READING PASSAGE 1 You should spend about 20 minutes on **Questions 1-14** which are based on Reading Passage I below.

<><><><><>GESTURE<><><><><>

As much as we may believe that we can communicate successfully without our bodies, a large portion of human communication comes in nonverbal forms. Hand gesture is perhaps the most blatant example of nonverbal communication. The language of gesture is rich in ways for individuals to express a variety of feelings and thoughts, from contempt and hostility to approval and affection.

Culture plays a significant role when one analyzes the frequency of hand gestures used during conversation. An early study of hand gestures was performed amongst Anglo-Americans, Jews from Eastern Europe, and Italians from New York. The results showed that Americans gestured using mainly the hand and wrist, Jews gestured using the lower half of the arm only, and Italians tended to gesture using the whole arm from the shoulder down.

Although some gestures, such as the ubiquitous act of pointing, differ little from one place to another, most gestures do not have invariable or universal meanings, having specific connotations only in certain cultures. Different types of gestures are distinguished. The most famous type of gestures is the so-called emblems or quotable gestures. These are culture-specific gestures that can be used as replacement for words. Communities have repertoires of such gestures. A single emblematic gesture can have very different significance in different cultural contexts, ranging from complimentary to highly offensive. For example, an American couple on an auto tour in Australia was stopped by a police officer in Sydney for failing to signal before turning. Since they were tourists the officer gave them only a friendly warning. Relieved, the American man responded with a smile and the thumbs-up sign. The police officer became enraged, ordered the couple out of the car and finally gave the driver an expensive ticket. Later the tourists learned that in Australia the thumbs-up gesture means "screw you"!

Another type of gestures is the ones we use when we speak. These gestures are closely coordinated with speech. The meaningful part of the gesture is of speech. For temporally synchronized with the co-expressive parls of speech, example, a gesture that depicts the act of throwing will be synchronous with the word "threw" in the utterance "and then he threw the ball right into the window". Other gestures like the so-called beat gestures, are used in conjunction with speech, keeping time with the rhythm of speech and to emphasize certain words or phrases. These types of gestures are integrally connected to speech and thought processes.

Gestures play a major role in many aspects of human life. Many animals, including humans, use gestures to initiate a mating ritual. This may include elaborate dances and other movements. Religious and spiritual gestures are also common, such as the Christian sign of the cross. In Hinduism and Buddhism, a mudra (Sanskrit, literally "seal") is a symbolic gesture made with the hand or fingers. Each mudra has a specific meaning, playing a central role in Hindu and Buddhist iconography. An example is the Vitarka mudra, the gesture of discussion and transmission of Buddhist teaching. It is done by joining the tips of the thumb and the index together, while keeping the other fingers straight.

Much information is extracted from the way we use our hands when we greet one another, starting with the handshake, In the United States, an individual with a firm handshake represents a person with a strong personality, while a weak handshake does just the opposite. Furthermore, an American handshake consists of a grasp of the hand and moving the arm up and down a couple of times. In European countries, specifically in France, a handshake has one fluid movement: up then down. In addition, there is the handshake where both hands are used. This particular handshake sends a more welcoming message to the receiver. In observation, this type of handshake was used more Frequently with political figures, when greeting representatives of other nations.

The first full-length study of gesture was published by John Bulwer in 1644. Bulwer analyzed dozens of gestures, and provided a guide on how to use gestures to increase eloquence and clarity for public speaking. Today, one of the most prominent researchers in the field of gesture research is Adam Kendon, a cognitive scientist and founder of gesture research. He has investigated many aspects of gestures, including their role in communication, conventionalization of gesture, integration of gesture and speech, and the evolution of language. Other prominent researchers in this field include Susan Goldin-Meadow and David McNeill. McNeill is particularly interested in the connection between spontaneous gestures and the spoken word. That both might stem from the same thought was hypothesized in the 1980s by Adam Kendon. According to McNeill's theory, the process of speech production and the process of gesture production have a common menta! source in which a mixture of preverbal symbols and mental images form the point of origin for the thought that is to be expressed. This growth point, as McNeill calls it, represents a kind of seed out of which words and gestures develop.

The growing appreciation among scientists for the tight interweave between speech, thought and gesture is giving rise to theories about how the brain creates and coordinates these functions. One influential new model comes from psychologist Willem Levelt of the Max Planck Institute for Psycholinguistics in Nijmegen, the Netherlands. According to Levelt, the brain produces a verbal utterance in three stages. First the brain conceptualizes an intended message as purely preverbal information—as a concept that is not yet formulated linguistically. In the second stage, the brain finds words for this concept and constructs sentences. Only in the third stage do the organs of articulation come into play, producing the desired utterance via the lungs and vocal cords. One of Levelt's students, Jan-Peter de Ruiter, has incorporated gestures into this model. He assumes that the initial conceptualization stage also encompasses a visual sketch for gestures. In the second stage, the sketch is transformed into a gestural plan that leads to muscle motor programs in the third stage.

