that the sense of self is associated with an area of the brain known as the medial prefrontal cortex. A flow of blood to that area while the subject is looking at a particular logo suggests that he or she identifies with that brand.

D

At first, it seemed that only companies in Europe were prepared to admit that they used neuromarketing. Two carmakers, DaimlerChrysler in Germany and Ford's European arm, ran pilot studies in 2006. But more recently, American companies have become more open about their use of neuromarketing. Lieberman Research Worldwide, a marketing firm based in Los Angeles, is collaborating with the California Institute of Technology (Caltech) to enable movie studios to market-test film trailers. More controversially, the New York Times recently reported that a political consultancy, FKF Research, has been studying the effectiveness of campaign commercials using neuromarketing techniques.

E

Whether all this is any more than a modern-day version of phrenology, the Victorian

obsession with linking lumps and bumps in the skull to personality traits, is unclear. There have been no large-scale studies, so scans of a handful of subjects may not be a reliable guide to consumer behaviour in general. Of course, focus groups and surveys are flawed too: strong personalities can steer the outcomes of focus groups, and some people may be untruthful in their responses to opinion pollsters. And even honest people cannot always explain their preferences.

F

That is perhaps where neuromarketing has the most potential. When asked about cola drinks, most people claim to have a favourite brand, but cannot say why they prefer that brand's taste. An unpublished study of attitudes towards two well-known cola drinks, Brand A and Brand B, carried out last year in a college of medicine in the US found that most subjects preferred Brand B in a blind testing — fMRI scanning showed that drinking Brand B lit up a region called the ventral putamen, which is one of the brain's reward centres, far more brightly than Brand A. But when told which drink was which, most subjects said they preferred Brand A, which suggests that its stronger brand outweighs the more pleasant taste of the other drink.

G

'People form many unconscious attitudes that are obviously beyond traditional methods that utilise introspection,' says Steven Quartz, a neuroscientist at Caltech who is collaborating with Lieberman Research. With over 100 billion dollars spent each year on marketing in America alone, any firm that can more accurately analyse how customers respond to brands could make a fortune.

H

Consumer advocates are wary. Gary Ruskin of Commercial Alert, a lobby group, thinks existing marketing techniques are powerful enough. 'Already, marketing is deeply implicated in many serious pathologies', he says. 'That is especially true of children, who are suffering from an epidemic of marketing-related diseases, including obesity and type-2 diabetes. Neuromarketing is a tool to amplify these trends.' Dr. Quartz counters that neuromarketing techniques could equally be used for benign purposes. There are ways to utilise these technologies to create more responsible advertising, he says. Brain-scanning could, for example, be used to determine when people are capable of making free choices, to ensure that advertising falls within those bounds.

I

Another worry is that brain-scanning is an invasion of privacy and that information on the preferences of specific individuals will be misused. But neuromarketing studies rely on small numbers of volunteer subjects, so that seems implausible. Critics also object to the use of medical equipment for frivolous rather than medical purposes. But as Tim Ambler, a neuromarketing researcher at the London Business School, says, 'A tool is a tool, and if the owner of the tool gets a decent rent for hiring it out, then that subsidises the cost of the equipment, and everybody wins.' Perhaps more brain-scanning will someday explain why some people like the idea of neuromarketing, but others do not.


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Questions 14-19

Reading Passage 2 has nine paragraphs A-I.
Choose the correct heading for Paragraphs B-G from the list of headings below. Write the correct number (i-x) in boxes 14-19 on your answer sheet.

List of Heading

i. A description of the procedure and mechanism
ii. An international research project
iii. An experiment to investigate consumer responses
iv. Marketing with an alternative name
v. A misleading name for business?
vi. A potentially profitable line of research
vii. Medical dangers of the technique
viii. Internal drawbacks to marketing tools
ix. Broadening applications
x. What is neuromarketing?

