# I. ĐỀ 1

## 1. READING PASSAGE 1

### The Adolescents

**A**

The American Academy of Pediatrics recognizes three stages of adolescence. These are early, middle and late adolescence, and each has its own developmental tasks. Teenagers move through these tasks at their own speed depending on their physical development and hormone levels. Although these stages are common to all teenagers, each child will go through them in his or her own highly individual ways.

**B**

During the early years young people make the first attempts to leave the dependent, secure role of a child and to establish themselves as unique individuals, independent of their parents. Early adolescence is marked by rapid physical growth and maturation. The focus of adolescents' self-concepts is thus often on their physical self and their evaluation of their physical acceptability. Early adolescence is also a period of intense conformity to peers. 'Getting along,' not being different, and being accepted seem somehow pressing to the early adolescent. The worst possibility, from the view of the early adolescent, is to be seen by peers as 'different'.

**C**

Middle adolescence is marked by the emergence of new thinking skills. The intellectual world of the young person is suddenly greatly expanded. Their concerns about peers are more directed toward their opposite sexed peers. It is also during this period that the move to establish psychological independence from one's parents accelerates. Delinquency behavior may emerge since parental views are no longer seen as absolutely correct by adolescents. Despite some delinquent behavior, middle adolescence is a period during which young people are

oriented toward what is right and proper. They are developing a sense of behavioral maturity and learning to control their impulsiveness.

**D**

Late adolescence is marked by the final preparations for adult roles. The developmental demands of late adolescence often extend into the period that we think of as young adulthood. Late adolescents attempt to crystallize their vocational goals and to establish a sense of personal identity. Their needs for peer approval are diminished and they are largely psychologically independent from their parents. The shift to adulthood is nearly complete.

**E**

Some years ago, Professor Robert Havighurst of the University of Chicago proposed that stages in human development can best be thought of in terms of the developmental tasks that are part of the normal transition. He identified eleven developmental tasks associated with the adolescent transition. One developmental task an adolescent needs to achieve is to adjust to a new physical sense of self. At no other time since birth does an individual undergo such rapid and profound physical changes as during early adolescence. Puberty is marked by sudden rapid growth in height and weight. Also, the young person experiences the emergence and accentuation of those physical traits that make him or her a boy or girl. The effect of this rapid change is that young adolescent often becomes focused on his or her body.

**F**

Before adolescence, children's thinking is dominated by a need to have a concrete example for any problem that they solve. Their thinking is constrained to what is real and physical. During adolescence, young people begin to recognize and understand abstractions. The adolescent must adjust to increased cognitive demands at school. Adults see high school in part as a place where adolescents prepare for adult roles and responsibilities and in part as preparatory for further education. School curricula are frequently dominated by the inclusion of more abstract, demanding material, regardless of whether the adolescents have achieved formal thought. Since not all adolescents make the intellectual

transition at the same rate, demands for abstract thinking prior to achievement of that ability may be frustrating.

**G**

During adolescence, as teens develop increasingly complex knowledge systems and a sense of self, they also adopt an integrated set of values and morals. During the early stages of moral development, parents provide their child with a structured set of rules of what is right and wrong, what is acceptable and unacceptable. Eventually, the adolescent must assess the parents' values as they come into conflict with values expressed by peers and other segments of society. To reconcile differences, the adolescent restructures those beliefs into a personal ideology.

**H**

The adolescent must develop expanded verbal skills. As adolescents mature intellectually, as they face increased school demands, and as they prepare for adult roles, they must develop new verbal skills to accommodate more complex concepts and tasks. Their limited language of childhood is no longer adequate. Adolescents may appear less competent because of their inability to express themselves meaningfully.

**I**

The adolescent must establish emotional and psychological independence from his or her parents. Childhood is marked by a strong dependence on one's parents. Adolescents may yearn to keep that safe, secure, supportive, dependent relationship. Yet, to be an adult implies a sense of independence, of autonomy, of being one's own person. Adolescents may vacillate between their desire for dependence and their need to be independent. In an attempt to assert their need for independence and individuality, adolescents may respond with what appears to be hostility and lack of cooperation.

**J**

Adolescents do not progress through these multiple developmental tasks separately. At any given time, adolescents may be dealing with several. Further, the centrality of specific developmental tasks varies with early, middle, and late periods of the transition.



**Questions 1-6**

Match the following characteristics with the correct stages of the adolescent.
*Write the correct letter, **A**, **B** or **C**, in boxes **1-6** on your answer sheet.*

**A** early adolescence
**B** middle adolescence
**C** later adolescence

**1** interested in the opposite sex
**2** exposure to danger
**3** the same as others
**4** beginning to form individual thinking without family context
**5** less need the approval of friends
**6** intellectual booming

**Questions 7-10**

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

*Write the correct letters, **A-F**, in boxes **7-10** on your answer sheet.*

**7** One of Havighurst's research

**8** High School Courses

**9** Adolescence is a time when young people

**10** The developmental speed of thinking patterns

**List of the statements**

**A** form personal identity with a set of morals and values

**B** develops a table and productive peer relationships

**C** are designed to be more challenging than some can accept

**D** varies from people to people

**E** focuses on creating a self-image

**F** become an extension of their parents

**Questions 11-13**

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

*In boxes **11-13** 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

**11** The adolescent lacks the ability to think abstractly.

**12** Adolescents may have a deficit in their language ability.

**13** The adolescent experiences a transition from reliance on his parents to independence.

## 2. READING PASSAGE 2

You should spend about 20 minutes on **Questions 14-27** which are based on Reading Passage 2 below.

### Optimism and Health 2

***Mindset** is all. How you start the year will set the template for 2009, and two scientifically-backed character traits hold the key: optimism and resilience (if the prospect leaves you feeling pessimistically spineless, the good news is that you can significantly boost both of these qualities).*

**A**

Faced with 12 months of plummeting economics and rising human distress, staunchly maintaining a rosy view might seem deludedly Pollyannaish. But here we encounter the optimism paradox. As Brice Pitt, an emeritus professor of the psychiatry of old age at Imperial College, London, told me: optimists are unrealistic. Depressive people see things as they really are, but that is a disadvantage from an evolutionary point of view. Optimism is a piece of evolutionary equipment that carried us through millennia of setbacks.

**B**

It has been known that optimistic has something to do with the long life, and optimists have plenty to be happy about. In other words, if you can convince yourself that things will get better, the odds of it happening will improve – because you keep on playing the game. In this light, optimism "is a habitual way of explaining your setbacks to yourself", reports Martin Seligman, the psychology professor and author of Learned Optimism. The research shows that when times get tough, optimists do better than pessimists – they succeed better at work, respond better to stress, suffer fewer depressive episodes, and achieve more personal goals.

## C

Studies also show that belief can help with the financial pinch. Chad Wallens, a social forecaster at the Henley Centre who surveyed middle-class Britons' beliefs about income, has found that "the people who feel wealthiest, and those who feel poorest, actually have almost the same amount of money at their disposal. Their attitudes and behaviour patterns, however, are different from one another."

## D

Optimists have something else to be cheerful about – in general, they are more robust. For example, a study of 660 volunteers by the Yale University psychologist Dr Becca Levy, found that thinking positively adds an average of 7 years to your life. Other American research claims to have identified a physical mechanism behind this. A Harvard Medical School study of 670 men found that the optimists have significantly better lung function. The lead author, Dr Rosalind Wright, believes that attitude somehow strengthens the immune system. "Preliminary studies on heart patients suggest that, by changing a person's outlook, you can improve their mortality risk," she says.

## E

Few studies have tried to ascertain the proportion of optimists in the world. But a 1995 nationwide survey conducted by the American magazine Adweek found that about half the population counted themselves as optimists, with women slightly more apt than men (53 per cent versus 48 per cent) to see the sunny side.

## F

Although some optimists may be accurate in their positive beliefs about the future, others may be unrealistic-their optimism is misplaced, according to the American Psychological Association. Research shows that some smokers exhibit unrealistic optimism by underestimating their relative chances of experiencing disease. An important question is whether such unrealistic optimism is associated with risk-related attitudes and behavior. We addressed this question by investigating if one's perceived the risk of developing lung cancer, over and above one's

objective risk, predicted acceptance of myths and other beliefs about smoking. Hierarchical regressions showed that those individuals who were unrealistically optimistic were more likely to endorse beliefs that there is no risk of lung cancer if one only smokes for a few years and that getting lung cancer depends on one's genes.

**G**

Of course, there is no guarantee that optimism will insulate you from the crunch's worst effects, but the best strategy is still to keep smiling and thank your lucky stars. Because (as every good sports coach knows) adversity is character-forming – so long as you practise the skills of resilience. Research among tycoons and business leaders shows that the path to success is often littered with failure: a record of sackings, bankruptcies and blistering castigation. But instead of curling into a foetal ball beneath the coffee table, they resiliently pick themselves up, learn from their pratfalls and march boldly towards the next opportunity.

**H**

The American Psychological Association defines resilience as the ability to adapt in the face of adversity, trauma or tragedy. A resilient person may go through difficulty and uncertainty, but he or she will doggedly bounce back.

**I**

Optimism is one of the central traits required in building resilience, say Yale University investigators in the. Annual Review of Clinical Psychology. They add that resilient people learn to hold on to their sense of humour and this can help them to keep a flexible attitude when big changes of plan are warranted. The ability to accept your lot with equanimity also plays an important role, the study adds.