These kinds of insights show that understanding how the body communicates is crucial to understanding verbal communication. As professional orators have known for centuries, a well-placed gesture can be the most effective way to make a point hit home. The more we learn about how the body communicates, the better we will become as communicators and observers.

Questions 1-4
Match the following statements as applying to different gestures **A-D**

A the whole arm moved
B thumbs-up
C tip of the thumb touching the lip of the index finger
D using both hands to give a handshake

1. gesture usually seen in diplomatic scene
2. gesture used by religious people
3. gesture of Italian style
4. negative gesture in Australia

Questions 5-9
Do the following statements agree with the information given in Reading Passage 1 ? In boxes **5-9** on your answer sheet write

YES if the statement agrees with the views of the writer
NO if the statement contradicts the views of the writer
NOT GIVEN if it is impossible to say what the writer thinks about this.

5 Almost everyone used the most famous quotable gestures.
6. Although some gestures represent various meanings in different cultures, most gestures have universal meanings.
7. Gestures alone can not take the place of verbal communication.
8. In the United States, a strong handshake conveys friendship and trust.
9. According to Adam Kendon, spontaneous gestures and the spoken word stem from

Questions 10-14 Complete summary below **USING NO MORE THAN THREE WORDS** from the passage.

Psychologist Willem Levelt put forward a new model about how the brain …….10…… and ……..11……..speech, thought and gesture. In the first stage the brain purely forms a ……12……, for which the brain finds words and constructs sentences in the second stage. In the third stage the organs of articulation …….13……One of Levelt's students assumes that in the first stage a vision for ……14 ……..forms. the same thought.

READING PASSAGE 2
You should spend about 20 minutes on **Questions 15-27** which are based on Reading Passage 2 below.
Questions 15-19 Reading Passage 2 has **7 paragraphs A- G.**
From the list of headings below choose the 5 most suitable headings for **paragraphs A, B, C, D and E.**
Write the appropriate numbers **(i-x).**

NB There are more headings than paragraphs, so you will not use them all.

List of Headings

i. Many animals use tools rather than make tools
ii. The crow changes tool design
iii. Tools made of pandanus
iv. The Caledonian crow, the toolmaker
v. Tool manufacture ratcheting upward
vi Nurture or nature
vii Brain evolution
viii Pandora's hox opened up
ix Difference between making and using tools
x Scientific assumption about handedness

15. Paragraph A
16. Paragraph B
17 Paragraph C
18. Paragraph D
19. Paragraph E

Two Wings and a Kit-Box

A. Many animals use cools, but tool manufacture is rare. Rarer still is cumulative change in tool manufacture. Chimpanzee and orangutan tool manufacture, for example, is often haphazard, and their tools show no evidence of incremental improvements over time. In contrast, current human technology is the result of a long scries of cumulative changes. The " ratchet-like" nature of this technological evolution means that design changes are retained at tlie population level until new, improved designs arise. This ratchet "effect is possible because tool manufacture methods are socially transmitted with sufficient fidelity that individuals do not need to reinvent or recapitulate past inefficient designs. The ^ £ skills required for the development of this cumulative technology are claimed to include high fidelity social learning, an understanding of physical relationships and functional properties of objects, and die ability for fine object manipulation. Animals other than humans are generallypresumed to lack the necessary neural hardware and cognitive sopliisticadon for cumulative technological evolution.

B. The New Caledonian crow, Corvus moneduioides, Ls an ideal model species to examine die links between tool anufacture, social learning and cognition. These crows make tools t out of the twigs and the long, prickly edges of die leaves of the tropical pandanus tree to facilitate the capture of invertebrates, says New Zealander Gavin Hunt. He studies diese crows, which live on islands between Australia and Fiji, Dr. Hunt has discovered diat New Caledonian crows have three different designs

for tools. They also make two kinds of stick tools hooked and not hooked. The manufacture of pandanus tools provides a unique opportunity for study because a record of tool manufacture is faithfully recorded in "counterparts" or outlines remaining on die leaf edges. In the wild, adult New Caledonian crows sever long narrow pandanus (a stilt-rooted palm native to Southeast Asia) leaves and split them to keep the sharply serrated outside edge intact. The split leaves are cut again in roughly 8 lengths for bill-controlled tools to hook small insects from cracks or to swish rapidly through leaf litter to impale other prey,

C. Recent work lias revealed that these tools have four features previously thought to be unique to primitive humans: a high degree of standardization, the use of hooks, "handedness", and cumulative changes in tool design. Evidence has been discovered of cumulative changes in a field survey documenting the shapes of 5,550 tools from 21 sites throughout the range of pandanus tools. Three distinct tool designs are found: wide tools, narrow tools, and stepped tools. The lack of ecological orrelates of die different tool designs and their geographic overlap make it unlikely diat they evolved independently. Similarities in die method of manufacture for each design suggest that pandanus tools have gone through a process of cumulative change from a common historical origin.

