I. ĐỀ 1

1. READING PASSAGE 1

Finches on Islands

A

Today, the quest continues. On Daphne Major-one of the most desolate of the Galápagos Islands, an uninhabited volcanic cone where cacti and shrubs seldom grow higher than a researcher's knee-Peter and Rosemary Grant have spent more than three decades watching Darwin's finch respond to the challenges of storms, drought and competition for food Biologists at Princeton University, the Grants know and recognize many of the individual birds on the island and can trace the birds' lineages hack through time. They have witnessed Darwin's principle in action again and again, over many generations of finches.

B

The Grants' most dramatic insights have come from watching the evolving bill of the medium ground finch. The plumage of this sparrow-sized bird ranges from dull brown to jet black. At first glance, it may not seem particularly striking, but among scientists who study evolutionary biology, the medium ground finch is a superstar. Its bill is a middling example in the array of shapes and sizes found among Galápagos finches: heftier than that of the small ground finch, which specializes in eating small, soft seeds, but petite compared to that of the large ground finch, an expert at cracking and devouring big, hard seeds.

C

When the Grants began their study in the 1970s, only two species of finch lived on Daphne Major, the medium ground finch and the cactus finch. The island is so small that the researchers were able to count and catalogue every bird. When a severe drought hit in 1977, the birds soon devoured the last of the small, easily eaten seeds. Smaller members of the medium ground finch population, lacking the bill strength to crack large seeds, died out.

D

Bill and body size are inherited traits, and the next generation had a high proportion of big-billed individuals. The Grants had documented natural selection at work-the same process that, over many millennia, directed the evolution of the Galápagos' 14 unique finch species, all descended from a common ancestor that reached the islands a few million years ago.

E

Eight years later, heavy rains brought by an El Nino transformed the normally meager vegetation on Daphne Major. Vines and other plants that in most years struggle for survival suddenly flourished, choking out the plants that provide large seeds to the finches. Small seeds came to dominate the food supply, and big birds with big bills died out at a higher rate than smaller ones. 'Natural selection is observable,' Rosemary Grant says. 'It happens when the environment changes. When local conditions reverse themselves, so does the direction of adaptation.

F

Recently, the Grants witnessed another form of natural selection acting on the medium ground finch: competition from bigger, stronger cousins. In 1982, a third finch, the large ground finch, came to live on Daphne Major. The stout bills of these birds resemble the business end of a crescent wrench. Their arrival was the first such colonization recorded on the Galápagos in nearly a century of scientific observation. 'We realized,' Peter Grant says, 'we had a very unusual and potentially important event to follow.' For 20 years, the large ground finch coexisted with the medium ground finch, which shared the supply of large seeds with its bigger-billed relative. Then, in 2002 and 2003, another drought struck. None of the birds nested that year, and many died out. Medium ground finches with large bills, crowded out of feeding areas by the more powerful large ground finches, were hit particularly hard.

G

When wetter weather returned in 2004, and the finches nested again, the new generation of the medium ground finch was dominated by smaller birds with smaller bills, able to survive on smaller seeds. This situation, says Peter Grant, marked the first time that biologists have been able to follow the complete process of an evolutionary change due to competition between species and the strongest response to natural selection that he had seen in 33 years of tracking Galápagos finches.

H

On the inhabited island of Santa Cruz, just south of Daphne Major, Andrew Hendry of McGill University and Jeffrey Podos of the University of Massachusetts at Amherst have discovered a new, man-made twist in finch evolution. Their study focused on birds living near the Academy Bay research station, on the fringe of the town of Puerto Ayora. The human population of the area has been growing fast-from 900 people in 1974 to 9,582 in 2001. Today Puerto Ayora is full of hotels and mai tai bars,' Hendry says. 'People have taken this extremely arid place and tried to turn it into a Caribbean resort.'

I

Academy Bay records dating back to the early 1960s show that medium ground finches captured there had either small or large bills. Very few of the birds had mid-size bills. The finches appeared to be in the early stages of a new adaptive radiation: If the trend continued, the medium ground finch on Santa Cruz could split into two distinct subspecies, specializing in different types of seeds. But in the late 1960s and early 70s, medium ground finches with medium-sized bills began to thrive at Academy Bay along with small and large-billed birds. The booming human population had introduced new food sources, including exotic plants and bird feeding stations stocked with rice. Billsize, once critical to the finches' survival, no longer made any difference. 'Now an intermediate bill can do fine,' Hendry says.

J

At a control site distant from Puerto Ayora, and relatively untouched by humans, the medium ground finch population remains split between large- and small-billed birds. On undisturbed parts of Santa Cruz, there is no ecological niche for a middling medium ground finch, and the birds continue to diversify. In town, though there are still many finches, once-distinct populations are merging.

K

The finches of Santa Cruz demonstrate a subtle process in which human meddling can stop evolution in its tracks, ending the formation of new species. In a time when global biodiversity continues its downhill slide, Darwin's finches have yet another unexpected lesson to teach. 'If we hope to regain some of the diversity that's already been lost/ Hendry says, 'we need to protect not just existing creatures, but also the processes that drive the origin of new species.

Questions 1-4

Complete the table now.
Choose **NO MORE THAN TWO WORDS** from Reading Passage 1 for each answer.
*Write your answers in boxes **1-4** on your answer sheet.*

Year	Climate	Finch's condition
1977	**1**…… …	small-beak birds failing to survive, without the power to open **2**……
1985	**3**…… … brought by El Nino	big-beak birds dying out, with **4**…… as the main food resource

Questions 5-8

Complete the following summary of the paragraphs of Reading Passage 1
Using **NO MORE THAN TWO WORDS** from the Reading Passage for each answer.
*Write your answers in boxes **5-8** on your answer sheet.*
On the remote island of Santa Cruz, Andrew Hendry and Jeffrey Podos conducted a study on reversal **5**…… due to human activity. In the early 1960s medium ground finches were found to have a larger or smaller beak. But in the late 1960s and early 70s, finches with **6**…… flourished. The study speculates that it is due to the growing **7**…… who brought in alien plants with intermediate-size seeds into the area and the birds ate **8**…… sometimes.

Questions 9-13

Do the following statements agree with the claims of the writer in Reading Passage1?
*In boxes **9-13** 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

9 Grants' discovery has questioned Darwin's theory.
10 The cactus finches are less affected by food than the medium ground finch.
11 In 2002 and 2003, all the birds were affected by the drought.
12 The discovery of Andrew Hendry and Jeffrey Podos was the same as that of the previous studies.
13 It is shown that the revolution in finches on Santa Cruz is likely a response to human intervention.

2. READING PASSAGE 2

The evolutional mystery: *Crocodile survives*

A

Crocodiles have been around for 200 million years, but they're certainly not primitive. The early forms of crocodiles are known as Crocodilian. Since they spent most of their life beneath water, accordingly their body adapted to aquatic lifestyle. Due to the changes formed within their body shape and tendency to adapt according to the climate they were able to survive when most of the reptiles of their period are just a part of history. In their tenure on Earth, they've endured the impacts of meteors, planetary refrigeration, extreme upheavals of the Earth's tectonic surface and profound climate change. They were around for the rise and fall of the dinosaurs, and even 65 million years of supposed mammalian dominance has failed to loosen their grip on the environments they inhabit. Today's crocodiles and alligators are little changed from their prehistoric ancestors, a telling clue that these reptiles were (and remain) extremely well adapted to their environment.

B

The first crocodile-like ancestors appeared about 230 million years ago, with many of the features that make crocs such successful stealth hunters already in place: streamlined body, long tail, protective armour and long jaws. They have long head and a long tail that helps them to change their direction in water while moving. They have four legs which are short and are webbed. Never underestimate their ability to move on ground. When they move they can move at such a speed that won't give you a second chance to make a mistake by going close to them especially when hungry. They can lift their whole body within seconds from ground. The fastest way by which most species can move is a sort of "belly run", where the body moves like a snake, members huddled to

the side paddling away frenetically while the tail whips back and forth. When “belly running” Crocodiles can reach speeds up to 10 or 11 km/h (about 7mph), and often faster if they are sliding down muddy banks. Other form of movement is their “high walk”, where the body is elevated above the ground.