14 Paragraph B
15 Paragraph C
16 Paragraph D
17 Paragraph E
18 Paragraph F
19 Paragraph G

Questions 20-22

Look at the following people (Questions 20-22) and the list of opinions below. Match each person with the opinion credited to him.
Write the correct letter A-Fin boxes 20-22 on your answer sheet.

20 Steven Quartz
21 Gary Ruskin
22 Tim Ambler

List of opinions

A Neuromarketing could be used to contribute towards the cost of medical technology
B Neuromarketing could use introspection as a tool in marketing research.
C Neuromarketing could be a means of treating medical problems.
D Neuromarketing could make an existing problem worse.
E Neuromarketing could lead to the misuse of medical equipment.
F Neuromarketing could be used to prevent the exploitation of consumers

Questions 23-26

Complete the summary below using words from the passage.
*Choose **ONE WORD ONLY** from the passage for each answer.*
Write your answers in boxes 23-26 on your answer sheet.

Neuromarketing can provide valuable information on attitudes to particular 23..... . It may be more reliable than surveys, where people can be

24..... or focus groups, where they may be influenced by others. It also allows researchers to identify the subject's 25..... thought patterns. However, some people are concerned that it could lead to problems such as an increase in disease among 26..... .

Answer keys:

14 v
15 i
16 ix
17 viii
18 iii
19 vi
20 F
21 D
22 A
23 brand(s)/logo
24 untruthful
25 unconscious/ subconscious
26 children

TV Addiction

A

The amount of time people spend watching television is astonishing. On average, individuals in the industrialized world devote three hours a day to the pursuit — fully half of their leisure time, and more than on any single activity save work and sleep. At this rate, someone who lives to 75 would spend nine years in front of the tube. To some commentators, this devotion means simply that people enjoy TV and make a conscious decision to watch it. But if that is the whole story, why do so many people experience misgivings about how much they view? In Gallup polls in 1992 and 1999, two out of five adult respondents and seven out of 10 teenagers said they spent too much time watching TV. Other surveys have consistently shown that roughly 10 percent of adults call themselves TV addicts.

B

To study people's reactions to TV, researchers have undertaken laboratory experiments in which they have monitored the brainwaves (using an electroencephalograph, or EEG) to track behavior and emotion in the normal course of life, as opposed to the artificial conditions of the lab. Participants carried a beeper, and we signaled them six to eight times a day, at random, over the period of a week; whenever they heard the beep, they wrote down what they were doing and how they were feeling using a standardized scorecard.

C

As one might expect, people who were watching TV when we beeped them reported feeling relaxed and passive. The EEG studies similarly show less mental stimulation, as measured by alpha brain-wave production, during viewing than during reading. What is more surprising is that the sense of relaxation ends when the set is turned off, but the feelings of passivity and lowered alertness continue. Survey participants say they have more difficulty concentrating after viewing than before. In contrast, they rarely indicate such difficulty after reading. After playing sports or engaging in hobbies, people report improvements in mood. After watching TV, people's moods are about the same or worse than before. That may be because viewers' vague learned sense that they will feel less relaxed if they stop viewing. So they tend not to turn the set off. Viewing begets more viewing which is the same as the experience of habit-forming drugs. Thus, the irony of TV: people watch a great deal longer than they plan to, even though prolonged viewing is less rewarding. In our ESM studies the longer people sat in front of the set, the less satisfaction they said they derived from it. For some, a twinge of unease or guilt that they aren't doing something more productive may also accompany and depreciate the enjoyment of prolonged viewing. Researchers in Japan, the U.K. and the U.S. have found that this guilt occurs much more among middle-class viewers than among less affluent ones.

D

What is it about TV that has such a hold on us? In part, the attraction seems to spring from our biological 'orienting response.' First described by Ivan Pavlov in 1927, the

orienting response is our instinctive visual or auditory reaction to any sudden or novel stimulus. It is part of our evolutionary heritage, a built-in sensitivity to movement and potential predatory threats. In 1986 Byron Reeves of Stanford University, Esther Thorson of the University of Missouri and their colleagues began to study whether the simple formal features of television — cuts, edits, zooms, pans, sudden noises — activate the orienting response, thereby keeping attention on the screen. By watching how brain waves were affected by formal features, the researchers concluded that these stylistic tricks can indeed trigger involuntary responses and derive their attentional value through the evolutionary significance of detecting movement. . It is the form, not the content, of television that is unique.