**J**

One of the best ways to acquire resilience is through experiencing a difficult childhood, the sociologist Steven Stack reports in the Journal of Social Psychology. For example, short men are less likely to commit suicide than tall guys, he says, because shorties develop psychological defence skills to handle the bullies and mickey-taking that their lack of stature attracts. By contrast, those who enjoyed adversity-free youths

can get derailed by setbacks later on because they've never been inoculated against agro.

**K**

Learning to overcome your fears. If you are handicapped by having had a happy childhood, then practising proactive optimism can help you to become more resilient. Studies of resilient people show that they take more risks; they court failure and learn not to fear it. And despite being thick-skinned, resilient types are also more open than average to other people. Bouncing through knock-backs is all part of the process. It's about optimistic risk-taking – being confident that people will like you. Simply smiling and being warm to people can help. It's an altruistic path to self-interest – and if it achieves nothing else, it will reinforce an age-old adage: hard times can bring out the best in you.

**Questions 14-18**

Complete the following summary of the paragraphs of Reading Passage. Using **NO MORE THAN TWO WORDS** from the Reading Passage for each answer.

Optimists generally are more robust. Yale University psychologist Dr Becca Levy found that an extension of around **14**……. to your life will be achieved by a positive attitude toward life. A Harvard Medical School conduct a research which study of **15**…….. male volunteers found that the optimists have remarkably better **16**……. And Dr Rosalind Wright believes optimistic life may enhance the **17**……. some initiative studies on **18**…….. indicate that people can improve their mortality risk by changing into a positive outlook.

## Questions 19-23

Use the information in the passage to match the people or organization (listed **A-E**) with opinions or deeds below.
*Write the appropriate letters **A-E** in boxes **19-23** on your answer sheet.*

**A** Brice Pitt
**B** American Psychological Association
**C** Martin Seligman
**D** Chad Wallens of Henley Centre
**E** Annual Review of Clinical Psychology
**F** Steven Stack
**G** American magazine Adweek

**19** Different optimism result found according to gender.
**20** There is no necessary relationship between happiness and money.
**21** Excessive optimism may be incorrect in everyday life.
**22** Optimists are advantageous for human evolution.
**23** Occurrence of emergency assists resilient people in a positive way.

## Questions 24-27

Do the following statements agree with the information given in Reading Passage 2?
*In boxes **24-27** on your answer sheet, write*

**YES** if the statement is true
**NO** if the statement is false
**NOT GIVEN** if the information is not given in the passage

**24** The link between longevity and optimism has been known.
**25** Optimists have a better personal relationship than those pessimists.
**26** People who had a happy childhood do not need to practise optimism.
**27** Experience of difficulties will eventually help people accumulate a fortune.

## 3. READING PASSAGE 3

You should spend about 20 minutes on **Questions 28-40** which are based on Reading Passage 3 below.

### Design the mat and Foot health

**A**

Indoor types will appreciate the cobblestone walkway, a knobbly textured plastic mat that they can wobble along in the comfort of their own homes. And for the more adventurous, there are shoes designed to throw you off balance.

**B**

The technology may be cutting edge, but its origins are deep and exotic. Research into the idea that flat floors could be detrimental to our health was pioneered back in the late 1960s. While others in Long Beach, California, contemplated peace and love, podiatrist Charles Brantingham and physiologist Bruce Beekman were concerned with more pedestrian matters. They reckoned that the growing epidemic of high blood pressure, varicose veins and deep-vein thromboses might be linked to the uniformity of the surfaces that we tend to stand and walk on.

**C**

The trouble, as they saw it, was that walking continuously on flat floors, sidewalks and streets concentrate forces on just a few areas of the foot. As a result, these surfaces are likely to be far more conducive to chronic stress syndromes than natural ones, where the foot meets the ground in a wide variety of orientations. The anatomy of the foot parallels that of the human hand – each having 26 bones, 33 joints and more than 100 muscles, tendons and ligaments. Modem lifestyles waste all this flexibility in your socks. Brantingham and Beekman became convinced that damage was being done simply by people standing on even surfaces and that this could be rectified by introducing a wobble.

**D**

"In Beijing and Shanghai city dwellers take daily walks on cobbled paths to improve their health." To test their ideas, they got 65 clerks and factory workers to try standing on a variable terrain floor – spongy mats with amounts of giving across the surface. This modest irregularity allowed the soles of the volunteers' feet to deviate slightly from the horizontal each time they shifted position. As the researchers hoped, this simple intervention turned out to make a huge difference over just a few weeks. Just a slight wobble from the floor activated a host of muscles in people's legs, which in turn helped to pump blood back to their hearts. The muscle action prevented the pooling of blood in their feet and legs, reducing the stress on the entire cardiovascular system. And two-thirds of the volunteers reported feeling much less tired. Yet decades later, the flooring of the world's workplaces remains relentlessly smooth.

## E

Earlier this year, however, the idea was given a new lease of life when researchers in Oregon announced findings from a similar experiment with people over 60. John Fisher and colleagues at the Oregon Research Institute in Eugene designed a mat intended to replicate the effect of walking on cobblestones. In tests funded by the National Institute of Aging, they got some 50 adults to walk on the mats in their stockinged feet for less than an hour three times a week. After 16 weeks, these people showed marked improvements in balance and mobility, and even a significant reduction in blood pressure. People in a control group who walked on ordinary floors also improved but not as dramatically.

## F

The mats are now on sale at $35. "Our first 1000 cobblestone mats sold in three weeks," Fisher says. Production is now being scaled up. Even so, demand could exceed supply if this foot-stimulating activity really is a "useful non-pharmacological approach for preventing or controlling hypertension of older adults", as the researchers believe. They are not alone in extolling the revitalizing powers of cobblestones. Reflexologists have long advocated walking on textured surfaces to stimulate so-called "acupoints" on the soles of the feet. Practitioners of this unorthodox therapy believe that pressure applied to particular spots on the foot connects directly to corresponding organs and somehow enhances their

function. In China, spas, hotels, apartment blocks and even factories promote their cobblestone paths as healthful amenities. Fisher admits he got the idea from regular visits to the country. In Beijing and Shanghai city dwellers take daily walks along cobbled paths to improve their health. “In the big cities, people take off their shoes and walk on these paths for 5 or 10 minutes, perhaps several times a day,” Fisher says.

**G**

The idea is now taking off in Europe too. People in Germany, Austria and Switzerland can visit “barefoot parks” and walk along “paths of the senses” – with mud, logs, stone and moss underfoot – to receive what’s known there as reflexzon-massage. And it is not difficult to construct your own “health pathway”. American reflexologists Barbara and Kevin Kunz, based in Albuquerque, New Mexico, advise that you cobble together a walkway using broom handles, bamboo poles, hosepipes, gravel, pebbles, dried peas, driftwood, fallen logs, sand, door mats and strips of turf.

**H**

If your enthusiasm for DIY doesn’t stretch to this, and Fisher’s cobblestone mats are all sold out, there is another option. A new shoe on the market claims to transform flat, hard, artificial surfaces into something like natural uneven ground. “These shoes have an unbelievable effect,” says Benno Nigg, an exercise scientist at the human performance laboratory of Calgary University in Canada, which has done contract research for the shoe’s manufacturers. “They are one of the best things to have happened to humankind for years.” Known as Masai Barefoot Technology, or MBTs, the shoes have rounded soles that cause you to rock slightly when you stand still, exercising the small muscles around the ankle that are responsible for fore-aft stability. Forces in the joint are reduced, putting less strain on the system, Nigg claims.

**Questions 28-33**

Do the following statements agree with the information given in Reading Passage 3?

*In boxes **28-32** 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

**28** Charles Brantingham and Bruce Beekman are the pioneers to research the connection between hyper illness and conditions of road.
**29** John Fisher and his colleagues found that those who walked on cobble-stones suffered a worsening physical condition.
**30** Manufacture of Fisher's cobblestone mats booms due to high demand of this product.
**31** The research works such as customized pathway from Barbara and Kevin Kunz were inspired from an oversea trip.
**32** Benno Nigg suggests that shoes of Masai Barefoot Technology have a specific age limitation.

**Questions 33-35**

Choose the correct letter, **A**, **B**, **C** or **D**.
*Write your answers in boxes **33-35** on your answer sheet.*
**33** Which of the followings is true according to ***J Fisher's experiment*** cobbled paths in paragraph D

**A** Spongy mats make the volunteer feel unbalance.
**B** Chinese special culture makes it only applicable in a certain area.
**C** More than half of participants reported a positive response.
**D** This method could cure cardiovascular disease unexpectedly.

**34** John Fisher and colleagues from the ***Oregon Research Institute*** has found the followings:

**A** People walk on special designed mat only have improvements in blood pressure.
**B** Blood pressure of control group improves not as much as the other one.
**C** Elder people improve more dramatically than youngsters.

**D** Testing time of 16 weeks is a significant factor in this experiment.

**35** Shoes from ***MBT*** are also beneficial for your health as which of the following reasons:

**A** Special designed soles on the bottom make your feet stabled
**B** Researcher has previous experience in this field.
**C** African style shoes were very successful in store sales.
**D** They can protect the ankle and muscles around feet.