C

Crocodilians have no lips. When submerged in their classic ‘sit and wait’ position, their mouths fill with water. The nostrils on the tip of the elongated snout lead into canals that run through bone to open behind the valve – allowing the crocodilian to breathe through its nostrils even though its mouth is under water. When the animal is totally submerged, another valve seals the nostrils, so the crocodilian can open its mouth to catch prey with no fear of drowning. The thin skin on the crocodilian head and face is covered with tiny, pigmented domes, forming a network of neural pressure receptors that can detect barely perceptible vibrations in the water. This enables a crocodile lying in silent darkness to suddenly throw its head sideways and grasp with deadly accuracy small prey moving close by.

D

Like other reptiles, crocodiles are endothermic animals (cold-blooded, or whose body temperature varies with the temperature of the surrounding environment) and, therefore, need to sunbathe, to raise the temperature of the body. On the contrary, if it is too hot, they prefer being in water or in the shade. Being a cold-blooded species, the crocodilian heart is unique in having an actively controlled valve that can redirect, at will, blood flow away from the lungs and recirculate it around the body, taking oxygen to where it’s needed most. In addition, their metabolism is a very slow one, so, they can survive for long periods without feeding. Crocodiles are capable of slowing their metabolism even further allowing them to survive for a full year without feeding. Compared to mammals and birds, crocodilians have slow metabolisms that burn much less fuel, and are ideally suited to relatively unstable environments that would defeat mammals with their high food demands.

E

Crocodiles use a very effective technique to catch the prey. The prey remains almost unaware of the fact that there can be any crocodile beneath water. It is due to the fact that when the crocodile sees its prey it moves under water without making any noise and significant movement. It keeps only its eyes above water surface. When it feels it has reached sufficiently close to the target it whistles out of water with wide open jaws. 80 percent of their attempts are successful. They have very powerful jaws. Once the prey trapped in its jaws they swallow it. Their power can be judged from the fact they can kill the wild zebras which come to watery areas in search of water. They do not chew their food. They normally feed on small animals, big fish, birds and even human flesh. As like some water creatures that interact by making sounds crocodiles also use many sounds to communicate with other crocodiles. They exist where conditions have remained the same and they are free of human interference. The crocodile is successful because it switches its feeding methods. It hunts fish, grabs birds at the surface, hides among the water edge vegetation to wait for a gazelle to come by, and when there is a chance for an ambush, the crocodile lunges forward, knocks the animal with its powerful tail and then drags it to water where it quickly drowns. Another way is to wait motionless for an animal to come to the water's edge and grabs it by its nose where it is held to drown.

F

In many places inhabited by crocodilians, the hot season brings drought that dries up their hunting grounds and takes away the means to regulate their body temperature. They allowed reptiles to dominate the terrestrial environment. Furthermore, many crocs protect themselves from this by digging burrows and entombing themselves in mud, waiting for months without access to food or water, until the rains arrive. To do this, they sink into a quiescent state called aestivation.

G

Most of (At least nine species of) crocodilian are thought to aestivate during dry periods. Kennett and Christian's six-year study of Australian freshwater crocodiles – ***Crocodylus johnstoni (the King Crocodiles).*** The crocodiles spent almost four months a year underground without access to water. Doubly labeled water was used to measure field metabolic rates and water flux, and plasma (and cloacal fluid samples were taken at approximately monthly intervals during some years to monitor the effects of aestivation with respect to the accumulation of nitrogenous wastes and electrolyte concentrations. Double found that the crocodiles' metabolic engines tick over, producing waste and using up water and fat reserves. Waste products are stored in the urine, which gets increasingly concentrated as the months pass. However, the concentration of waste products in the blood changes very little, allowing the crocodiles to function normally. Furthermore, though the animals lost water and body mass (just over one-tenth of their initial mass) while underground, the losses were proportional: on emergence, the aestivating crocodiles were not dehydrated and exhibited no other detrimental effects such as a decreased growth rate. Kennett and Christian believe this ability of individuals to sit out the bad times and endure long periods of enforced starvation must surely be key to the survival of the crocodilian line through time.

Questions 14-20

Reading passage 2 has seven paragraphs, **A-G**.
Choose the correct heading for paragraphs **A-G** from the list below.
*Write the correct number, **i-xi**, in boxes **14-20** on your answer sheet.*

List of Headings

i The competitors with the dinosaur
ii A historical event for the Supreme survivors
iii What makes the crocodile the fastest running animal on land
iv Regulated body temperature by the surrounding environment
v Underwater aid in body structure offered to a successful predator
vi The perfectly designed body for a great land roamer
vii Slow metabolisms which makes crocodile a unique reptile
viii The favorable features in the impact of a drought
ix Shifting Eating habits and food intake
x A project on a special mechanism
xi A unique findings has been achieved recently

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

Questions 21-26

Complete the summary and write the correct answer (**NO MORE THAN TWO WORDS OR A NUMBER**) in boxes **21-26** on your answer sheet.

In many places inhabited by crocodilians, most types of the crocodile have evolved a successful scheme to survive in the drought brought by a **21**…… According to Kennett and Christian's six-year study of Australian freshwater crocodiles' aestivation, they found Aestivating crocodiles spent around **22**…… a year without access to **23**…… The absolute size of body water pools declined proportionately with **24**……; thus there is no sign of **25**…… and other health-damaging impact in the crocodiles even after an aestivation period. This super capacity helps crocodiles endure the tough drought without slowing their speed of **26**…… significantly.

3. READING 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 Hailey-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 base 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 enters 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

II. ĐỀ 2

1. READING PASSAGE 1

Blue-footed Boobies

A

Boobies are a small group of seabirds native to tropical and subtropical oceans throughout the world. Their diet consists mainly of fish. They are specialized fish eaters feeding on small school fish like sardines, anchovies, mackerel, and flying fish. When their prey is in sight, they fold their long wings back around their streamlined bodies and plunge into the water from as high as 80 feet, so streamlined they barely make a splash. They travel in parties of about 12 to areas of water with large schools of small fish. When the lead bird sees a fish shoal in the water, it will signal the rest of the group and they will all dive together. Surprisingly, individuals do not eat with the hunting group, preferring to eat on their own, usually in the early morning or late afternoon.

B

There are three varieties on the Galapagos: the blue-footed, red-footed, and masked boobies. They are all members of the same family, and are not only different in appearance but also in behaviours. The blue-footed and red-footed boobies mate throughout the year, while the masked boobies have an annual mating cycle that differs from island to island. All catch fish in a similar manner, but in different areas: the blue-footed booby does its fishing close to shore, while the masked booby goes slightly farther out, and the red-footed booby fishes at the farthest distances from shore.

C

Although it is unknown where the name “Booby” emanates from, some conjecture it may come from the Spanish word for clown, “bobo”, meaning “stupid”. Its name was probably inspired by the bird’s clumsiness on land and apparently unwarranted bravery. The blue footed booby is extremely vulnerable to human visitors because it does not appear to fear them. Therefore these birds received such name for their clumsiness on land in which they were easy, captured, killed, and eaten by humans.

D

The blue-footed booby’s characteristic feet play a significant part in their famous courtship ceremony, the ‘booby dance’. The male walks around the female, raising his bright blue feet straight up in the air while bringing his ‘shoulders’ towards the ground and crossing the bottom tips of his wings high above the ground. Plus he’ll raise his bill up towards the sky to try to win his mate over. The female may also partake in these activities – lifting her feet, sky pointing, and of course, squawking at her mate. After mating, another ritual occurs – the nest-building which ironically is never used because they nest on the bare ground. When the female is ready to lay her eggs, they scrape the existing nest away so she can nest on exposed ground. Sun-baked islands form the booby’s breeding grounds. When ready the female Blue Footed Booby lays one to three eggs.

E

After mating, two or three eggs are laid in a shallow depression on flat or gently sloping ground. Both male and female take turns incubating the eggs. Unlike most birds, booby doesn’t develop brood patches (areas of bare skin on the breast) to warm the eggs during incubation. Instead, it uses its broad webbed feet, which have large numbers of prominent blood vessels, to transmit heat essential for incubation. The eggs are thick-shelled so they can withstand the full weight of an incubating bird.