D. Evidence is accumulating quickly on the inherent talent of crow's tool-making ability which indicates that this ability is at least partly inherited and not dependent on learning through social contacts. To date diere is only circumstantial evidence that New Caledonian crows transmit tool-making knowledge via social learning. These crows live in small family units where juveniles have ample opportunity to learn foraging techniques. The social learning and reasoning abilities of other Corvus species are well documented. The high fidelity in the shape of tool design at sites makes individual trial-and-error learning unlikely. Similarly, the evidence that crows might have some grasp of the functional properties of then- tools is also only inferential.

E. Researchers have also found that crows use different sides of their beaks to make and use tools. This suggests that different parts of die brain may control making and using tools, and that die biology of handedness—or beakedness—may be more complex dian we thought. Just like humans, New Caledonian crows are usually right " handed when it comes to tasks such as making tools. But it turns out die birds use their tools with left and right sides equally, although individual crows prefer one side or die other. " This has opened up Pandora's box, says William McGrew, who studies chimpanzees' tool use at Miami University. "People always assumed handedness would be the same for using and making tools.' "Scientists will now be more wary of making this assumption," he adds.

F. A major breakthrough in these studies occurred when it became evident that traditional theory of brain evolution as espoused by Ludwig Edinger, a neurobiologist and die leading comparative anatomist of a hundred years ago, was wrong. He believed that brains evolved in a straight line with invertebrates at die low end and progressed upwards through fish, reptiles, birds, to mammals, with humans at die top. N euro biologists now understand diat bird brains, although constructed differendy from that of mammals, nonetheless function as elegantly as any mammals' brain. In fact, in proportion to body size, a crow's brain is as large as a chimpanzee's.

G. In mammals, the lower third of our brains consists of groups of neurons, whereas the upper two thirds there exists neo-cortexes made up of flat cells, six cell lay en thick. The top 4- part generates our rational or intellectual activity, whereas die bottom third controls our instinctive reactions such as extending an arm to soften a fall or jerking away a hand when touching something hot. In human evolution the six cell-layered sheet on the top of die brain spread to such an extent that die only way die scull-confined brain could contain its increased area was for it to become convoluted, i.e. with many folds and crevices. The tops of bird brains are smooth, not folded, and until recendy were thought to consist of cells grouped in clusters similar to die lower part of mammal brains, and dins would make all bird behavior J_ merely instinctive. We know now this is not the case, but die exact neural pathways are still 4- unclear. What seems to have happened is an example of convergent evolution of intelligence where two differing forms of brain structure eventually lead to almost equivalent brain power.

" New Caledonian crows teach us that in many ways other animals are not so different from us, and we should respect them for their differences and similarities, says Hunt.