E

The natural attraction to television's sound and light starts very early in life. Dafna Lemish of Tel Aviv University has described babies at six to eight weeks attending to television. We have observed slightly older infants who, when lying on their backs on the floor, crane their necks around 180 degrees to catch what light through yonder window breaks. This inclination suggest show deeply rooted the orienting response is.

F

The Experience Sampling Method permitted us to look closely at most every domain of everyday life: working, eating, reading, talking to friends, playing a sport, and so on. We found that heavy viewers report feeling significantly more anxious and less happy than light viewers do in unstructured situations, such as doing nothing, daydreaming or waiting in line. The difference widens when the viewer is alone. Subsequently, Robert D. Mcllwraith of the University of Manitoba extensively studied those who called themselves TV addicts on surveys. On a measure called the Short Imaginal Processes Inventory (SIPI), he found that the self-described addicts are more easily bored and distracted and have poorer attentional control than the non-addicts. The addicts said they used TV to distract themselves from unpleasant thoughts and to fill time. Other studies over the years have shown that heavy viewers are less likely to participate in community activities and sports and are more likely to be obese than moderate viewers or non-viewers.

G

More than 25 years ago psychologist Tannis M. MacBeth Williams of the University of British Columbia studied a mountain community that had no television until cable finally arrived. Over time, both adults and children in the town became less creative in problem solving, less able to persevere at tasks, and less tolerant of unstructured time.

H

Nearly 40 years ago Gary A. Steiner of the University of Chicago collected fascinating individual accounts of families whose set had broken. In experiments, families have volunteered or been paid to stop viewing, typically for a week or a month. Some fought, verbally and physically. In a review of these cold-turkey studies, Charles Winick of the City University of New York concluded: 'The first three or four days for most persons were the worst, even in many homes where viewing was minimal and where there were other

ongoing activities. In over half of all the households, during these first few days of loss, the regular routines were disrupted, family members had difficulties in dealing with the newly available time, anxiety and aggressions were expressed… By the second week, a move toward adaptation to the situation was common.' Unfortunately, researchers have yet to flesh out these anecdotes; no one has systematically gathered statistics on the prevalence of these withdrawal symptoms.

I

Even though TV does seem to meet the criteria for substance dependence, not all researchers would go so far as to call TV addictive. Mellwraith said in 1998 that 'displacement of other activities by television may be socially significant but still fall short of the clinical requirement of significant impairment.' He argued that a new category of 'TV addiction' may not be necessary if heavy viewing stems from conditions such as depression and social phobia. Nevertheless, whether or not we formally diagnose someone as TV-dependent, millions of people sense that they cannot readily control the amount of television they watch.

Questions 14-18

Do the following statements agree with the claims of the writer in Reading Passage 2? In boxes 14-18 on your answer sheet, write

TRUE *if the statement is true*

FALSE *if the statement is false*

NOT GIVEN *if the information is not given in the passage*

14 Study shows that males are more likely to be addicted to TV than females.

15 Greater improvements in mood are experienced after watching TV than playing sports.

16 TV addiction works in similar ways as drugs.

17 It is reported that people's satisfaction is in proportion to the time they spend watching TV.

18 Middle-class viewers are more likely to feel guilty about watching TV than the poor.

Questions 19-23

Look at the following researchers (Questions 19-23) and the list of statements below.

Match each researcher with the correct statements.

Write the correct letter A-H in boxes 19-23 on your answer sheets.

List of Statements

A Audiences would get hypnotized from viewing too much television.

B People have been sensitive to the TV signals since a younger age.