F

After hatching, the male plays a major role in bringing fish home. He can bring back a constant supply of small fish for the chicks, which must be fed continuously. The reason is that the male has a longer tail than the female in relation to his body size, which makes him able to execute shallower dives and to feed closer to shore. Then the female takes a greater part as time proceeds. Sooner or later, the need to feed the young becomes greater than the need to protect them and both adults must fish to provide enough.

G

When times are good, the parents may successfully fledge all three chicks, but, in harder times, they may still lay as many eggs yet only obtain enough food to raise one. The problem is usually solved by the somewhat callous-sounding system of “opportunistic sibling murder.” The first-born chick is larger and stronger than its nest mate(s) as a result of hatching a few days earlier and also because the parents feed the larger chick. If food is scarce, the first born will get more food than its nest mate(s) and will outcompete them, causing them to starve. The above system optimizes the reproductive capacity of the blue-foot in an unpredictable environment. The system ensures that, if possible, at least one chick will survive a period of shortage rather than all three dying of starvation under a more ‘humane’ system.

Questions 1-6

The reading passage has seven paragraphs, **A-G**
Choose the correct heading for paragraphs **A-G** from the list below.
*Write the correct number, **i-ix**, in boxes **1-6** on your answer sheet.*

List of Headings

i Unusual way of hatching the chicks
ii Feeding habit of the red-footed booby
iii Folding wings for purpose
iv Rearing the young
v Classification of boobies
vi Diving for seafood
vii Surviving mechanism during the food shortage period
viii Mating and breeding
ix Origin of the booby's name

1 Paragraph **A**
2 Paragraph **B**

Example	*Answer*
*Paragraph **C***	***ix***

3 Paragraph **D**
4 Paragraph **E**
5 Paragraph **F**
6 Paragraph **G**

Questions 7-9

Do the following statements agree with the information given in Reading Passage 1?
*In boxes **7-9** 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

7 Boobies are afraid of human approaching.
8 Female boobies eat more than the male ones.
9 When there is not sufficient food, the larger chicks will be fed at the expense of the survival of its smaller mates.

Questions 10 – 13

Complete the summary below.
Using **NO MORE THAN TWO WORDS** from the Reading Passage for each answer.
*Write your answers in boxes **10-13** on your answer sheet.*
The courtship of the Blue-footed Booby consists of the male flaunting his blue feet and dancing to impress the female. During the dance, the male will spread his wings and stamp his feet on the ground with his bills **10**……. After mating, the booby's unusual demeanor continues with ritual **11**…… that really serves no purpose. When the female Booby lays eggs, the parental boobies incubate the eggs beneath their **12**…… which contain **13**…… to transmit the heat, because of the lack of brood patches.

2. READING PASSAGE 2

Chinese Yellow Citrus Ant

for

BIOLOGICAL CONTROL

A

In 1476, the farmers of Berne in Switzerland decided, according to this story, there was only one way to rid their fields of the cutworms attacking their crops. They took the pests to court. The worms were tried, found guilty and excommunicated by the archbishop. In China, farmers had a more practical approach to pest control. Rather than rely on divine intervention, they put their faith in frogs, ducks and ants. Frogs and ducks were encouraged to snap up the pests in the paddies and the occasional plague of locusts. But the notion of biological control began with an ant. More specifically, the story says, it started with the predatory yellow citrus ant Oecophylla smaragdina, which has been polishing off pests in the orange groves of southern China for at least 1700 years. The yellow citrus ant is a type of weaver ant, which binds leaves and twigs with silk to form a neat, tent-like nest. In the beginning, farmers made do with the odd ants'nest here and there. But it wasn't long before growing demand led to the development of a thriving trade in nests and a new type of agriculture—ant farming.

B

Foran insect that bites, the yellow citrus ant is remarkably popular. Even by ant standards, Oecophylla smaragdina is a fearsome predator. It's big, runs fast and has a powerful nip—painful to humans but lethal to many of the insects that plague the orange groves of Guangdong and Guangxi in southern China. And for at least 17 centuries. Chinese orange growers have harnessed these six-legged killing machines to keep their fruit groves healthy and productive. The story explains that citrus fruits evolved in the Far East and the Chinese discovered the delights of their flesh early on. As the ancestral home of oranges, lemons and pomelos, China also has the greatest diversity of citrus pests. And the trees that produce the sweetest fruits, the mandarins—or kan–attract a host of plant-eating insects, from black ants and sap-sucking mealy bugs to leaf-devouring caterpillars. With so many enemies, fruit growers clearly had to have some way of protecting their orchards.

C

The West did not discover the Chinese orange growers' secret weapon until the early 20th century. At the time, Florida was suffering an epidemic of citrus canker and in 1915 Walter Swingle, a plant physiologist working for the US Department of Agriculture, was, the story says, sent to China in search of varieties of orange that were resistant to the disease. Swingle spent some time studying the citrus orchards around Guangzhou, and there he came across the story of the cultivated ant. These ants, he was told, were "grown" by the people of a small village nearby who sold them to the orange growers by the nestful.

D

The earliest report of citrus ants at work among the orange trees appears in a book on tropical and subtropical botany written by His Han in AD 304. “The people of Chiao-Chih sell in their markets ants in bags of rush matting. The nests are like silk. The bags are all attached to twigs and leaves which, with the ants inside the nests, are for sale. The ants are reddish-yellow in colour, bigger than ordinary ants. In the south, if the kan trees do not have this kind of ant, the fruits will all be damaged by many harmful insects, and not a single fruit will be perfect.

E

Initially, farmers relied on nests which they collected from the wild or bought in the market where trade in nests was brisk. ‘It is said that in the south orange trees which are free of ants will have wormy fruits. Therefore the people race to buy nests for their orange trees, ‘wrote Liu Hsun in Strange Things Noted in the South, written about AD 890. The business quickly became more sophisticate. From the 10th century, country people began to trap ants in artificial nests baited with fat. “Fruit growing families buy these ants from vendors who make a business of collecting and selling such creatures, “wrote Chuang Chi-Yu in 1130. “They trap them by filling hogs ‘or sheep’s bladders with fat and placing them with the cavities open next to the ants ‘nests. They wait until the ants have migrated into the bladders and take them away. This is known as ‘rearing orange ants’. “Farmers attached the bladders to their trees, and in time the ants spread to other trees and built new nests. By the 17th century, growers were building bamboo walkways between their trees to speed the colonization of their orchards. The ants ran along these narrow bridges from one tree to another and established nests “by the hundreds of thousands”.

F

Did it work? The orange growers clearly thought so. One authority, Chi Ta-Chun, writing in 1700, stressed how important it was to keep the fruit trees free of insect pests, especially caterpillars. “It is essential to eliminate them so that the trees are not injured. But hand labour is not nearly as efficient as ant power…” Swingle was just as impressed. Yet despite this report, many Western biologists were skeptical. In the West, the idea of using one insect to destroy another was new and highly controversial. The first breakthrough had come in 1888, when the infant orange industry in California had been saved from extinction by the Australian vedalia beetle. This beetle was the only thing that had made an inroad into the explosion of cottony cushion scale that was threatening to destroy the state’s citrus crops. But, as Swingle now knew, California’s “first” was nothing of the sort. The Chinese had been an expert in biocontrol for many centuries.

G

The story goes on to say that the long tradition of ants in the Chinese orchards only began to waver in the 1950s and 1960s with the introduction of powerful organic (I guess the author means chemical insecticides). Although most fruit growers switched to chemicals, a few hung onto their ants. Those who abandoned ants in favour of chemicals quickly became disillusioned. As costs soared and pests began to develop resistance to the chemicals, growers began to revive the old ant patrols. They had good reason to have faith in their insect workforce. Research in the early 1960s showed that as long as there were enough ants in the trees, they did an excellent job of dispatching some pests—mainly the larger insects—and had modest success against others. Trees with yellow ants produced almost 20 per cent more healthy leaves than those without. More recent trials have shown that these trees yield just as big a crop as those protected by expensive chemical sprays.