**Questions 36-40**

Complete the following summary of the paragraphs of Reading Passage Using **NO MORE THAN TWO WORDS** from the Reading Passage for each answer.
*Write your answers in boxes **36-40** on your answer sheet.*
The anatomy of human's foot is complex; which **36**…… human hand. The experiment, conducted on employees, showed that body movement on surface of different condition can lower the **37**…… on heart. Similarity was also found in another experiment conducted by a researcher from the Oregon Research Institute. The test also showed there was a substantial **38**…… in hypertension. Reflexologists advise people to work on a road with resistance to stimulate certain points of body via standing on the **39**…… In the end, the author of the passage also advocates that people can build their own health **40**…… except for buying the special mats and shoes.



# II. ĐỀ 2

## 1. READING PASSAGE 1

### Bamboo, A Wonder Plant

*Bamboo is used for a wide range of purposes, but now it seems it may be under threat.*

## A

Every year, during the rainy season, the mountain gorillas of central Africa migrate to the lower slopes of the Virunga Mountains to graze on bamboo. For the 650 or so that remain in the wild, it's a vital food source. Without it, says Ian Redmond, chairman of the Ape Alliance, their chances of survival would be reduced significantly.

Gorillas aren't the only local keen on bamboo. For the people who live close to the Virungas, it's a valuable and versatile raw material. But in the past 100 years or so, resources have come under increasing pressure as populations have exploded and large areas of bamboo forest have been cleared to make way for commercial plantations. Sadly, this isn't an isolated story. All over the world, the ranges of many bamboo species appear to be shrinking, endangering the people and animals that depend upon them.

## B

Despite bamboo's importance, we know surprisingly little about it. A recent report published by the UN Environment Programme (UNEP) and the International Network for Bamboo and Rattan (INBAR) has revealed just how profound our ignorance of global bamboo resources is, particularly in relation to conservation.

There are almost 1,600 recognised species of bamboo, but the report concentrated on the 1,200 or so woody varieties distinguished by the strong stems, or 'culms', that most people associate with this versatile plant. Of these, only 38 'priority species' identified for their commercial value have been the subject of any real scientific research to date.

This problem isn't confined to bamboo. Compared to the work carried out on animals, the science of assessing the conservation status of plants is still in its infancy. 'People have only started looking at this during the past 10-15 years, and only now are they understanding how to go about it systematically,' says Dr Valerie Kapos, one of the report's authors.

## C

Bamboo tends to grow in 'stands' (or groups) made up of individual plants that grow from roots known as rhizomes. It is the world's fastest-growing woody plant and some species grow over a meter in one day. But the plant's ecological role extends beyond providing food for wildlife. Its rhizome systems, which lie in the top layers of the soil, are crucial in preventing soil erosion. And there is growing evidence that bamboo plays an important part in determining forest structure and dynamics. 'Bamboo's pattern of mass flowering and mass death leaves behind large areas of dry biomass that attract wildfire/ says Kapos. 'When these bum, they create patches of open ground far bigger than would be left by a fallen tree. Patchiness helps to preserve diversity because certain plant species do better during the early stages of regeneration when there are gaps in the canopy.'

**D**

However, bamboo's most immediate significance lies in its economic value. Many countries, particularly in Asia, are involved in the trade of bamboo products. Modern processing techniques mean it can be used in a variety of ways, for example as flooring and laminates. Traditionally it is used in construction, but one of the fastest growing bamboo products is paper -25 per cent of paper produced in India is made from bamboo fibre.

Of course, bamboo's main function has always been in domestic applications, and as a locally traded product, it is worth about US$4,5 billion annually. Bamboo is often the only readily available raw material for people in many developing countries, says Chris Stapleton, a research associate at the UK's Royal Botanic Gardens. 'Bamboo can be harvested from forest areas or grown quickly elsewhere, and then converted simply without expensive machinery or facilities,' he says, 'In this way, it contributes substantially to poverty alleviation.'

**E**

Keen horticulturists will spot an apparent contradiction in the worrying picture painted by the UNEP-INBAR report. Those in the West who've followed the recent vogue for cultivating exotic species in their gardens will point out that, if it isn't kept in check, bamboo can cause real problems. 'In a lot of places, the people who live with bamboo don't

perceive it as being under threat in any way,' says Kapos. 'In fact, a lot of bamboo species are very invasive if they've been introduced.' So why are so many species endangered?

There are two separate issues here, says Ray Townsend, arboretum manager at the Royal Botanic Gardens. 'Some plants are threatened because they can't survive in the habitat – they aren't strong enough or there aren't enough of them, perhaps. But bamboo can take care of itself – it's strong enough to survive if left alone. What is under threat is its habitat. When forest goes, it's converted into something else: then there isn't anywhere for forest plants such as bamboo to grow.'

**F**

Around the world, bamboo species are routinely protected as part of the forest ecosystem in national parks and reserves, but there is next to nothing that protects bamboo in the wild for its own sake. The UNEP-1NBAR report will help conservationists to establish effective measures aimed at protecting valuable wild bamboo species.

Townsend, too, sees the UNEP-INBAR report as an important step forward in promoting the cause of bamboo conservation. 'Until now, bamboo has been perceived as a second-class plant. When you talk about places like the Amazon, everyone always thinks about hardwoods. Of course, these are significant but there's a tendency to overlook the plants they are associated with, which are often bamboo species.'

## Questions 1-7

Reading Passage 1 has six sections, **A-F**.
Which section contains the following information?
*Write the correct letter, **A-F**, in boxes **1-7** on your answer sheet.*
**NB** *You may use any letter more than once.*

**1** an assessment of current levels of knowledge about bamboo
**2** a comparison between bamboo and more fragile plants
3 details of the commercial significance of bamboo
**4** a human development that is threatening the availability of bamboo
**5** a description of the limited extent of existing research on bamboo
**6** examples of the uses to which bamboo is put
**7** an explanation of how bamboo may contribute to the survival of range of plants

## Questions 8-11

Look at the following statements (Questions 8-11) and the list of people below.
Match each statement with the correct person, **A-D**.
*Write the correct letter, **A-D**, in boxes **9-11** on your answer sheet.*
**NB** *You may use any letter more than once.*

**8** Some people do not regard bamboo as an endangered plant species.
**9** A scarcity of bamboo places certain wildlife under threat.
**10** Research methods investigating endangered plants have yet to be fully developed
**11** The greatest danger to bamboo is a disturbance of the places it grows in.

**List of People**

**A** Ian Redmond
**B** Valerie Kapos
**C** Chris Stapleton
**D** Ray Townsend

**Questions 12 and 13**

Answer the questions below.
Choose **NO MORE THAN TWO WORDS** from the passage for each answer.
*Write your answers in boxes **12** and **13** on your answer sheet.*

**12** What ecological problem do the roots of bamboo help to control?
**13** Which bamboo product is undergoing market expansion?

## 2. READING PASSAGE 2

You should spend about 20 minutes on **Questions 14-26** which are based on Reading Passage 2 below.

### Coral reefs

*Coral reefs are underwater structures made from calcium carbonate secreted by corals. Coral reefs are colonies of tiny living animals found in marine waters that contain few nutrients. Most coral reefs are built from stony corals, which in turn consist of polyps that cluster in groups.*

**A**

Coral reefs are estimated to cover 284,300 km2 just under 0.1% of the oceans‘ surface area, about half the area of France. The Indo-Pacific region accounts for 91.9% of this total area. Southeast Asia accounts for 32.3% of that figure, while the Pacific including Australia accounts for 40.8%. Atlantic and Caribbean coral reefs account for 7.6%. Yet often called —rainforests of the seall, coral reefs form some of the most diverse ecosystems on Earth. They provide a home for 25% of all marine species, including fish, mollusks worms, crustaceans, echinoderms, sponges, tunicates and other cnidarians. Paradoxically, coral reefs flourish even though they are surrounded by ocean waters that provide few nutrients. They are most commonly found at shallow depths in tropical waters, but deep water and cold water corals also exist on smaller scales in other areas. Although corals exist both in temperate and tropical waters, shallow-water reefs form only in a zone extending from 30°N to 30°S of the equator. Deepwater coral can exist at greater depths and colder temperatures at much higher latitudes, as far north as Norway. Coral reefs are rare along the American and African west coasts. This is due primarily to upwelling and strong cold coastal currents that reduce water temperatures in these areas (respectively the Peru, Benguela and Canary streams). Corals are seldom found along the coastline of South Asia from the eastern tip of India (Madras) to the

Bangladesh and Myanmar borders. They are also rare along the coast around northeastern South America and Bangladesh due to the freshwater released from the Amazon and Ganges Rivers, respectively.

**B**

Coral reefs deliver ecosystem services to tourism, fisheries and coastline protection. The global economic value of coral reefs has been estimated at as much as $US375 billion per year. Coral reefs protect shorelines by absorbing wave energy, and many small islands would not exist without their reef to protect them.