C People are less likely to accomplish their work with television.

D A handful of studies have attempted to study other types of media addiction.

E The addictive power of television could probably minimize the problems.

F Various media formal characters stimulate people's reaction on the screen.

G People who believe themselves to be TV addicts are less likely to join in the group activities.

H It is hard for people to accept the life without TV at the beginning.

19 Byron Reeves and Esther Thorson

20 Dafna Lemish

21 Robert D. Mcllwraith

22 Tannis M. MacBeth Williams

23 Charles Winick

Questions 24-26

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

Write the correct letter in boxes 24-26 on your answer sheet.

24 People in the industrialized world

A devote ten hours watching TV on average.

B spend more time on TV than other entertainment.

C call themselves TV addicts.

D enjoy working best.

25 When compared with light viewers, heavy viewers

A like playing sport more than reading.

B feel relaxed after watching TV.
C spend more time in daydreaming.
D are more easily bored while waiting in line.

26 Which of the following statements is true about the family experiment?
A Not all the subjects participate in the experiment for free.
B There has been a complete gathered data.
C People are prevented from other activities during the experiment.
D People cannot adapt to the situation until the end.

Answer keys:

14 NOT GIVEN
15 FALSE
16 TRUE
17 FALSE
18 TRUE
19 F
20 B
21 G
22 C
23 H
24 B
25 D
26 A

Passage 3

Thomas Harriot
The Discovery of Refraction

A

When light travels from one medium to another, it generally bends, or refracts. The law of refraction gives us a way of predicting the amount of bending. Refraction has many applications in optics and technology. A lens uses refraction to form an image of an object for many different purposes, such as magnification. A prism uses refraction to form a spectrum of colors from an incident beam of light. Refraction also plays an important role in the formation of a mirage and other optical illusions. The law of refraction is also known as Snell's Law, named after Willobrord Snell, who discovered the law in 1621. Although Snell's sine law of refraction is now taught routinely in undergraduate courses, the quest for it spanned many centuries and involved many celebrated scientists. Perhaps the most interesting thing is that the first discovery of the sine law, made by the sixteenth-century English scientist Thomas Harriot (1560-1621), has been almost completely overlooked by physicists, despite much published material describing his contribution.

B

A contemporary of Shakespeare, Elizabeth I, Johannes Kepler and Galilei Galileo, Thomas Harriot (1560-1621) was an English scientist and mathematician. His principal biographer, J. W. Shirley, was quoted saying that in his time he was "England's most profound mathematician, most imaginative and methodical experimental scientist". As a mathematician, he contributed to the development of algebra, and introduced the symbols of ">" and "<" for "more than" and "less than". He also studied navigation and astronomy. On September 17, 1607, Harriot observed a comet, later identified as Halley-s. With his painstaking observations, later workers were able to compute the comet's orbit. Harriot was also the first to use a telescope to observe the heavens in England. He made sketches of the moon in 1609, and then developed lenses of increasing magnification. By April 1611, he had developed a lens with a magnification of 32. Between October 17, 1610 and February 26, 1612, he observed the moons of Jupiter, which had already discovered by Galileo. While observing Jupiter's moons, he made a discovery of his own: sunspots, which he viewed 199 times between December 8, 1610 and January 18, 1613. These observations allowed him to figure out the sun's period of rotation.

C

He was also an early English explorer of North America. He was a friend of the English courtier and explorer Sir Walter Raleigh, and travelled to Virginia as a scientific observer on a colonising expedition in 1585. On June 30, 1585, his ship anchored at Roanoke Island, off Virginia. On shore, Harriot observed the topography, flora and fauna, made many drawings and maps, and met the native people who spoke a language the English called Algonquian. Harriot worked out a phonetic transcription of the native people's speech sounds and began to learn the language, which enabled him to converse to some extent with other natives the English encountered. Harriot wrote his report for Raleigh

and published it as ***A Briefe and True Report of the New Found Land of Virginia*** in 1588. Raleigh gave Harriot his own estate in Ireland, and Harriot began a survey of Raleigh's Irish holdings. He also undertook a study of ballistics and ship design for Raleigh in advance of the Spanish Armada's arrival.