H

One apparent drawback of using ants—and one of the main reasons for the early skepticism by Western scientists—was that citrus ants do nothing to control mealy bugs, waxy-coated scale insects which can do considerable damage to fruit trees. In fact, the ants protect mealy bugs in exchange for the sweet honeydew they secrete. The orange growers always denied this was a problem but Western scientists thought they knew better. Research in the 1980s suggests that the growers were right all along. Where mealy bugs proliferate under the ants 'protection they are usually heavily parasitized and this limits the harm they can do. Orange growers who rely on carnivorous ants rather than poisonous chemicals maintain a better balance of species in their orchards. While the ants deal with the bigger insect pests, other predatory species keep down the numbers of smaller pests such as scale insects and aphids. In the long run, ants do a lot less damage than chemicals—and they're certainly more effective than ex-communication.

Questions 14-18

Use the information in the passage to match the year (listed **A-G**) with the correct description below.
*Write the appropriate letters **A-G** in boxes **14-18** on your answer sheet.*
NB *You may use any letter more than once*

A 1888
B 1476
C 1915
D 1700
E 1130
F 304 AD
G 1950

14 First record of ant against pests written.
15 WS studied ant intervention method in China.
16 First case of orange crops rescued by an insect in the western world.
17 Chinese farmers start to choose a chemical method.
18 A book wrote mentioned ways to trap ants.

Questions 19-26

Do the following statements agree with the information given in Reading Passage 2?
*In boxes **19-26** 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

19 China has the most orange pests in the world.

20 Swingle came to China in order to search an insect for the US government.

21 Western people were impressed by Swingle's theory of pest prevention.

22 Chinese farmers realised that price of pesticides became expensive.

24 Trees without ants had more unhealthy fallen leaves than those with.

25 Yield of fields using ants is larger a crop than that using chemical pesticides.

26 Chinese orange farmers proposed that ant protection doesn't work out of China.

3. READING PASSAGE 3

John Franklin: "the discovery of the slowness"

A

John Franklin (1786-1847) was the most famous vanisher of the Victorian era. He joined the Navy as a midshipman at the age of 14 and fought in the battles of Copenhagen and Trafalgar. When peace with the French broke out. he turned his attention to, and in particular to solve the conundrum of the Northwest Passage, the mythical clear-water route which would, if it existed, link the Atlantic and the Pacific Oceans above the northern coast of the American continent. The first expedition Franklin led to the Arctic was an arduous overland journey from Hudson Bay to the shores of the so-called Polar Ocean east of the Coppermine River. Between 1819 and 1822. Franklin and his twenty-strong team covered 5550 miles on foot. Their expedition was a triumph of surveying – they managed to chart hundreds of miles of previously unknown coastline.

B

There followed a career as a travel writer and salon-goer {'the man who ate his boots' was Franklin's tag-line), a second long Arctic expedition, and a controversial spell as Governor of Van Diemen's Land. Then, in May 1845, Franklin set off with two ships – the Erebus and the Terror – and 129 men on the voyage that would kill him. In July, the convoy was seen by two whalers, entering Lancaster Sound. Nothing more would be heard of it for 14 years. Had the ships sunk or been iced in? Were the men dead, or in need of rescue? Or had they broken through to the legendary open polar sea, beyond the 'ice barrier'?

C

In his personal correspondence and in his published memoirs. Franklin comes across as a man dedicated to the external duties of war and exploration, who kept introspection and self-analysis to a minimum. His blandness makes him an amenably malleable subject for a novelist, and Sten Nadolny has taken full advantage of this licence. Most important, he has endowed his John Franklin with a defining character trait for which there is no historical evidence: (‘slowness’, or ‘calmness’).

D

Slowness influences not only Franklin’s behaviour but also his vision, his thought and his speech. The opening scene of The Discovery of Slowness (The Discovery of Slowness by Sten Nadolny) – depicts Franklin as a young boy. playing catch badly because his reaction time is too slow. Despite the bullying of his peers, Franklin resolves not to fall into step with ‘their way of doing things’. For Nadolny. Franklin’s fated fascination with the Arctic stems from his desire to find an environment suited to his peculiar slowness.

E

He describes Franklin as a boy dreaming of the ‘open water and the time without hours and days’ which exist in the far north, and of finding in the Arctic a place ‘where nobody would find him too slow’. Ice is a slow mover. Ice demands a corresponding patience from those who venture onto it. The explorers who have thrived at high latitude and at high altitudes haven’t usually been men of great speed. They have tended instead to demonstrate unusual self-possession, a considerable capacity for boredom, and a talent for what the Scots call ‘tholing’, the uncomplaining endurance of suffering.

F

These were all qualities which the historical Franklin possessed in abundance, and so Nadolny's concentration and exaggeration of them isn't unreasonable. Even as an adult, his slowness of thought means that he is unable to speak fluently, so he memorises 'entire fleets of words and batteries of response', and speaks a languid, bric-a-brac language. In the Navy, his method of thinking first and acting later initially provokes mockery from his fellow sailors. But Franklin persists in doing things his way. and gradually earns the respect of those around him. To a commodore who tells him to speed up his report of an engagement, he replies: 'When I tell something, sir. I use my own rhythm.' A lieutenant says approvingly of him: 'Because Franklin is so slow, he never loses time.'

G

Since it was first published in Germany in 1983. The Discovery of Slowness has sold more than a million copies and been translated into 13 languages. It has been named as one of German literature's twenty 'contemporary classics', and it has been as a manual and by European pressure groups and institutions representing causes as diverse as sustainable development, the Protestant Church, management science, motoring policy and pacifism.

H

The various groups that have taken the novel up have one thing in common: a dislike of the high-speed culture of Postmodernity. Nadolny's Franklin appeals to them because he is immune to 'the compulsion to be constantly occupied', and to the idea that 'someone was better if he could do the same thing fast.' Several German churches have used him in their symposia and focus groups as an example of peacefulness, piety and self-confidence. A centre scheme (a 'march of slowness' or 'of the slow'), inspired by the novel. Nadolny has appeared as a guest speaker for RIO, a Lucerne-based organisation which aims to reconcile management principles with ideas of environmental sustainability. The novel has even become involved in the debate about speed limits on German roads. Drive down an autobahn today, and you will see large road-side signs proclaiming 'unhurriedness' a slogan which deliberately plays off the title of the novel.

I

A management journal in the US described The Discovery of Slowness is a 'major event not only for connoisseurs of fine historical fiction but also for those of us who concern themselves with leadership, communication and systems-thinking, issues'. It's easy to see where the attraction lies for the management crowd. The novel is crammed with quotations about time-efficiency, punctiliousness and profitability: 'As a rule, there are always three points in time: the right one. the lost one and the premature one'. 'What did too late mean? They hadn't waited for it long enough, that's what it meant.'

Questions 27-32

Reading Passage 3 has seven paragraphs **A-H**.
Which paragraph contains the following information?
*Write the correct letter **A-H**, in boxes **27-32** on your answer sheet.*
NB *You may use any letter more than once*.
27 What was Sir John Franklin's occupation before he went on a career of the arctic exploration?
28 A story John Franklin reacted strangely when he met bullies by other children.
29 Reason of popularity for the book *The Discovery of Slowness*
30 A depiction that Sten Nadolny's biography on John Franklin is not much based on facts.
31 The particular career Sir John Franklin took after his expedition unmatched before.
32 what is the central scheme and environment conveyed by the book *The Discovery of Slowness*

Questions 33-36

Complete the Summary paragraph described below.
*In boxes **33-36** on your answer sheet*
Write the correct answer with **ONE WORD** chosen from the box below
In his personal correspondence to and in his published memoirs by Sten Nadolny, John Franklin was depicted as a man dedicated to the exploration, and the word of "slowness" was used to define his **33**……. when Franklin was in his childhood, his determination to the **34**……. of the schoolboys was too slow for him to fall into step. And Franklin was said to be a boy dreaming finding in a place he could enjoy the **35**……. in the Arctic. Later in 20th, His biography of the discovery of slowness has been adopted as a **36**……. as for the movement such as sustainable development, or management science, motoring policy.