**C**

The value of reefs in biodiverse regions can be even higher. In parts of Indonesia and the Caribbean where tourism is the main use, reefs are estimated to be worth US$1 million per square kilometer, based on the cost of maintaining sandy beaches and the value of attracting snorkelers and scuba divers. Meanwhile, a recent study of the Great Barrier Reef in Australia found that the reef is worth more to the country as an intact ecosystem than an extractive reserve for fishing. Each year more than 1.8 million tourists visit the reef, spending an estimated AU$4.3 billion (Australian dollars) on reef-related industries from diving to boat rental to posh island resort stays. In the Caribbean, says UNEP, the net annual benefits from diver tourism were US$2 billion in 2000 with US$625 million spent directly on diving on reefs. Further, reef tourism is an important source of employment, especially for some of the world‘s poorest people. UNEP says that of the estimated 30 million small-scale fishers in the developing world, most are dependent to a greater or lesser extent on coral reefs. In the Philippines, for example, more than one million small-scale fishers depend directly on coral reefs for their livelihoods. The report estimates that reef fisheries were worth between $15,000 and $150,000 per square kilometer a year, while fish caught for aquariums were worth $500 a kilogram against $6 for fish caught as food. The aquarium fish export industry supports around 50,000 people and generates some US$5.5 million a year in Sri Lanka along.

## D

Unfortunately, coral reefs are dying around the world. In particular, coral mining, agricultural and urban runoff, pollution (organic and inorganic), disease, and the digging of canals and access into islands and bays are localized threats to coral ecosystems. Broader threats are sea temperature rise, sea-level rise and pH changes from ocean acidification, all associated with greenhouse gas emissions. Some current fishing practices are destructive and unsustainable. These include cyanide fishing, overfishing and blast fishing. Although cyanide fishing supplies live reef fish for the tropical aquarium market, most fish caught using this method are sold in restaurants, primarily in Asia, where live fish are prized for their freshness. To catch fish with cyanide, fishers dive down to the reef and squirt cyanide in coral crevices and on the fast-moving fish, to stun the fish making them easy to catch. Overfishing is another leading cause for coral reef degradation. Often, too many fish are taken from one reef to sustain a population in that area. Poor fishing practices, such as banging on the reef with sticks (muro-ami), destroy coral formations that normally function as fish habitat. In some instances, people fish with explosives (blast fishing), which blast apart the surrounding coral.

## E

Tourist resorts that empty their sewage directly into the water surrounding coral reefs contribute to coral reef degradation. Wastes kept in poorly maintained septic tanks can also leak into surrounding groundwater, eventually seeping out to the reefs. Careless boating, diving, snorkeling and fishing can also damage coral reefs. Whenever people grab, kick, and walk on, or stir up sediment in the reefs, they contribute to coral reef destruction. Corals are also harmed or killed when people drop anchors on them or when people collect coral.

## F

To find answers for these problems, scientists and researchers study the various factors that impact reefs. The list includes the ocean‘s role as a carbon dioxide sink, atmospheric changes, ultraviolet light, ocean acidification, viruses, impacts of dust storms carrying agents to far-flung

reefs, pollutants, algal blooms and others. Reefs are threatened well beyond coastal areas. General estimates show approximately 10% of the worlds coral reefs are dead. About 60% of the world‘s reefs are at risk due to destructive, human-related activities. The threat to the health of reefs is particularly strong in Southeast Asia, where 80% of reefs are endangered.

**G**

In Australia, the Great Barrier Reef is protected by the Great Barrier Reef Marine Park Authority and is the subject of much legislation, including a biodiversity action plan. Inhabitants of Ahus Island, Manus Province, Papua New Guinea, have followed a generations-old practice of restricting fishing in six areas of their reef lagoon. Their cultural traditions allow line fishing, but not net or spearfishing. The result is both the biomass and individual fish sizes are significantly larger in these areas than in places where fishing is unrestricted.

**Questions 14-19**

The reading Passage has seven paragraphs **A-G**.
Which paragraph contains the following information?
*Write the correct letter **A-G**, in boxes **14-19** on your answer sheet.*

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

**14** Geographical Location of the world‘s coral reef
**15** How does coral reef benefit economy locally
**16** The statistics of coral reef‘s economic significance
**17** The listed reasons for the declining number of coral reef
**18** Physical approach to the coral reef by people
**19** Unsustainable fishing methods are applied in regions of the world

## Questions 20-25

Do the following statements agree with the information given in **Reading Passage 2**?
*Write your answers in boxes **20-25** on your answer sheet.*

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

**20** Coral reefs provide habitat to a variety of marine life.
**21** Coral reef distributes around the ocean disproportionally.
**22** Coral reef is increasingly important for scientific purpose.
**23** Coral reefs are greatly exchanged among and exported to other counties.
**24** Reef tourism is of economic essence generally for some poor people.
**25** As with other fishing business, coral fishery is not suitable to women and children

## Question 26

Choose the correct letter, **A**, **B**, **C or D.**
*Write your answers in boxes **26** on your answer sheet.*
What is the main purpose of this passage?

**A** Demonstrate how coral reef growth in the ocean
**B** To tell that coral reef is widely used as a scientific project
**C** Present the general benefits and an alarming situation of coral reef
**D** To show the vital efforts made to protect the coral reef in Australia

## 3. READING PASSAGE 3

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

### Movie of Metropolis

*…being the science-fiction film that is steadily becoming a fact*

**A**

When German director Fritz Lang visited the United States in 1924, his first glimpse of the country was a night-time view of the New York skyline from the deck of an ocean liner. This, he later recalled, was the direct inspiration for what is still probably the most innovative and influential science-fiction film ever made – Metropolis.

**B**

*Metropolis* is a bleak vision of the early twenty-first century that is at once both chilling and exhilarating. This spectacular city of the future is a technological marvel of high-rise buildings connected by elevated railways and airships. It's also a world of extreme inequality and social division. The workers live below ground and exist as machines working in an endless routine of mind-numbing 10-hour shifts while the city's elite lead lives of luxury high above. Presiding over them all is the Master of Metropolis, John Fredersen, whose sole satisfaction seems to lie in the exercise of power.

**C**

Lang's graphic depiction of the future is conceived in almost totally abstract terms. The function of the individual machines is never defined. Instead, this mass of dials, levers and gauges symbolically stands for all machines and all industry, with the workers as slave-live extensions of the equipment they have to operate. Lang emphasizes this idea in the famous shift-change sequence at the start of the movie when the

workers walk in zombie-like geometric ranks, all dressed in the same dark overalls and all exhibiting the same bowed head and dead-eyed stare. An extraordinary fantasy sequence sees one machine transformed into a huge open-jawed statue which then literally swallows them up.

**D**

On one level the machines and the exploited workers simply provide the wealth and services which allow the elite to live their lives of leisure, but on a more profound level, the purpose of all this demented industry is to serve itself. Power, control and the continuance of the system from one 10-hour shift to the next is all that counts. The city consumes people and their labour and in the process becomes a perverse parody of a living being.

**E**

It is enlightening, I think, to relate the film to the modern global economy in which multinational corporations now routinely close their factories in one continent so that they can take advantage of cheap labour in another. Like the industry in Metropolis, these corporations' goals of increased efficiency and profits have little to do with the welfare of the majority of their employees or that of the population at large. Instead, their aims are to sustain the momentum of their own growth and to increase the monetary rewards to a tiny elite – their executives and shareholders. Fredersen himself is the essence of the big company boss: Rupert Murdoch would probably feel perfectly at home in his huge skyscraper office with its panoramic view of the city below. And it is important that there is never any mention of government in Metropolis – the whole concept is by implication obsolete. The only people who have power are the supreme industrialist, Fredersen, and his magician/scientist cohort Rotwang.

**F**

So far so good: when the images are allowed to speak for themselves the film is impeccable both in its symbolism and in its cynicism. The problem with Metropolis is its sentimental story-line, which sees Freder, Fredersen's son, instantly falling in love with the visionary Maria. Maria leads an underground pseudo-religious movement and preaches that the

workers should not rebel but should await the arrival of a 'Mediator' between the 'Head' (capital) and the 'Hands' (labour). That mediator is the 'Heart' – love, as embodied, finally, by Freder's love of Maria and his father's love of him.

**G**

Lang wrote the screenplay in collaboration with his then-wife Thea von Harbou. In 1933 he fled from the Nazis (and continued a very successful career in Hollywood). She stayed in Germany and continued to make films under the Hitler regime. There is a constant tension within the film between the too-tidy platitudes of von Harbou's script and the uncompromisingly caustic vigour of Lang's imagery.

**H**

To my mind, both in *Metropolis* and in the real world, it's not so much that the 'Head' and 'Hands' require a 'Heart' to mediate between them but that the 'Hands' need to develop their own 'Head', their own political consciousness, and act accordingly – through the ballot box, through buying power and through a sceptical resistance to the materialistic fantasies of the Fredersens.

**I**

All the same, *Metropolis* is probably more accurate now as a representation of industrial and social relations than it has been at any time since its original release. And Fredersen is certainly still the most potent movie symbol of the handful of elusive corporate figureheads who increasingly treat the world as a Metropolis-like global village.

## Questions 27-30

Do the following statements agree with the claims of the writer in Reading Passage 3?
*In boxes **27-30** on your answer sheet, write*

**YES** if the statement is true
**NO** if the statement is false
**NOT GIVEN** if the information is not given in the passage

**27** The inspiration of the movie-*Metropolis*-comes from the director's visit in the USA in 1924.
**28** The Master of Metropolis, John Fredersen, is portrayed from an industrialist that the director met in the US.
**29** The start of the movie exhibits the workers working in full energy.
**30** The director and his wife got divorced because his wife decided to stay in Germany.