D

Harriot kept regular correspondence with other scientists and mathematicians, especially in England but also in mainland Europe, notably with Johannes Kepler. About twenty years before Snell's discovery, Johannes Kepler (1571-1630) had also looked for the law of refraction, but used the early data of Ptolemy. Unfortunately, Ptolemy's data was in error, so Kepler could obtain only an approximation which he published in 1604. Kepler later tried to obtain additional experimental results on refraction, and corresponded with Thomas Harriot from 1606 to 1609 since Kepler had heard Harriot had carried out some detailed experiments. In 1606, Harriot sent Kepler some tables of refraction data for different materials at a constant incident angle, but didn't provide enough detail for the data to be very useful. Kepler requested further information, but Harriot was not forthcoming, and it appears that Kepler eventually gave up the correspondence, frustrated with Harriot's reluctance.

E

Apart from the correspondence with Kepler, there is no evidence that Harriot ever published his detailed results on refraction. His personal notes, however, reveal extensive studies significantly predating those of Kepler, Snell and Descartes. Harriot carried out many experiments on refraction in the 1590s, and from his notes it is clear that he had discovered the sine law at least as early as 1602. Around 1606, he had studied dispersion in prisms (predating Newton by around 60 years), measured the refractive indices of different liquids placed in a hollow-glass prism, studied refraction in crystal spheres, and correctly understood refraction in the rainbow before Descartes.

F

As his studies of refraction, Harriot's discoveries in other fields were largely unpublished during his lifetime, and until this century, Harriot was known only for an account of his travels in Virginia published in 1588, and for a treatise on algebra published posthumously in 1631. The reason why Harriot kept his results unpublished is unclear. Harriot wrote to Kepler that poor health prevented him from providing more information, but it is also possible that he was afraid of the seventeenth century's English religious establishment which was suspicious of the work carried out by mathematicians and scientists.

G

After the discovery of sunspots, Harriot's scientific work dwindled. The cause of his diminished productivity might have been a cancer discovered on his nose. Harriot died on July 2, 1621, in London, but his story did not end with his death. Recent research has revealed his wide range of interests and his genuinely original discoveries. What some writers describe as his "thousands upon thousands of sheets of mathematics and of

scientific observations" appeared to be lost until 1784, when they were found in Henry Percy's country estate by one of Percy's descendants. She gave them to Franz Xaver Zach, her husband's son's tutor. Zach eventually put some of the papers in the hands of the Oxford University Press, but much work was required to prepare them for publication, and it has never been done. Scholars have begun to study them, and an appreciation of Harriot's contribution started to grow in the second half of the twentieth century. Harriot's study of refraction is but one example where his work overlapped with independent studies carried out by others in Europe, but in any historical treatment of optics his contribution rightfully deserves to be acknowledged.

Questions 27-31

Reading Passage 3 has 7 paragraphs A-G.
Choose the correct heading for paragraphs B-E and G from the list of headings below.
Write the correct number, i-x, in boxes 27-31 on your answer sheet.

List of Headings	
i	A misunderstanding in the history of science
ii	Thomas Harriot's biography
iii	Unknown reasons for his unpublished works
iv	Harriot's 1588 publication on North America studies
v	Expedition to the New World
vi	Reluctant cooperation with Kepler
vii	Belated appreciation of Harriot's contribution
viii	Religious pressures keeping him from publishing
ix	Correspondence with Kepler
x	Interests and researches into multiple fields of study

Example	***Answer***
Paragraph A	i

27 Paragraph B
28 Paragraph C
29 Paragraph D
30 Paragraph E
31 Paragraph G

Questions 32-36

*Answer the questions below using **NO MORE THAN THREE WORDS** from the passage for each answer.*
Write your answers in boxes 32-36 on your answer sheet.