A exploration	**B** blandness	**C** personality	**D** policy
E pressure	**F** guidebook	**G** management	
H timelessness	**I** sports	**J** bully	**K** evidence

Questions 37-40

Choose the correct letter, **A**, **B**, **C** or **D**.
*Write your answers in boxes **37-40** on your answer sheet*
37 Why does the author mention *"the ice is a slow mover"* in the geological arctic, to demonstrate the idea

A of the difficulties Franklin conquered
B that Franklin had a dream since his childhood
C of fascination with the Arctic exploration
D that explorer like Franklin should possess the quality of being patient

38 When Franklin was on board with sailors, how did he speak to his follow sailors

A he spoke in a way mocking his followers
B he spoke a bric-a-brac language to show his languish attitude
C he spoke in the words and phrases he previously memorized
D he spoke in a rhythmical tune to save chatting time

39 His effort to overcome his slowness in marine time life had finally won the

A understanding of his personality better
B capacity for coping with boredom
C respect for him as he insisted to overcome his difficulties
D valuable time he can use to finish a report

40 Why is the book *The Discovery of Slowness* sold more than a million copies

A it contains aspects of the life people would like to enjoy
B it contains the information for the flag language applied in ships
C it induces a debate about speed limits German
D it contains the technique for symposia German churches

III. ĐỀ 3

1. READING PASSAGE 1

The Green Revolution in China

A

A couple of weeks ago, China's highest government body published their conclusions from the second research session on continental climate change over a period of twelve months. Due to China's new global role and the number of unprecedented environmental issues in China, the Chinese prime minister was very keen to raise climate change as an important issue at the upcoming G8 summit in Hokkaido, Japan.

B

It should be highlighted that the Chinese central government also had a similar meeting and that China is a rapidly industrializing country with new coal-fueled power plants opening every week. China is like a terrifying carbon-guzzling monster. As a result of thirty years of industrialization, China now has the highest level of carbon dioxide emissions in the world. Carbon dioxide emissions are increasing up to eight per cent a year. The EU achieved a twenty per cent reduction, but China's emission rate was twice as much approaching the 2010 IPCC deadline for carbon dioxide emissions reduction.

C

However, it could be misleading to put too much emphasis on these statistics. A non-governmental organization (Climate Group) newspaper report presents a slightly different picture. According to the Clean Revolution in China, China is a nation that is more than aware of its environmental issues but also has the potential to achieve a second miracle in 30 years.

D

The environmental price of the first “miracle” was that Chinese people always saw their daily lives. That’s why most of the policies are related to energy efficiency, energy-saving and other alternative energy sources. Those policies have already been met with some concern.

Whilst the personal sectors are so strong and developing, they are able to aid the central government to introduce laws, like the National Renewable Energy Law in 2006. This has set hard targets, including increasing the amount of energy made from new renewable sources from eight per cent to fifteen per cent until 2020. Also, it has guaranteed at least three per cent of renewable energy sources, such as biomass, solar and wind.

E

Both wind and solar power are so successful, but their origins are very different. With 6 gigawatts of energy made from wind turbines, surprisingly China is now ranked behind Germany, the US, Spain and India. Also, some believe China will reach 100 GW by 2020.

F

Wind power successfully shows that with central government aid China is ready for new policies, subsidies and advanced technology. This situation also has a role in the domestic market. The amount of electricity produced by wind farms can be a burden to fund.

G

Even though western countries invented an open marketplace set to dominate in China, there were few domestic incentives for solar power. In the global solar photovoltaic cell market, it is second only to Japan and growing fast. In China, the solar market has been a small business, because the cells are so expensive. This puts pressure on the government to rapidly follow up on their policies, for example, the role of the Climate Group is important in developing domestic markets.

H

However, the image of new coal-fueled power stations still looms large as they are opening every week. It is hard to imagine that China has achieved a 10.5 per cent of growth rate without such stations in the last quarter. However, how many people actually know that China has been closing its small power stations over the last couple of years? Step by step China is reducing its small power stations, first the 50-megawatt ones then the 100-megawatt ones and next will be the 300-megawatt power stations.

I

This policy is operated by the Chinese central government and backs up the new generation of coal station using the most advanced technologies with supercritical and ultra-supercritical improved clean coal. Capture functions and plants of carbon are researched and developed, but advanced thinking for the future is based on the technology of Integrated Gasification Combined Cycle (IGCC) that turn coal materials into synthetic gas to make power.

J

These days, Chinese consumers demand better homes and vehicles. Public awareness of energy-saving is on the rise. The Chinese government introduced a standard fuel economy for vehicles in 2004 of 15.6 kilometers per litre. This is higher than the US, Canada and Australia but behind Europe and Japan. In the meantime, in spite of a high 20 per cent tax on SUVs (Sport Utility Vehicles), the sale of these sorts of cars continues to increase.

K

Up to now, China has been the kingdom of the bicycle, importing the electric bike at 1,500 yuan ($220) per vehicle. Some of these vehicles have adopted an intelligent recovery system similar to that of hybrid cars. In 2007, the sale of electric bikes increased considerably and China is estimated to make up three-quarters of the world electric vehicle market.

L

China, already, is doing a lot on the bottom line. So, could it do more? The answer is yes, China should learn and open its mind through international communities. According to the Climate Group, they report the world should refine their image of China, just not fear it and, constructively, work in unison. At the same time, China's government should develop a clean revolution and maintain internal pressure for improvements.

Questions 1-7

Do the following statements reflect the claims of the writer in Reading Passage 1?
In boxes **1-7** on your answer sheet, write

YES if the statement reflects the opinion of the writer
NO if the statement contradicts the opinion of the writer
NOT GIVEN if it is impossible to say what the writer thinks about this

1 The Central Government of China concluded the second research scheme of climate change is less than one year.
2 The main topic of the G8 Meeting in Japan was to discuss greenhouse gas emissions.
3 The Chinese Government must compensate the European Union for loss of climate change.
4 NGO's group reported about the truth of problems of a climate change in China.
5 Solar energy has increased the amount of energy.
6 With different launching, both wind and solar power are inefficient.
7 The high cost of cells causes less activity in the solar market in China.

Questions 8-13

Complete the sentences.
Choose **NO MORE THAN THREE WORDS** from the passage for each answer.

8 China is emitting …… of the so outstanding rates in the world.

9 Statistics that can be misleading have been corrected by a ……

10 In 2006 …… has set a hard target, waxing the amount of renewable sources.

11 What including the amount of sources which are renewable is like ……

12 Wind energy is based on subsidies, policies and the equitable ……

13 …….. should support to develop the domestic market in China facing financial problems.

2. READING PASSAGE 2

The Efficacy of Hypnotherapy

A

In the 1840s Scottish neurosurgeon, James Braid coined 'Hypnotherapy'. At that time, in India, British surgeon, James Esdaile, practiced hundreds of scrotal and abdominal operations, adopting hypnosis as the only anaesthetic. It was unfortunate timing that he reported his research dissertation on hypnosis to London Royal Society just as chemical anaesthetics were discovered. The technique was not agreed on by the medical establishment.

B

These days, whilst an increasing number of people are asking about private practitioners, the level of studies within the hypnotherapy field is meaningful enough that it remains on the fringes of medicine. In a report on alternative and complementary medicine in 2000, the Science and Technology Committee of the UK's House of Lords has given hypnosis a bad reputation by putting it in the "poor research/regulation" category. In other words, the therapies were unlikely to enter mainstream medicine without substantial changes.

C

If you research the PubMed database using the term "hypnotherapy," you find 11,518 hit-words, so there are plenty of studies out there. However, most of the researchers are not satisfied with the gold standard of a Randomised Controlled Trial (RCT) instead of taking the frame of reviews or case studies. Only 91 relevant RCTs conducted in the world have worked in the past four years. The researchers propose that hypnotherapy can be an effective treatment for pain control, irritable bowel syndrome, anxiety disorders and smoking cessation.

D

There is clear evidence that hypnosis has psychological and physiological effects. That's why Peter Whorwell at the University of Manchester has researched the efficacy of IBS (irritable bowel syndrome) surgery for gastrointestinal modulation with hypnotherapy and possible immune function support. But even though IBS is one of the best-covered areas, the action with mechanism is not clear and the Cochrane Collaboration from assessing clinical trials has criticised the size and quality of the studies.

E

In spite of the evidence that hypnotherapy reduces pain, anxiety and stress, there are a couple of reasons why few trials have been done. From these stages, hypnosis's usage doesn't aid its image. Also, it has the same problems as other "talking" therapies. Alternative funding should be built up, as the drug companies do not benefit from funding expensive studies.