## Questions 31-36

Complete the summary below.
Using **NO MORE THAN TWO WORDS** from the Reading Passage for each answer.
*Write your answers in boxes **31-36** on your answer sheet.*
The director depicts a world of inequality and **31**…… In the future, the mindless masses of workers living underground are treated as **32**…… And the master of them is **33**……., who is in charge of the whole city. The writer claims that the director, Fritz Lang, presents the movie in an **34**…….. term, where the **35**…… of the individual machines is not defined. Besides the writer compares the film to the modern global economy in which multinational corporations concern more about the growing **36**…….. and money.

## Questions 37-40

Choose the correct letter, **A**, **B**, **C** or **D**.
*Write your answers in boxes **37-40** on your answer sheet.*

**37** The first sentence in **paragraph B** indicates

**A** the author's fear about technology
**B** the inspiration of the director
**C** the contradictory feelings towards future
**D** the city elite's well management of the workers

**38** Why the function of the individual machines is not defined?

**A** Because Lang sticks to theme in a symbolic way.
**B** Because workers are more important to exploit.
**C** Because the fantasy sequence is difficult to take.
**D** Because the focus of the movie is not about machines.

**39** The writer's purpose in paragraph five is to

**A** emphasize the multinational corporations' profit-oriented goal.
**B** compare the movie with the reality in the modern global economy
**C** exploit the difference between fantasy and reality
**D** enlighten the undeveloped industry

**40** What is the writer's opinion about the movie?

**A** The movie's story-line is excellent.
**B** The movie has a poor implication in symbolism.
**C** The movie is perfect in all aspects.
**D** The movie is good but could be better.

# III. ĐỀ 3

## 1. READING PASSAGE 1

### Mungo Man

**A**

Fifty thousand years ago, a lush landscape greeted the first Australians making their way towards the south-east of the continent. Temperatures were cooler than now. Megafauna – giant prehistoric animals such as marsupial lions, goannas and the rhinoceros-sized diprotodon – were abundant. The Lake Mungo remains are three prominent sets of fossils which tell the archeologists the story: Mungo Man lived around the shores of Lake Mungo with his family. When he was young Mungo Man lost his two lower canine teeth, possible knocked out in a ritual. He grew into a man nearly 1.7m in height. Over the years his molar teeth became worn and scratched, possibly from eating a gritty diet or stripping the long leaves of water reeds with his teeth to make twine. As Mungo Man grew older his bones ached with arthritis, especially his right elbow, which was so damaged that bits of bone were completely worn out or broken away. Such wear and tear are typical of people who have used a woomera to throw spears over many years. Mungo Man reached a good age for the hard life of a hunter-gatherer and died when he was about 50. His family mourned for him, and carefully buried him in the lunette, on his back with his hands crossed in his lap, and sprinkled with red ochre. Mungo Man is the oldest known example in the world of such a ritual.

**B**

This treasure-trove of history was found by the University of Melbourne geologist Professor Jim Bowler in 1969. He was searching for ancient lakes and came across the charred remains of Mungo Lady, who had

been cremated. And in 1974, he found a second complete skeleton, Mungo Man, buried 300 metres away. Using carbon-dating, a technique only reliable to around 40,000 years old, the skeleton was first estimated at 28,000 to 32,000 years old. The comprehensive study of 25 different sediment layers at Mungo concludes that both graves are 40,000 years old.

**C**

This is much younger than the 62,000 years Mungo Man was attributed within 1999 by a team led by Professor Alan Thorne, of the Australian National University. The modern-day story of the science of Mungo also has its fair share of rivalry. Because Thorne is the country's leading opponent of the Out of Africa theory – that Homo sapiens had a single place of origin. "Dr Alan Thorne supports the multi-regional explanation (that modern humans arose simultaneously in Africa, Europe and Asia from one of our predecessors, Homo erectus, who left Africa more than 1.5 million years ago.) if Mungo Man was descended from a person who had left Africa in the past 200,000 years, Thorne argues, then his mitochondrial DNA should have looked like that of the other samples."

**D**

However, Out of Africa supporters are not about to let go of their beliefs because of the Australian research, Professor Chris Stringer, from the Natural History Museum in London, UK, said that the research community would want to see the work repeated in other labs before major conclusions were drawn from the Australian research. But even assuming the DNA sequences were correct, Professor Stringer said it could just mean that there was much more genetic diversity in the past than was previously realised. There is no evidence here that the ancestry of these Australian fossils goes back a million or two million years. It's much more likely that modern humans came out of Africa." For Bowler, these debates are irritating speculative distractions from the study's main findings. At 40,000 years old, Mungo Man and Mungo Lady remain Australian's oldest human burials and the earliest evidence on Earth of cultural sophistication, he says. Modern humans had not even reached North America by this time. In 1997, Pddbo's research group recovered an mtDNA fingerprint from the Feldholer Neanderthal skeleton

uncovered in Germany in 1865 – the first Neanderthal remains ever found.

**E**

In its 1999 study, Thorne's team used three techniques to date Mungo Man at 62,000 years old, and it stands by its figures. It dated bone, teeth enamel and some sand. Bowler has strongly challenged the results ever since. Dating human bones is "notoriously unreliable", he says. As well, the sand sample Thorne's group dated was taken hundreds of metres from the burial site. "You don't have to be a gravedigger … to realize the age of the sand is not the same as the age of the grave," says Bowler.

**F**

Thorne counters that Bowler's team used one dating technique, while he used three. The best practice is to have at least two methods produce the same result. A Thorne team member, Professor Rainer Grün, says the fact that the latest results were consistent between laboratories doesn't mean they are absolutely correct. We now have two data sets that are contradictory. I do not have a plausible explanation." Now, however, Thorne says the age of Mungo Man is irrelevant to this origins debate. Recent fossils find show modern humans were in China 110,000 years ago. "So he has got a long time to turn up in Australia. It doesn't matter if he is 40,000 or 60,000 years old.

**G**

Dr Tim Flannery, a proponent of the controversial theory that Australia's megafauna were wiped out 46,000 years ago in a "blitzkrieg" of hunting by the arriving people, also claims the new Mungo dates support this view. In 2001 a member of Bowler's team, Dr Richard Roberts of Wollongong University, along with Flannery, director of the South Australian Museum, published research on their blitzkrieg theory. They dated 28 sites across the continent, arguing their analysis showed the megafauna died out suddenly 46,000 years ago. Flannery praises the Bowler team's research on Mungo Man as "the most thorough and rigorous dating" of ancient human remains. He says the finding that humans arrived at Lake Mungo between 46,000 and 50,000 years ago was a critical time in Australia's history. There is no evidence of a

dramatic climatic change then, he says. “It’s my view that humans arrived and extinction took place in almost the same geological instant.”

**H**

Bowler, however, is skeptical of Flannery’s theory and says the Mungo study provides no definitive new evidence to support it. He argues that climate change at 40,000 years ago was more intense than had been previously realized and could have played a role in the megafauna’s demise. “To blame the earliest Australians for their complete extinction is drawing a longbow.”

## Questions 1-8

Use the information in the passage to match the people (listed **A-F**) with opinions or deeds below.
*Write the appropriate letters **A-F** in boxes **1-8** on your answer sheet.*
**NB** *You may use any letter more than once.*

**A** Jim Bowler
**B** Alan Thorne
**C** Pddbo
**D** Tim Flannery
**E** Chris Stringer
**F** Rainer Grün

**1** He was searching for ancient lakes and came across the charred remains of Mungo Lady, who had been cremated.
**2** Professor who hold a skeptical attitude towards reliability for DNA analysis on some fossils.
**3** Professor whose determination of the age of Mungo Man to be much younger than the former result which is older than the 62,000 years.
**4** determining the age of Mungo Man has little to do with controversy for the origins of Australians.
**5** research group who recovered a biological proof of the first Neanderthal found in Europe.
**6** a supporter of the idea that Australia's megafauna was extinct due to the hunting by the ancient human beings.
**7** Instead of keep arguing a single source origin, multi-regional explanation has been raised.
**8** Climate change rather than prehistoric human activities resulted in megafauna's extinction.

## Questions 9-14

Do the following statements agree with the information given in Reading Passage 1?
In boxes **9-14** 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** The Lake Mungo remains offer the archeologists the evidence of graphic illustration of human activities around.
**10** In Lake Mungo remains, weapons were found used by the Mungo.
**11** Mungo Man is one of the oldest known archeological evidence in the world of cultural sophistication such as a burying ritual.

**12** Mungo Man and woman's skeletons were uncovered in the same year.
**13** There is controversy among scientists about the origin of the oldest Homo sapiens.
**14** Out of Africa supporters have criticised Australian professors for using an outmoded research method.

## 2. READING PASSAGE 2

You should spend about 20 minutes on **Questions 14-27** which are based on Reading Passage 2 below.

### Motor car

**A**

The history of the automobile begins as early as 1769, with the creation of steam engine automobiles capable of human transport. In 1806, the first cars powered by an internal combustion engine running on fuel gas appeared, which led to the introduction in 1885 of the ubiquitous modern petrol-fueled internal combustion engine.

**B**

It is generally acknowledged that the first really practical automobiles with petrol/gasoline-powered internal combustion engines were completed almost simultaneously by several German inventors working independently: Karl Benz built his first automobile in 1885 in Mannheim. Benz was granted a patent for his automobile on 29 January 1886, and began the first production of automobiles in 1888 in a company later became the famous Mercedes-Benz.