Various modem applications based on an image produced by lens uses refraction, such as 32..... . And a spectrum of colors from a beam of light can be produced with 33..... . Harriot travelled to Virginia and mainly did research which focused on two subjects of American 34..... . After, he also entered upon a study of flight dynamics and 35..... for one of his friends much ahead of major European competitor. He undertook extensive other studies which were only noted down personally yet predated than many other great scientists. One result, for example, corrected the misconception about the idea of 36..... .

Questions 37-40

Look at the following researchers (listed A-D) and findings.
Match each researcher with the correct finding.
Write your answers in boxes 37-40 on your answer sheet.

NB *You may use any researcher more than once.*

A	Willobrord Snell
B	Johannes Kepler
C	Ptolemy
D	Galileo
E	Harriot

37 discovered the moons of Jupiter
38 distracted experimental calculation on refraction
39 the discovery of sunspots
40 the person whose name the sin law was attributed to

Answer keys:

27 x
28 v
29 ix
30 iii
31 vii
32 magnification
33 a prism/ prisms
34 land and language
35 ship design
36 (the) rainbow refraction
37 D
38 B
39 E
40 A

The origin of ancient writing

A

The Sumerians, an ancient people of the Middle East, had a story explaining the invention of writing more than 5,000 years ago. It seems a messenger of the King of Uruk arrived at the court of a distant ruler so exhausted that he was unable to deliver the oracle message. So the king set down the words of his next messages on a clay tablet. A charming story, whose retelling at a recent symposium at the University of Pennsylvania amused scholars. They smiled at the absurdity of a letter which the recipient would not have been able to read.

B

They also doubted that the earliest writing was a direct rendering of speech. Writing more likely began as a separate, symbolic system of communication and only later merged with spoken language.

C

Yet in the story the Sumerians, who lived in Mesopotamia, in what is now southern Iraq, seemed to understand writing's transforming function. As Dr Holly Pittman, director of the University's Center for Ancient Studies, observed, writing 'arose out of the need to store and transmit information ... over time and space'.

D

In exchanging interpretations and information, the scholars acknowledged that they still had no fully satisfying answers to the questions of how and why writing developed. Many favoured an explanation of writing's origins in the visual arts, pictures becoming increasingly abstract and eventually representing spoken words. Their views clashed with a widely held theory among archaeologists that writing developed from the pieces of clay that Sumerian accountants used as tokens to keep track of goods.

E

Archaeologists generally concede that they have no definitive answer to the question of whether writing was invented only once, or arose independently in several places, such as Egypt, the Indus Valley, China, Mexico and Central America. The preponderance of archaeological data shows that the urbanizing Sumerians were the first to develop writing, in 3,200 or 3,300 BC. These are the dates for many clay tablets in an early form of cuneiform, a script written by pressing the end of a sharpened stick into wet clay, found at the site of the ancient city of Uruk. The baked clay tablets bore such images as pictorial symbols of the names of people, places and things connected with government and commerce. The Sumerian script gradually evolved from the pictorial to the abstract, but did not at first represent recorded spoken language.

F

Dr Peter Damerow, a specialist in Sumerian cuneiform at the Max Planck Institute for the History of Science in Berlin, said, "It is likely that there were mutual influences of writing systems around the world." However, their great variety now shows that the development

of writing, once initiated, attains a considerable degree of independence and flexibility to adapt to specific characteristics of the sounds of the language to be represented. Not that he accepts the conventional view that writing started as a representation of words by pictures. New studies of early Sumerian writing, he said, challenge this interpretation. The structures of this earliest writing did not, for example, match the structure of spoken language, dealing mainly in lists and categories rather than in sentences and narrative.

G

For at least two decades, Dr Denise Schmandt-Besserat, a University of Texas archaeologist, has argued that the first writing grew directly out of a system practised by Sumerian accountants. They used clay tokens, each one shaped to represent a jar of oil, a container of grain or a particular kind of livestock. These tokens were sealed inside clay spheres, and then the number and type of tokens inside was recorded on the outside using impressions resembling the tokens. Eventually, the token impressions were replaced with inscribed signs, and writing had been invented.