F

But, one of the biggest obstacles to hypnosis being considered on a more scientific basis is the therapists themselves. Its effects are a result of a unique interaction between the practitioner and the patient. The expectation is similar to that of a drug and therefore should follow the same trial testing criteria. However, this argument is not helpful.

G

I strongly believe that whilst meeting with a living, breathing person, it is hard to decrease the process of clinical hypnosis and to receive YES or NO responses that are able to be reliably repeated in other conditions. However, for hypnosis to be considered medical, it should be measurable, replicable and vigorous. Actually, we need to model a body of clinical evidence in order to adapt to the medical profession.

H

With standardising protocol used, we demand quantitative measures of the effects on the patient, so studies can be compared. Ideally, researchers would have access to state-of-the-art brain scanning equipment. In reality, we are able to get simple biochemical markets of hypnosis and after-effects under suitable usage.

I

Coming out of such studies in England, Ursula James founded the Medical School Hypnosis Association with her colleagues. According to Complementary Therapies in Clinical Practice, she explains schemes to bring medical professors and students together with hypnotherapists to operate coordinated national trials and build up a large body of evidence from research replicated at multiple locations. Most of all, one of the first questions is whether clinical hypnosis is able to decrease stress. That is an important component potentially in an illness. We work towards using standardised questionnaires to calculate lifestyle, stress and depression and to measure various stress hormone levels in saliva samples taken from case applicants.

J

If we are able to present that there is a decrease in stress, we hope that hypnosis will be supplied to patients to treat their condition. With a wide range of usages, it could open up study into other areas including decreasing the thoughts of pain and improving recovery times.

Questions 14-16

Choose the appropriate letters **A-D** and write them in boxes **14-16** on your answer sheet.

14 According to information in the text, hypnotherapy

A was created by British surgeon James Esdaile in 1840.
B has already been used during an operation by James Braid.
C originated from the work of Scottish neurosurgeon James Braid in the 1840s.
D was created by James Esdaile and James Braid in the 1840s.

15 According to information in the text, the recent perception on hypnotherapy among private practitioners

A maintains plenty of research within alternative medicine.
B is on the fringes of mainstream medicine because there hasn't been enough research.
C means there is a neutral attitude within alternative medicine.
D demands non-practical, but has potential.

16 According to a randomised controlled trial (RCT), hypnotherapy

A works in a variety of cases.
B supplied research and development in advance.
C works in cold.
D was found to be an antidote against irritable bowel syndrome (IBS).

Questions 17-21

Complete the summary.
Choose **ONE OR TWO WORDS** from the passage for each answer.
*Write your answers in boxes **17-21** on your answer sheet.*

To show evidence of hypnosis, researchers have proved physiological and **17**…….. as well. They discovered that hypnotherapy presumes to assist modulate gastrointestinal and immune function whilst operated **18**……. The mechanism of action is not justified, also, what assesses clinical trials, the **19** …….. has underestimated the value and scale of studies. Despite having several effects, drug companies deny the therapy due to **20**…… it should be demanded as a substitute investment. However, an outstanding barrier is **21**……

Questions 22-23

Answer the questions below.
Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage for each answer.
*Write your answers in boxes **22** and **23** on your answer sheet.*

22 How many relevant RCTs were there in the past four years?

23 Who reported that hypnotherapy aids gastrointestinal modulation and supports immune function?

Questions 24-27

Look at the following people and the list of statements below.
Match each name with the correct statement.
*Write the correct letter, **A-E**, in boxes **24-27** on your answer sheet.*

24 James Braid
25 James Esdaile
26 Peter Whorwell
27 Ursula James

List of Statements

A founded the Medical School Hypnosis Association.
B discovered hypnotherapy suppose to aid gastrointestinal modulation and support immune function.
C created a new term, hypnotherapy, in the 1840s.
D implemented over several hundred abdominal and scrotal operations.
E criticised the quality and size of hypnotherapy.

Question 28

Choose the appropriate letter **A-D** and write it in box **28** on your answer sheet.

Which of the following statements best describes the writer's main purpose in Reading Passage 2?

A to inform the reader relative not to mimic during operating of hypnotherapy

B to encourage the reader to act against misinformation regarding hypnotherapy

C to make the reader spread the right perception of hypnotherapy

D to make readers encourage a randomised controlled trial (RCT)

3. READING PASSAGE 3

The Well-being Life

A

Going back to the 1970s, few people listened to scientists' warnings of global warming. It got worse as nobody was interested in curbing economic growth to protect the environment. Nowadays, we are more cautious. We are hearing about the conflict between living on the earth and expanding the demands of the global market.

B

However, Tim Jackson reports that people and governments claim the growth agenda to ensure our future and are still in denial of the conflict. A reason for this is the presumption that support for the green campaigners will ultimately make our lives worse.

C

All representations of a pleasant and easy life which aspire to come from advertising do not help. Also, our happiness is dependent on consuming more and more "material." We have never listened to ways of escaping stress, noise, congestion, and the ill-health that comes from our "high" standard of living.

D

Actually, there is plenty of evidence to suggest that a workaholic mentality and an affluent lifestyle does not give us a pleasant life and that switching to a more sustainable community to work could make us happier. For instance, rates of depression and occupational illness have been indicated to be relative to the number of hours we are working. Once a certain income level is reached, more wealth is not linked with growing happiness.

E

The unreasonableness of our situation can be explained by the way in which our economy tries to sell us happiness. For example, leisure and tourism companies sell customers “a good quality time,” catering services offer us “home cooking,” dating agencies sell relationships; the sports centre sells health and as a result of modern car culture it can be unsafe to walk outside. With the economy steadily expanding, consumer culture is becoming more and more reliant on our desire to adopt this lifestyle.

F

An increasing number of people are beginning to realize that there is more to life than work and money. Troubled by the effects of a stressful life, people are starting to make their lives more simple and rethinking their values and desires. If people were to switch to a less work-intensive economy, it would decrease the rate of people, products and information delivered, reducing carbon emissions and the use of resources.

G

There are a number of advantages to making sacrifices to our lifestyles. We would be able to have more time for ourselves and our families. We would commute less and enjoy healthier ways of travelling such as walking, cycling, and riding a boat. Large supermarket chains would be replaced by local family businesses resulting in the creation of more communal town centres. Our local areas would become more tranquil and give us more chance to reflect on things. These changed ideas for a “good life” might also motivate less developed countries to reconsider their goals, enabling them to avoid some of the less attractive aspects of the current system.

H

Of course, we must sacrifice some conveniences and pleasure such as regular steaks, hot tubs, luxury cosmetics and easy foreign travel. But constant comfort can blunt as well as satisfy our desires. And human ingenuity will invent a wide range of eco-friendly excitement.

I

Moving into a safe-state economy is an intimidating prospect. However, Herman Daly explains it is unrealistic to continue with current rates of development in production, work and material consumption over the next decades, let alone into the next century.

J

Under the financial disorders and broad cynicism over government commitments to global warming, more honesty would win cooperation and esteem from the voter, especially if politicians emphasise the advantages of the sustainable society.

Questions 29-34

Reading Passage 3 has ten paragraphs, **A-J.**
Choose the correct heading for paragraphs **B-G** from the list of headings below.
*Write the correct number, **i-viii**, in boxes **29-34** on your answer sheet.*

List of Headings

i A lot of proof of non-well-being
ii Recent perceptional change of the environment
iii Reviving time for private time
iv Understanding of being valuable
v The absurdity of our lives from the feature of the economy benefit
vi Right attitude for constant comfort and human ingenuity
vii People and governments that continue to disagree
viii Aspiring to the material civilisation

	Example	*Answer*
	*Paragraph **A***	***ii***
29	Paragraph **B**	
30	Paragraph **C**	
31	Paragraph **D**	
32	Paragraph **E**	
33	Paragraph **F**	
34	Paragraph **G**	

Questions 35-40

Do the following statements reflect the claims of the writer in Reading Passage 3?
In boxes **35-40** on your answer sheet, write

YES if the statement reflects the opinion of the writer
NO if the statement contradicts the opinion of the writer
NOT GIVEN if it is impossible to say what the writer thinks about this

35 Most people have concentrated on global warming since 1970.
36 Tim Jackson discusses a conflict of opinions between people and governments.
37 Work and material are relative to pleasant and favorable lives recently.
38 Level of income is vital for building up substantial happiness.
39 With a less work-intensive economy, it would decrease only the rate of carbon emissions.
40 Herman Daly indicates current rates of natural resources are enlarged for a sustainable society.