**C**

At the beginning of the century, the automobile entered the transportation market for the rich. The drivers of the day were an adventurous lot, going out in every kind of weather, unprotected by an enclosed body, or even a convertible top. Everyone in town knew who owned what car and the cars were soon to become each individual's token of identity. However, it became increasingly popular among the general population because it gave travelers the freedom to travel when they wanted to and where the wanted. As a result, in North America and Europe, the automobile became cheaper and more accessible to the middle class. This was facilitated by Henry Ford who did two important things. First, he priced his car to be as affordable as possible and

second, he paid his workers enough to be able to purchase the cars they were manufacturing.

**D**

The assembly line style of mass production and interchangeable parts had been pioneered in the U.S. This concept was greatly expanded by Henry Ford, beginning in 1914. The large-scale, production-line manufacturing of affordable automobiles was debuted Ford's cars came off the line in fifteen-minute intervals, much faster than previous methods, increasing productivity eightfold (requiring 12.5 man-hours before, 1 hour 33 minutes after), while using less manpower.

**E**

The original Jeep vehicle that first appeared as the prototype Bantam BRC became the primary light 4-wheel-drive vehicle of the United States Army and Allies and made a huge leap in sale during World War II, as well as the postwar period. Throughout the 1950s, engine power and vehicle speeds rose, designs became more integrated and artful, and cars spread across the world. Captive imports and badge engineering swept through the US and UK as amalgamated groups like the British Motor Corporation consolidated the market. BMC's revolutionary space-saving Mini, which first appeared in 1959, captured large sales worldwide. Minis were marketed under the Austin and Morris names, until Mini became a marque in its own right in 1696. The trend for corporate consolidation reached Italy as niche makers like Maserati, Ferrari, and Lancia were acquired by larger companies. By the end of the decade, the number of automobile marques had been greatly reduced.

**F**

In America, performance became a prime focus of marketing, exemplified by pony cars and muscle cars. But everything changed in the 1970s as the 1973 oil crisis automobile emissions control rules, Japanese and European imports, and stagnant innovation wreaked havoc on the American industry. Though somewhat ironically, full-size sedans staged a major comeback in the years between the energy crisis, with makes such as Cadillac and Lincoln staging their best sales

years ever in the late 70s. Small performance cars from BMW, Toyota, and Nissan took the place of big-engined cars from America and Italy.

**G**

On the technology front, the biggest developments in the Post-war era were the widespread use of independent suspensions, wider application of fuel injection, and an increasing focus on safety in the design of automobiles. The hottest technologies of the 1960s were NSU's "Wankel engine", the gas turbine, and the turbocharger. Of these, only the last, pioneered by General Motors but popularised by BMW and Saab, was to see widespread use. Mazda had much success with its "Rotary" engine which, however, acquired a reputation as a polluting gas-guzzler.

**H**

The modern era has also seen rapidly rising fuel efficiency and engine output. Once the automobile emissions concerns of the 1970s were conquered with computerised engine management systems, power began to rise rapidly. In the 1980s, a powerful sports car might have produced 200 horsepower (150 kW) – just 20 years later, average passenger cars have engines that powerful, and some performance models offer three times as much power.

**I**

Most automobiles in use today are propelled by an internal combustion engine, fueled by gasoline or diesel. Both fuels are known to cause air pollution and are also blamed for contributing to climate change and global warming. Rapidly increasing oil prices, concerns about oil dependence, tightening environmental laws and restrictions on greenhouse gas emissions are propelling work on alternative power systems for automobiles. Efforts to improve or replace existing technologies include the development of hybrid vehicles, plug-in electric vehicles and hydrogen vehicles. Vehicles using alternative fuels such as ethanol flexible-fuel vehicles and natural gas vehicles are also gaining popularity in some countries.

**Questions 15-19**

Look at the following statements (Questions **15-19**) and the list of auto companies for car types in the box belong:
Match each statement with the correct person **A-H**
*Write the appropriate letter **A-H** in boxes **15-19** on your answer sheet.*

**15** The company which began the first manufacture of automobiles

**16** The company that produces the industrialised cars that consumers can afford

**17** The example of auto which improved the space room efficiency

**18** The type of auto with greatest upgraded overall performance in Post-was era

**19** They type of autos still keeping an advanced sale even during a seemingly unproductive period

**A** The Ford (American, Henry Ford)
**B** The BMC's Mini
**C** Cadillac and Lincoln (American)
**D** Mercedes-Benz (German)
**E** Mazda
**F** Jeep
**G** NSU's "Wankel engine" car
**H** Maserati, Ferrari, and Lancia

## Questions 20-26

Answer the questions below.
Choose **NO MORE THAN THREE WORDS AND/OR A NUMBER** from the passage for each answer.
*Write your answers in boxes **20-26** on your answer sheet.*

**20** What is a common feature of modern cars' engine type since the late 19th century

**21** In the past, what did the rich take owing a car as?

**22** How long did Ford's assembly line take to produce a car?

**23** What do people call the Mazda car designed under the Wankel engine?

**24** What is the major **historical event** that led American cars to suffer when competing with Japanese imported cars?

**25** What has greatly increased with computerised engine management systems?

**26** What factor is blamed for contributing to pollution, climate change and global warming?

## Question 27

Choose the correct letter, **A**, **B**, **C** or **D**.
Write your answers in boxes **27** on your answer sheet.
What is the main idea of this passage?

**A** The historical contribution of Ford's mass production assembly line
**B** The historical development and innovation in car designs
**C** the beginning of the modern designed gasoline engines
**D** the history of human and the Auto industry

## 3. READING PASSAGE 3

You should spend about 20 minutes on **Questions 28-40** which are based on Reading Passage 3 below.

### Decision making and Happiness

**A**

Americans today choose among more options in more parts of life than has ever been possible before. To an extent, the opportunity to choose enhances our lives. It is only logical to think that if some choice is good, more is better; people who care about having infinite options will benefit from them, and those who do not can always just ignore the 273 versions of cereal they have never tried. Yet recent research strongly suggests that, psychologically, this assumption is wrong. Although some choice is undoubtedly better than none, more is not always better than less.

**B**

Recent research offers insight into why many people end up unhappy rather than pleased when their options expand. We began by making a distinction between “maximizers” (those who always aim to make the best possible choice) and “satisficers” (those who aim for “good enough,” whether or not better selections might be out there).

**C**

In particular, we composed a set of statements-the Maximization Scale-to diagnose people’s propensity to maximize. Then we had several thousand people rate themselves from 1 to 7 (from “completely disagree” to “completely agree”) on such statements as “I never settle for second best.” We also evaluated their sense of satisfaction with their decisions. We did not define a sharp cutoff to separate maximizers from satisficers, but in general, we think of individuals whose average scores are higher than 4 (the scale’s midpoint) as maximizers and those whose scores are lower than the midpoint as satisficers. People who score

highest on the test – the greatest maximisers-engages in more product comparisons than the lowest scorers, both before and after they make purchasing decisions, and they take longer to decide what to buy. When satisficers find an item that meets their standards, they stop looking. But maximizers exert enormous effort to read labels, checking out consumer magazines and trying new products. They also spend more time comparing their purchasing decisions with those of others.

**D**

We found that the greatest maximizers are the least happy with the fruits of their efforts. When they compare themselves with others, they get little pleasure from finding out that they did better and substantial dissatisfaction from finding out that they did worse. They are more prone to experiencing regret after purchase, and if their acquisition disappoints them, their sense of well-being takes longer to recover. They also tend to brood or ruminate more than satisficers do.

**E**

Does it follow that maximizers are less happy in general than satisficers? We tested this by having people fill out a variety of questionnaires known to be reliable indicators of well-being. As might be expected, individuals with high maximization scores experienced less satisfaction with life and were less happy, less optimistic and more depressed than people with low maximization scores. Indeed, those with extreme maximization ratings had depression scores that placed them in the borderline clinical range.

**F**

Several factors explain why more choice is not always better than less, especially for maximizers. High among these are “opportunity costs.” The quality of any given option cannot be assessed in isolation from its alternatives. One of the “costs” of making a selection is losing the opportunities that a different option would have afforded. Thus an opportunity cost of vacationing on the beach in Cape Cod might be missing the fabulous restaurants in the Napa Valley. Early decision-making research by Daniel Kahneman and Amos Tversky showed that people respond much more strongly to losses than gains. If

we assume that opportunity costs reduce the overall desirability of the most preferred choice, then the more alternatives there are, the deeper our sense of loss will be and the less satisfaction we will derive from our ultimate decision.

**G**

The problem of opportunity costs will be worse for a maximizer than for a satisficer. The latter's "good enough" philosophy can survive thoughts about opportunity costs. In addition, the "good enough" standard leads to much less searching and inspection of alternatives than 'the maximizer's "best" standard. With fewer choices under consideration, a person will have fewer opportunity costs to subtract.

**H**

Just as people feel sorrow about the opportunities they have forgone, they may also suffer regret about the option they settle on. My colleagues and I devised a scale to measure proneness to feeling regret, and we found that people with high sensitivity to regret are less happy, less satisfied with life, less optimistic and more depressed than those with low sensitivity. Not surprisingly, we also found that people with high regret sensitivity tend to be maximizers. Indeed, we think that worry over future regret is a major reason that individuals become maximizers. The only way to be sure you will not regret a decision is by making the best possible one. Unfortunately, the more options you have and the more opportunity costs you incur, the more likely you are to experience regret.