H

Though Dr Schmandt-Besserat has won much support, some linguists question her thesis, and others, like Dr Pittman, think it too narrow. They emphasise that pictorial representation and writing evolved together. “There’s no question that the token system is a forerunner of writing”, Dr Pittman said, “but I have an argument with her evidence for a link between tokens and signs, and she doesn’t open up the process to include picture making.”

I

Dr Schmandt-Besserat vigorously defended her ideas. “My colleagues say that pictures were the beginning of writing” she said, “but show me a single picture that becomes a sign in writing. They say that designs on pottery were the beginning of writing, but show me a single sign of writing you can trace back to a pot — it doesn’t exist.” In its first 500 years, she asserted, cuneiform writing was used almost solely for recording economic information, and after that its uses multiplied and broadened.

J

Yet other scholars have advanced different ideas. Dr. Piotr Michalowski, Professor of Near East Civilizations at the University of Michigan, said that the proto-writing of Sumerian Uruk was ‘so radically different as to be a complete break with the past’. It no doubt served, he said, to store and communicate information, but also became a new instrument of power. Some scholars noted that the origins of writing may not always have been in economics. In Egypt, most early writing is high on monuments or deep in tombs. In this case, said Dr Pascal Vernus from a university in Paris, early writing was less administrative than sacred. It seems that the only certainly in this field is that many questions remain to be answered.

Questions 27-30

Choose the correct letter A, B, C or D

27 The researchers at the symposium regarded the story of the King of Uruk as ridiculous because

A writing probably developed independently of speech.
B clay tablets had not been invented at that time.
C the distant ruler would have spoken another language.
D evidence of writing has been discovered from an earlier period.

28 According to the writer, the story of the King of Uruk

A is a probable explanation of the origins of writing.
B proves that early writing had a different function to writing today.
C provides an example of symbolic writing.
D shows some awareness amongst Sumerians of the purpose of writing.

29 There was disagreement among the researchers at the symposium about

A the area where writing began.
B the nature of early writing materials.
C the way writing began.
D the meaning of certain abstract images.

30 The opponents of the theory that writing developed from tokens believe that it

A grew out of accountancy.
B evolved from pictures.
C was initially intended as decoration.
D was unlikely to have been connected with commerce.

Questions 31-36

Look at the following statements (Questions 31-36) and the list of people below. Match each statement with the correct person, A-E.

Write the correct letter, A-E, in boxes 31-36 on your answer sheet.

NB *You may be use any letter more than once.*

List of People
A Dr Holly Pittman
B Dr Peter Damerow
C Dr Denise Schmandt-Besserat
D Dr Piotr Michalowski
E Dr Pascal Vernus

31 There is no proof that early writing is connected to decorated household objects.
32 As writing developed, it came to represent speech.
33 Sumerian writing developed into a means of political control.
34 Early writing did not represent the grammatical features of speech.
35 There is no convincing proof that tokens and signs are connected.
36 The uses of cuneiform writing were narrow at first, and later widened.

Questions 37-40

Complete the summary using the list of words, A-N, below.

Write the correct letter, A-M, in boxes 37-40 on your answer sheet.

The earliest form of writing

Most archaeological evidence shows that the people of 37..... invented writing in around 3,300 BC. Their script was written on 38..... and was called 39..... . Their script originally showed images related to political power and business, and later developed to become more 40..... .

A	cuneiform	B	pictorial	C	tomb walls
D	urban	E	legible	F	stone blocks
G	simple	H	Mesopotamia	I	abstract
J	papyrus sheets	K	decorative	L	clay tablets Uruk
M	Egypt				

Answer keys:

27 A
28 D
29 C
30 B
31 C
32 B
33 D
34 B
35 A
36 C
37 H
38 L
39 A
40 I