IV. ĐỀ 4

1. READING PASSAGE 1

Growing of the Aging Society

A

American scientists say that the elderly are now healthier, happier and more independent. The results of a study that has taken place over a 14-year period will be released at the end of the month. The research will show that common health disorders suffered by the elderly are affecting fewer people and happening after in life.

B

Over the last 14 years, The National Long-term Health Care Survey has gathered data from more than 20,000 males and females over the age of 65 about their health and lifestyles. The group has analysed the results of data gathered in 1994 on conditions such as arthritis, high blood pressure and poor circulation; these were the most common medical complaints for this age group. The results show that these conditions are troubling a smaller proportion of people each year and decreasing very quickly. Other diseases suffered by the elderly including dementia, emphysema and arteriosclerosis are also affecting fewer people.

C

According to Kenneth Manton, a demographer from Duke University in North Carolina, “the question of what should be considered normal ageing has really changed.” He also mentioned that diseases suffered by many people around the age of 65 in 1982 are now not occurring until people reach the age of 70-75.

D

It is clear that due to medical advances some diseases are not as prominent as they used to be. However, there was also be other factors influencing this change. For instance, improvements in childhood nutrition in the first quarter of the twentieth century gave many people a better start in life than was possible before.

E

The data also shows some negative changes in public health. The research suggests that the rise of respiratory conditions such as lung cancer and bronchitis may reflect changing smoking habits and an increase in air pollution. Manton says that as we have been exposed to worse and worse pollution, it is not surprising that some people over the age of 60 are suffering as a result.

F

Manton also found that better-educated people are likely to live longer. For instance, women of 65 with less than eight years of education are expected to live to around 82. Those who studied more could be able to live seven years longer. Whilst some of this can be attributed to better-educated people usually having a higher income, Manton believes it is mainly because they pay closer attention to their health.

G

Also, the survey estimated how independent people of 65 were and found a striking trend. In the 1994 survey, almost 80% of them were able to complete activities such as eating and dressing alone as well as handling difficult tasks, like cooking and managing their financial affairs. This situation indicates an important drop among disabled elderly people in the population. If 14 years ago, the apparent trends in the US had continued, researchers believe that there would be one million disabled elderly people in today's population. Manton shows the trend saved more than $200 billion for the US's governments Medicare system, and it has suggested the elderly American population is less of a financial burden than expected.

H

The growing number of independent elderly people is probably linked to the huge increase in home medical aids. For instance, the research shows the use of raising toilet seat covers and bath seats has increased by more than fifty per cent. Also, these developments about health benefits are reported by the MacArthur Foundation's research group for successful ageing. It found the elderly who are able to take care of themselves were more likely to stay healthy in their old age.

I

Retaining a certain level of daily physical activity may also help brain function, according to Carl Cotman, a neuroscientist at the University of California at Irvine. He found that rats exercising on a treadmill have higher levels of a brain-derived neurotrophic factor in their brains. He believes the hormone which holds neuron functions may prevent the active human's brain function from declining.

J

Teresa Seeman, a social epidemiologist at the University of Southern California in Los Angeles, was conducting the same research. She found a line between self-esteem and stress in people over 70. The elderly who did challenging activities such as driving have more control of their mind and have a lower level of the stress hormone cortisol in their brains. Chronically high levels of this hormone can cause heart disease.

K

However, an independent life may have negative points. Seeman knew that the elderly people that were living alone were able to retain higher levels of stress hormones even when sleeping. The research indicates that elderly people are happier if they can live an independent life but also acknowledge when they need help.

L

Seeman says, “With many cases of research about ageing, these results help common sense.” Also, the situations show that we may be ignoring some of the simple factors. She mentions, “The sort of thing your grandmother always used to talk to you about seems to be exactly right.”

Questions 1-6

Reading Passage 1 has twelve paragraphs, **A-L**.
Choose the correct heading for paragraphs **B-G** from the list of headings below.
*Write the correct number, **i-vii**, in boxes **1-6** on your answer sheet.*

List of Headings

i Disorders strike much later in life.
ii Drawbacks in public health.
iii Longevity based on high education.
iv The elderly people of today got better nutrition when they were children.
v The elderly are becoming more well off.
vi Most of independent people over 65 complete activities themselves.
vii Diseases have decreased recently.

	Example	Answer
	Paragraph **A**	***v***
1	Paragraph **B**	
2	Paragraph **C**	
3	Paragraph **D**	
4	Paragraph **E**	
5	Paragraph **F**	
6	Paragraph **G**	

Questions 7-13

Do the following statements reflect the claims of the writer in Reading Passage 1?
In boxes **7-13** 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

7 Smoking habits are a crucial cause in some cancers.
8 The better-educated elderly people tend to live longer.
9 People over 65 can independently manage a variety of tasks.
10 Elderly people have overcome dementia as a result of home medical aids.
11 Continuing physical exercises is likely to assist digestive function.
12 People over 70 who still do challenging things such as driving are able to lower their level of the hormone cortisol which is linked to heart disease.
13 Isolation may cause a higher level of stress hormones.

2. READING PASSAGE 2

Space Flight Tourism

A

Falcon 1's successful launch on 28th of September was an outstanding achievement for the fledgeling space tourism industry. When a rocket made by Space X in Hawthorne, California, reached an orbit of 500 kilometres from the Earth, it became possible for privately developed rocket too.

B

Two days after the launch, Virgin Galactic started a business with the US National Oceanic and Atmospheric Administration which will be accepted by US scientists as a way of researching climate change using a spacecraft.

C

No doubt the civilian space flight industry is an exciting area and this was apparent at the International Aeronautical Congress in Glasgow last month. It displayed slick promotional videos, and models of the "Nearly Ready" spacecraft in orbit to the people who would be investing money in the project.

D

However, in spite of increasing confidence, it is also necessary to be cautious: can a civilian spacecraft be safe like holiday airlines? Gerardine Goh, a lawyer at DLR, the German Aerospace Centre in Bonn and a member of Germany's delegation to the UN's Office of Outer Space Affairs reported that as it is not global, there need to be enforceable regulations in place to guarantee the safety of a civilian spacecraft. She said, "Ships should be equipped to be seaworthy, aircraft should be equipped to be airworthy but there is no legislation in place to ensure that a spacecraft is spaceworthy."

E

At the International Association for the Advancement of Space Safety, Goh is planning to press the UN to force civilian space operators to warrant which spacecraft are designed and built to minimum safety standards. She says, "Mass commercial space flight does not currently have international safety regulations." and "We deeply need a UN treaty which offers us this."

F

One way companies are planning to transport tourists into space is with a "mother ship", an aircraft which carries a rocket at an altitude of 16 kilometres before launching it, says Goh. "But with launching the aircraft, the ICAO's air safety standards only apply to the mother ship and the rocket capsule until they are separated. After that, we do not have any safety standards for the capsule itself. It is a critical problem."

G

From 16 kilometres to the Karman line, the point of 100 kilometres up where space is considered to start, the rocket will be travelling within a legal vacuum. Here, lawyers cannot agree on whether it is a plane or a rocket. Some insist that if you are in a well-equipped functioning rocket, more strict safety measures should try to be incorporated into the spaceship's design.

H

The other aspects of the UN's 1967 treaty for outer space exploration may be discussed again if civilian space flight turns out to be successful. For example, countries must consider how to rescue and repatriate astronauts crashing or landing in their land. Also, governments have to decide if the money generated by the space flight industry will be enough to cover the cost of rescuing space tourists.

I

Civilian space flight companies are very aware of the risks in this field as they have already had the experience of dealing with a tragedy. Unfortunately, three engineers were killed and another three were severely injured in 2007, when nitrous oxide rocket fuel suddenly exploded during fuel flow tests at a Scaled Composites facility in Mojave, California. The company is establishing WhiteKnightTwo, a carrier aircraft and SpaceShip Two, a six-seater rocket for Virgin Galactic. The facility was regulated by California's health and safety regulator, and it has now modified its technology to decrease the risks.