**I**

In a classic demonstration of the power of sunk costs, people were offered season subscriptions to a local theater company. Some were offered the tickets at full price and others at a discount. Then the researchers simply kept track of how often the ticket purchasers actually attended the plays over the course of the season. Full-price payers were more likely to show up at performances than discount payers. The reason for this, the investigators argued, was that the full-price payers would experience more regret if they did not use the tickets because not using the more costly tickets would constitute a bigger loss. To increase the sense of happiness, we can decide to restrict our options when the

decision is not crucial. For example, make a rule to visit no more than two stores when shopping for clothing.

**Questions 28-31**

Use the information in the passage to match the category (listed **A-D**) with descriptions or deeds below.
*Write the appropriate letters **A-D** in boxes **28-31** on your answer sheet.*

**A** Maximiser
**B** Satisficer
**C** Both
**D** Neither of them

**28** finish transaction when the items match their expectation
**29** buy the most expensive things when shopping
**30** consider repeatedly until they make a final decision
**31** participate in the questionnaire of the author

**Questions 32-36**

Do the following statements agree with the information given in Reading Passage 3?
In boxes **32-36** 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

**32** With society's advancement, more chances make our lives better and happier.
**33** There is a difference of findings by different gender classification.
**34** The feeling of loss is greater than that of acquisition.
**35** 'Good enough' plays a more significant role in pursuing 'best' standards of the maximizer.

**36** There are certain correlations between the "regret" people and the maximisers.

**Questions 37-40**

Choose the correct letter, **A**, **B**, **C** or **D**.
*Write your answers in boxes **37-40** on your answer sheet.*

**37** What is the subject of this passage?

**A** regret makes people less happy
**B** choices and Well-being
**C** an interesting phenomenon
**D** advices on shopping

**38** According to the conclusion of questionnaires, which of the following statement is correct?

**A** maximisers are less happy
**B** state of being optimistic is important
**C** uncertain results are found.
**D** maximisers tend to cross the bottom line

**39** The experimental on theater tickets suggested:

**A** sales are different according to each season
**B** people like to spend on the most expensive items
**C** people feel depressed if they spend their vouchers
**D** people will feel regret more when they fail to use a higher-priced purchase

**40** What is the author's suggestion on how to increase happiness:

**A** focus on the final decision
**B** be sensitive and smart
**C** reduce the choice or option
**D** read the label carefully

# IV. ĐỀ 4

## 1. READING PASSAGE 1

### Spider silk 2

A strong, light bio-material made by genes from spiders could transform construction and industry

**A**

Scientists have succeeded in copying the silk-producing genes of the Golden Orb Weaver spider and are using them to create a synthetic material which they believe is the model for a new generation of advanced bio-materials. The new material, biosilk, which has been spun for the first time by researchers at DuPont, has an enormous range of potential uses in construction and manufacturing.

**B**

The attraction of the silk spun by the spider is a combination of great strength and enormous elasticity, which man-made fibres have been unable to replicate. On an equal-weight basis, spider silk is far stronger than steel and it is estimated that if a single strand could be made about 10m in diameter, it would be strong enough to stop a jumbo jet in flight. A third important factor is that it is extremely light. Army scientists are already looking at the possibilities of using it for lightweight, bulletproof vests and parachutes.

**C**

For some time, biochemists have been trying to synthesise the drag-line silk of the Golden Orb Weaver. The drag-line silk, which forms the radial arms of the web, is stronger than the other parts of the web and some biochemists believe a synthetic version could prove to be as important a material as nylon, which has been around for 50 years, since the discoveries of Wallace Carothers and his team ushered in the age of polymers.

**D**

To recreate the material, scientists, including Randolph Lewis at the University of Wyoming, first examined the silk-producing gland of the spider. 'We took out the glands that produce the silk and looked at the coding for the protein material they make, which is spun into a web. We then went looking for clones with the right DNA,' he says.

**E**

At DuPont, researchers have used both yeast and bacteria as hosts to grow the raw material, which they have spun into fibres. Robert Dorsch, DuPont's director of biochemical development, says the globules of protein, comparable with marbles in an egg, are harvested and processed. 'We break open the bacteria, separate out the globules of protein and use them as the raw starting material. With yeast, the gene system can be designed so that the material excretes the protein outside the yeast for better access,' he says.

**F**

'The bacteria and the yeast produce the same protein, equivalent to that which the spider uses in the draglines of the web. The spider mixes the protein into a water-based solution and then spins it into a solid fibre in one go. Since we are not as clever as the spider and we are not using such sophisticated organisms, we substituted man-made approaches and dissolved the protein in chemical solvents, which are then spun to push the material through small holes to form the solid fibre.'

**G**

Researchers at DuPont say they envisage many possible uses for a new biosilk material. They say that earthquake-resistant suspension bridges hung from cables of synthetic spider silk fibres may become a reality. Stronger ropes, safer seat belts, shoe soles that do not wear out so quickly and tough new clothing are among the other applications. Biochemists such as Lewis see the potential range of uses of biosilk as almost limitless. 'It is very strong and retains elasticity: there are no man-made materials that can mimic both these properties. It is also a biological material with all the advantages that have over petrochemicals,' he says.

**H**

At DuPont's laboratories, Dorsch is excited by the prospect of new super-strong materials but he warns they are many years away. 'We are at an early stage but theoretical predictions are that we will wind up with a very strong, tough material, with an ability to absorb shock, which is stronger and tougher than the man-made materials that are conventionally available to us,' he says.

**I**

The spider is not the only creature that has aroused the interest of material scientists. They have also become envious of the natural adhesive secreted by the sea mussel. It produces a protein adhesive to attach itself to rocks. It is tedious and expensive to extract the protein from the mussel, so researchers have already produced a synthetic gene for use in surrogate bacteria.

**Questions 1-5**

Reading Passage 1 has nine paragraphs, **A-I**
Which paragraph contains the following information?
*Write the correct letter, **A-I**, in boxes **1-5** on your answer sheet.*

**1** a comparison of the ways two materials are used to replace silk-producing glands
**2** predictions regarding the availability of the synthetic silk
**3** ongoing research into other synthetic materials
**4** the research into the part of the spider that manufactures silk
**5** the possible application of the silk in civil engineering

## Questions 6-10

Complete the flow-chart below.
Choose **NO MORE THAN TWO WORDS** from the passage for each answer.
Write your answers in boxes **6-10** on your answer sheet.

Synthetic gene grown in **6** …… or **7**……..

↓

globules of **8** …….

↓

dissolved in **9** ……..

↓

passed through **10** ……

↓

to produce a solid fibre

## Questions 11-13

Do the following statements agree with the information given in Reading Passage 1?
In boxes **11-13** 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

**11** Biosilk has already replaced nylon in parachute manufacture.

**12** The spider produces silk of varying strengths.

**13** Lewis and Dorsch co-operated in the synthetic production of silk

## 2. READING PASSAGE 2

You should spend about 20 minutes on **Questions 14-26** which are based on Reading Passage 2 below.

### Novice and Expert

### Becoming an Expert

*Expertise is commitment coupled with creativity. Specifically, it is the commitment of time, energy, and resources to a relatively narrow field of study and the creative energy necessary to generate new knowledge in that field. It takes a considerable amount of time and regular exposure to a large number of cases to become an expert.*

**A**

An individual enters a field a study as a novice. The novice needs to learn the guiding principles and rules of a given task in order to perform that task. Concurrently, the novice needs to be exposed to specific cases, or instances, that test the boundaries of such heuristics. Generally, a novice will find a mentor to guide her through the process. A fairly simple example would be someone learning to play chess. The novice chess player seeks a mentor to teach her the object of the game, the number of spaces, the names of the pieces, the function of each piece, how each piece is moved, and the necessary conditions for winning or losing the game.

**B**

In time, and with much practice, the novice begins to recognize patterns of behavior within cases and, thus, becomes a journeyman. With more practice and exposure to increasingly complex cases, the journeyman finds patterns not only with cases but also between cases. More importantly, the journeyman learns that these patterns often repeat themselves over time. The journeyman still maintains regular contact with a mentor to solve specific problems and learn more complex strategies. Returning to the example of the chess player, the individual

begins to learn patterns of opening moves, offensive and defensive game-playing strategies, and patterns of victory and defeat.

## C

When a journeyman starts to make and test hypotheses about future behavior based on past experiences, she begins the next transition. Once she creatively generates knowledge, rather than simply matching superficial patterns, she becomes an expert. At this point, she is confident in her knowledge and no longer needs a mentor as a guide – she becomes responsible for her own knowledge. In the chess example, once a journeyman begins competing against experts, makes predictions based on patterns, and tests those predictions against actual behavior, she is generating new knowledge and a deeper understanding of the game. She is creating her own cases rather than relying on the cases of others.

## The Power of Expertise

## D

An expert perceives meaningful patterns in her domain better than non-experts. Where a novice perceives random or disconnected date points, an expert connects regular patterns within and between cases. This ability to identify patterns is not an innate perceptual skill; rather it reflects the organization of knowledge after exposure to and experience with thousands of cases. Experts have a deeper understanding of their domains than novices do, and utilize higher-order principles to solve problems. A novice, for example, might group objects together by color or size, whereas an expert would group the same objects according to their function or utility. Experts comprehend the meaning of data and weigh variables with different criteria within their domains better than novices. Experts recognize variables that have the largest influence on a particular problem and focus their attention on those variables.