J

However, space flight's dangers are far from just fuel issues. According to Laurent Gathier of Dassault Aviation developing the VSH of a rocketpowered sub-orbital tourist space plane, other critical safety factors are with depressurization risks, passengers close to the engine and the activities of flight trajectories including cosmic ray shielding.

K

Civilian space companies should incorporate the safety features into their designs. For instance, the VSH will equip an ejector seat for all tourists and staff. It is a device for bailing out of the spacecraft with a default of 40,000 feet (12 kilometres).

L

Goh's vision is essentially against the Federal Aviation Administration Office of Commercial Space Transportation (AST) and does not have any schemes to regulate civilian space flight safety until 2012. The Commercial Space Launch Amendments Act of 2004 mentions that George Nield as AST chief said, the civilian space flight regulation must not "stifle" the developing technologies with inconvenient rules.

M

Before launching, a hands-off approach to civilian space flight could be quite risky. Goh said, "A lack of safety standards and a lot of operational burdens will leave a commercial space flight in the dangerous activity categories in terms of the insurance." It means insurance costs will be very high. Critics who are developing safety standards also insist that the "at-your-own-risk" mentality that is applied to risky sports like scuba-diving should also be applied to civilian space flight.

Questions 14-20

Complete the summary.
Choose **NO MORE THAN THREE WORDS** from the passage for each answer.
*Write your answers in boxes **14-20** on your answer sheet.*

On 28 September the emerging space tourism industry was enormous. In Hawthorne, California, a rocket was erected by **14**…….. Climate change was monitored by **15**……. in US National Oceanic and Atmospheric Administration using its spacecraft. In Glasgow, at the International Aeronautical meeting, it is apparent that civilian space flight industry is growing, as it showed the **16**……. spacecraft which promised sub-orbital flights. Although developing confirmation, non-regulation is clear to guarantee **17**……. A method for space business is cooperating with a **18**……. conveyable at 16 kilometres in the skies. From 16 kilometres to 100 kilometres' travelling may be available, but lawyers

definitely cannot agree with whether it is a **19**……. or a rocket. **20**…… need to be revisited if civilian space flight proves successful.

Questions 21-26

Complete each sentence with the correct ending **A-I** below.
*Write the correct letter **A-I** in boxes **21-26** on your answer sheet.*

21 Civilian space flight companies
22 Laurent Gathier
23 VSH devised for a safety
24 AST chief George Nield
25 Insurance costs
26 Critics

A assisted some minimum safety standards may prevent that.
B emphasised a civilian space flight must not be under a severe regulation for technical advancement.
C hardly need a reminder of the danger when considering past experiences.
D will protect a commercial space flight.
E try to develop a module of safety regulations applied to civilian space flight.
F made up for an ejector seat for tourists and the crew in case of a craft emergency in the skies.
G indicated the main safety problems were with passengers' proximity to the powerful engine.
H believed that scuba-diving should be applied to civilian space flight.
I kept costs stratospheric.

3. READING PASSAGE 3

Doctor's Rights and Drinks

A

New Yorker John Davin started his campaign for election to Congress on 26th of September 1922. Actually, he was not a politician, but a doctor who practiced in a local city for 40 years at the top of his profession. Davin and other doctors with the same opinions were faced with the task of arguing their cases in front of the people. Also, they made a new political party, the Medical Rights League, and decided that Davin should run as a candidate for the coming election. What did they want? Beer, or more precisely, a doctor who had the right to prescribe it.

The Congress had legislated the law prohibiting the sale of alcohol in January 1920. The aim was to transform a nation of drinkers and gamblers into one of hard-working, law-abiding, teetotal citizens. It was now illegal to sell or buy a drink that included more than 0.5 per cent alcohol "for beverage purpose." Only medical alcohol was allowed, but the conditions were so strict. Doctors could prescribe "liquor" when there was a "need to afford relief from a known ailment". Patients could not have more than a pint of liquor "within 10 days at any time". Doctors who needed to prescribe alcohol were approved for a permit. But the current law said nothing about beer, traditional alcohol for ailments from anaemia to anthrax. So, could they prescribe beer or not?

B

As doctors were requesting permission to prescribe beer, someone had to make a decision. That person was Attorney General Mitchell Palmer, a staunch supporter of Prohibition. To the delight of doctors and dismay of prohibitionists, he urged "it was not the purpose of Congress to prohibit the use of liquor for non-beverage usages." The Congress

accepted medicinal alcohol for non-beverage usages. It was for “beer and other malt liquors.”

C

The Prohibitionists were very enraged. They had suspicions that doctors were in league with the brewers and that their intentions were more to disrupt Prohibition than for medicinal purposes. Although brandy and whisky might have some medicinal advantages, in their view, beer was not needed at pharmacies. Congressman Andrew Volstead, who drafted the National Prohibition Act, criticized the decision saying “It is not a worthy argument that beer is medicine,” “Everything in beer except the alcohol is similar to the bears that can be bought without any prescription.” He immediately set up a supplementary bill that would further restrict medicinal alcohol and ban “medical beer” altogether.

D

Now, it was the doctors’ turn to be infuriated. How dare politicians presume to tell doctors what sort of things they could prescribe or how much. The merits of medicinal alcohol were suddenly a topic of national debate. For a couple of decades, doctors had been divided on the issue. Many insisted it was a treatment for all manners of disease. Others removed a worthless remedy left from the past. The American Medical Association (AMA), in 1917, denied the medicinal usage of alcohol, “Its value in therapeutics as a tonic, stimulant or food has no scientific basis.”

E

However, as Prohibition hit home, doctors’ enthusiasm for alcohol improved. Articles admiring beer, wine and whisky spread among medical journals. One doctor suggested champagne worked wonders in cases of scarlet fever. Beer was warranted to treat sleeplessness. One of the US’s top doctors even insisted that when children with diphtheria developed secondary infections, alcohol could save them.

F

According to JAMA, the report said, “Impressive particularly was the sincerity of the belief of a lot of physicians in the therapeutic effect of whisky within a limited number of diseases.” “But equally impressive was the expressed belief of a limited number of physicians of necessity within a lot of diseases.” The contents ran from anaemia to uraemia, including influenza and indigestion, cancer, colds and heart disease.

Questions 27-33

Do the following statements reflect the claims of the writer in Reading Passage 3?
In boxes **27-33** on your answer sheet, write

YES if the statement reflects the opinion of the writer
NO if the statement contradicts the opinion of the writer
NOT GIVEN if it is impossible to say what the writer thinks about this

27 John Davin has been ready for the election to Congress.
28 The Medical Rights League was made to support the right to prescribe beer by Davin and like-minded doctors.
29 It was illegal to sell or buy a beverage that contained over 0.5 per cent alcohol.
30 Congress only granted beer as medical alcohol.
31 As beer might have some benefit for medicinal use, it was in a pharmacy.
32 The American Medical Association (AMA) has funded a scientific basis.
33 If children have diphtheria, alcohol may cure them.

Questions 34-35

Choose the appropriate letters **A-D** and write them in boxes **34-35** on your answer sheet.

34 In 1922, the reason John Davin began a campaign

A was against beer and other malt liquors.
B was to assert a doctor's right to prescribe beer.
C was for the Medical Rights League's duty.
D was to oppose strong-minded politicians.

35 In 1917, the American Medical Association (AMA)

A decided beer is a worthless remedy.
B declared beer has an effect as a tonic.
C decided beer won't be any evidence of a medical basis.
D assisted a patient with cancer.

Questions 36-39

Complete the summary below.
Choose **ONE** word from Reading Passage 3 for each answer.
*Write your answers in boxes **36-39** on your answer sheet.*

Once prohibition affected homes, doctors stimulated interests in **36**……. Besides, as doctors affirmed the effects of alcohol, beer was guaranteed to cure **37**……. When children with **38**……. transferred dual-infections, alcohol could save them. According to **39**……, most physicians believed the effects of therapeutic usage of whisky in the treatment of a limited number of diseases to be remarkably impressive.

Question 40

Choose the appropriate letter **A-D** and write it in box **40** on your answer sheet.

This text is taken from

A a medical textbook for a beginner.
B a critical research of the scientific basis of a beverage.
C a magazine article about alcohol issues.
D a document against government prohibition.