## E

Experts have better domain-specific short-term and long-term memory than novices do. Moreover, experts perform tasks in their domains faster than novices and commit fewer errors while problem solving. Interestingly, experts go about solving problems differently than novices.

Experts spend more time thinking about a problem to fully understand it at the beginning of a task than do novice, who immediately seek to find a solution. Experts use their knowledge of previous cases as a context for creating mental models to solve given problems.

**F**

Better at self-monitoring than novices, experts are more aware of instances where they have committed errors or failed to understand a problem. Experts check their solutions more often than novices and recognize when they are missing information necessary for solving a problem. Experts are aware of the limits of their domain knowledge and apply their domain's heuristics to solve problems that fall outside of their experience base.

## The Paradox of Expertise

**G**

The strengths of expertise can also be weakness. Although one would expect experts to be good forecasters, they are not particularly good at making predictions about the future. Since the 1930s, researchers have been testing the ability of experts to make forecasts. The performance of experts has been tested against actuarial tables to determine if they are better at making predictions than simple statistical models. Seventy years later, with more than two hundred experiments in different domains, it is clear that the answer is no. if supplied with an equal amount of data about a particular case, an actuarial table is as good, or better, than an expert at making calls about the future. Even if an expert is given more specific case information than is available to the statistical model, the expert does not tend to outperform the actuarial table.

**H**

Theorists and researchers differ when trying to explain why experts are less accurate forecasters than statistical models. Some have argued that experts, like all humans, are inconsistent when using mental models to make predictions. A number of researchers point to human biases to explain unreliable expert predictions. A number of researchers point to human biases to explain unreliable expert predictions. During the last 30 years, researchers have categorized, experimented, and theorized about

the cognitive aspects of forecasting. Despite such efforts, the literature shows little consensus regarding the causes or manifestation of human bias.

**Questions 14-18**

Complete the flow chart.
Choose **NO MORE THAN THREE WORDS** from the passage for each answer.
*Write your answers in boxes **14-18** on your answer sheet.*

| **From a novice to an expert** | |
|---|---|
| **Novice**:<br><br>↓ | needs **14** …… and …… to perform a given task;<br><br>exposed to specific cases;<br><br>guided by a **15** …… Through learning |
| **Journeyman**<br><br>↓ | starts to identify **16** …… within and between cases;<br><br>often exposed to **17** …… cases;<br><br>contacts a mentor when facing difficult problems |
| **Expert** | Create predictions and new **18** ……;<br><br>performs task independently without the help of a mentor |

## Questions 19-23

Do the following statements agree with the information given in Reading Passage 2?
*In boxes **19-23** 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** Novices and experts use the same system to classify objects.
**20** A novice's training is focused on memory skills.
**21** Experts have higher efficiency than novices when solving problems in their own field.
**22** When facing a problem, a novice always tries to solve it straight away.
**23** Experts are better at recognizing their own mistakes and limits

## Questions 24-26

Complete the following summary of the paragraphs of Reading Passage 2.
Using **NO MORE THAN TWO WORDS** from the Reading Passage for each answer.
*Write your answers in boxes **24-26** on your answer sheet.*
Though experts are quite effective at solving problems in their own domains, their strengths can also be turned against them. Studies have shown that experts are less **24**…….. at making predictions than statistical models. Some researchers theorise it is because experts can also be inconsistent like all others. Yet some believe it is due to **25**……., but there isn't a great deal of **26**…… as to its cause and manifestation.

## 3. READING PASSAGE 3

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

### Inside the mind of a fan

### How watching sport affects the brain

**A**

At about the same time that the poet Homer invented the epic here, the ancient Greeks started a festival in which men competed in a single race, about 200 metres long. The winner received a branch of wild olives. The Greeks called this celebration the Olympics. Through the ancient sprint remains, today the Olympics are far more than that. Indeed, the Games seem to celebrate the dream of progress as embodied in the human form. That the Games are intoxicating to watch is beyond question. During the Athens Olympics in 2004, 3.4 billion people, half the world, watched them on television. Certainly, being a spectator is a thrilling experience: but why?

**B**

In 1996, three Italian neuroscientists, Giacomo Rizzolatti, Leonardo Forgassi and Vittorio Gallese, examined the premotor cortex of monkeys. The discovered that inside these primate brains there were groups of cells that ‘store vocabularies of motor actions’. Just as there are grammars of movement. These networks of cells are the bodily ‘sentences’ we use every day, the ones our brain has chosen to retain and refine. Think, for example, about a golf swing. To those who have only watched the Master’s Tournament on TV, golfing seems easy. To the novice, however, the skill of casting a smooth arc with a lop-side metal stick is virtually impossible. This is because most novices swing with their consciousness, using an area of brain next to the premotor cortex. To the expert, on the other hand, a perfectly balanced stroke is

second nature. For him, the motor action has become memorized, and the movements are embedded in the neurons of his premotor cortex. He hits the ball with the tranquility of his perfected autopilot.

**C**

These neurons in the premotor cortex, besides explaining why certain athletes seem to possess almost unbelievable levels of skill, have an even more amazing characteristic, one that caused Rizzolatti, Fogassi and Gallese to give them the lofty title ‘mirror neurons’. They note, The main functional characteristic of mirror neurons is that they become active both when the monkey performs a particular action (for example, grasping an object or holding it) and, astonishingly, when it sees another individual performing a similar action.’ Humans have an even more elaborate mirror neuron system. These peculiar cells mirror, inside the brain, the outside world: they enable us to internalize the actions of another. In order to be activated, though, these cells require what the scientists call ‘goal-orientated movements’. If we are staring at a photograph, a fixed image of a runner mid-stride, our mirror neurons are totally silent. They only fire when the runner is active: running, moving or sprinting.

**D**

What these electrophysiological studies indicate is that when we watch a golfer or a runner in action, the mirror neurons in our own premotor cortex light up as if we were the ones competing. This phenomenon of neural mirror was first discovered in 1954, when two French physiologists, Gastaut and Berf, found that the brains of humans vibrate with two distinct wavelengths, alpha and mu. The mu system is involved in neural mirroring. It is active when your bodies are still, and disappears whenever we do something active, like playing a sport or changing the TV channel. The surprising fact is that the mu signal is also quiet when we watch someone else being active, as on TV, these results are the effect of mirror neurons.

**E**

Rizzolatti, Fogassi and Gallese call the idea for mirror neurons the ‘direct matching hypothesis’. They believe that we only understand the

movement of sports stars when we 'map the visual representation of the observed action onto our motor representation of the same action'. According to this theory, watching an Olympic athlete 'causes the motor system of the observer to resonate. The "motor knowledge" of the observer is used to understand the observed action.' But mirror neurons are more than just the neural basis for our attitude to sport. It turns out that watching a great golfer makes us better golfers, and watching a great sprinter actually makes us run faster. This ability to learn by watching is a crucial skill. From the acquisition of language as infants to learning facial expressions, mimesis (copying) is an essential part of being conscious. The best athletes are those with a premotor cortex capable of imagining the movements of victory, together with the physical properties to make those movements real.

**F**

But how many of us regularly watch sports in order to be a better athlete? Rather, we watch sport for the feeling, the human drama. This feeling also derives from mirror neurons. By letting spectators share in the motions of victory, they also allow us to share in its feelings. This is because they are directly connected to the amygdale, one of the main brain regions involved in emotion. During the Olympics, the mirror neurons of whole nations will be electrically identical, their athletes causing spectators to feel, just for a second or two, the same thing. Watching sports brings people together. Most of us will never run a mile in under four minutes, or hit a home run. Our consolation comes in watching, when we gather around the TV, we all feel, just for a moment, what it is to do something perfectly.

**Questions 27-32**

Reading Passage 3 has six paragraphs, **A-F**.
Which paragraph contains the following information?
*Write the correct letter, **A-F**, in boxes **27-32** on your answer sheet.*
**NB** *You may use any letter more than once.*
**27** an explanation of why watching sport may be emotionally satisfying

**28** an explanation of why beginners find sporting tasks difficult
**29** a factor that needs to combine with mirroring to attain sporting excellence
**30** a comparison of human and animal mirror neurons
**31** the first discovery of brain activity related to mirror neurons
**32** a claim linking observation to improvement in performance

**Questions 33-35**

Choose the correct letter, **A**, **B**, **C** or **D**.
*Write your answers in boxes **33-35** on your answer sheet.*

**33** The writer uses the term 'grammar of movement' to mean

**A** a level of sporting skill.
**B** a system of words about movement.
**C** a pattern of connected cells.
**D** a type of golf swing.

**34** The writer states that expert players perform their actions

**A** without conscious thought.
**B** by planning each phase of movement.
**C** without regular practice.
**D** by thinking about the actions of others.

**35** The writer states that the most common motive for watching sport is to

**A** improve personal performance.
**B** feel linked with people of different nationalities.
**C** experience strong positive emotions.
**D** realize what skill consists of.

## Questions 36-40

Do the following statements agree with the views of the writer in Reading Passage 3?
In boxes **36-40** on your answer sheet, write

**YES** if the statement is true
**NO** if the statement is false
**NOT GIVEN** if the information is not given in the passage

**36** Inexpert sports players are too aware of what they are doing.
**37** Monkeys have a more complex mirror neuron system than humans.
**38** Looking at a photograph can activate mirror neurons.
**39** Gastaut and Bert were both researchers and sports players.
**40** The mu system is at rest when we are engaged in an activity.