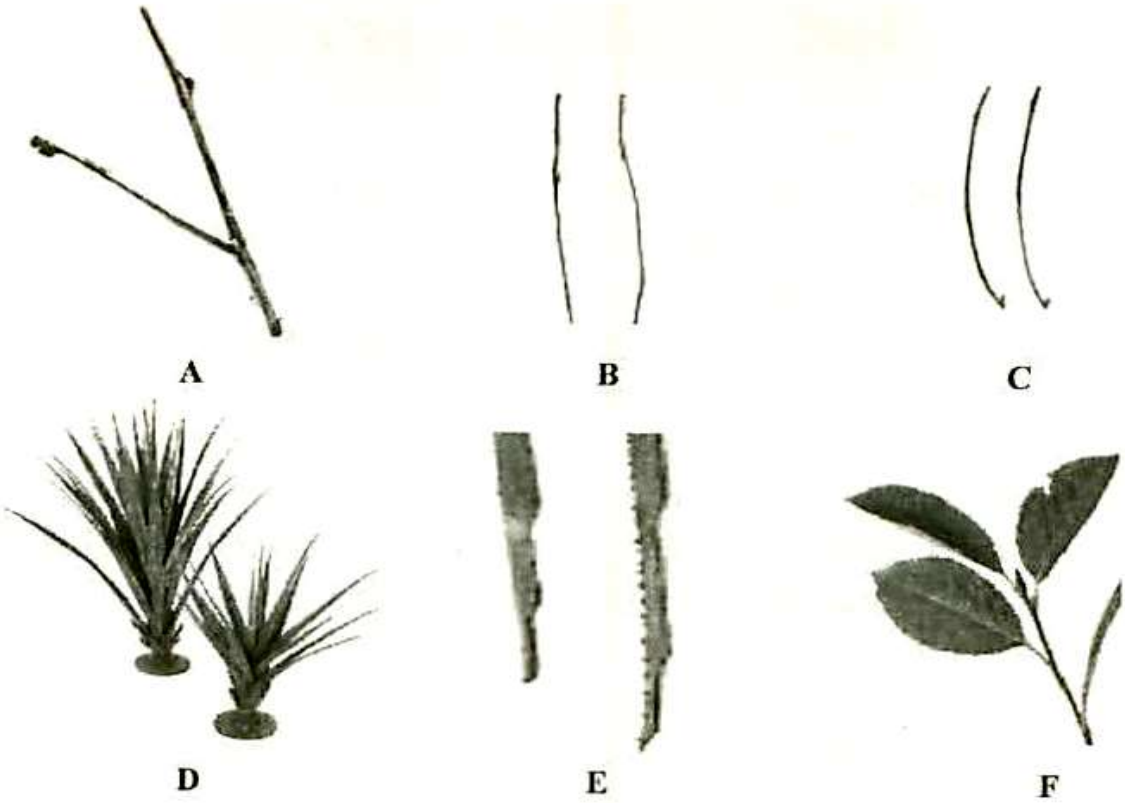
Questions 20-24

Do the following statements agree with the information given in Reading Passage 3? In boxes **20 -24** 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.

20. Scientists found ample evidence that crows never change their tool design.
21. Scientists confirmed that the crow's ability in tool making is completely inherited.
22. It is unlikely that the crows need to practise many times before manufacturing tools.
23. Like humans, New Caledonian crows are right "handed" when it use their tools.
24. Research into New Caledonian crows helps scientists understand the brain evolution of other birds.

Questions 25-27 Look at the following diagrams **A-F.**
Match the correct diagram to each tool manufactured by the New Caledonian crow.



25 Hooked stick
26 Not hooked stick
27 Pandanus tool

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

Water Resources

A. Ancient civilizations developed along rivers that supplied water for farming. As early as 5000B. C., the Egyptians cultivated land made fertile by the floodwaters of the Nile River. By about 3000B. C., they had built an elaborate canal system that carried water from the Nile to their fields. Large irrigation systems also had been constructed by then in China, India, and southwest Asia. Indians in Mexico and Peru used water from streams to grow com as early as 800B. C. When the Spaniards arrived in those countries during the A. D. 1500's, they found great civilizations based on irrigated agriculture. Archaeologists have discovered evidence of early irrigation ditches in the South-western United States. These ditches date from before the 600's. Scientists estimate that Indians of that period irrigated thousands of acres or hectares of land in what became central Arizona.

B. The 20th century has witnessed unprecedented rises in human populations, from 2. 8 billion in 1955 to 5. 3 billion in 1990 and is expected to reach between 7. 9 and 9. 1 billion by 2025 (Engelman and LeRoy, 1993). Consequently, human demands for water, for domestic, industrial and agricultural purposes, are also increasing rapidly. The amount of water that people use varies, but tends to rise with living standards. In the United States, each individual typically uses 700 liters per day for domestic tasks, whilst in Senegal, the average use is 29 liters per day. In general, 100 liters per person per day is considered a minimum threshold for personal use. However, when agricultural and industrial uses are included, countries with less than 1,700m3 per person per year (about 4,600 liters per day) are considered to experience water stress, those with less than 1,000m3, water scarcity. Because of the spatial mismatch between water resources and people, it is predicted that by 2010, twelve African countries, with a total population of approximately 250 million will suffer severe water stress. A further ten African countries will be similarly stressed by the year 2025 containing some 1. 1 billion people, or two thirds of Africa's population, while four (Kenya, Rwanda, Burundi and Malawi) will be facing an extreme water crisis.

C. With such a water crisis facing many countries, it seems an immense task just to manage water so that there is enough for people to drink, let alone enough for agricultural , environmental , and industrial uses . The situation is often presented as a 1 conflict of competing demand, as though it was a matter of choice between water for1 people, or for wildlife, or for the environment. Whilst people need access to water' directly to drink, providing water to the environment means using water indirectly for people. More attention needs to be given to the role of natural ecosystems in managing 1 the hydrological cycle and their potential as alternatives to major engineering works. As an example, well managed headwater grasslands and forests

reduce runoff during wet' periods, increase infiltration to the soil and aquifers and reduce erosion, such as (sustaining flows during drought periods and reducing runoff during floods. Conserving (wetlands in particular, by ensuring that they have adequate supplies of water to maintain their functioning, can be a positive benefit to humanity. Many wetlands provide important fisheries, arable and pasture land, fuel wood and medicines as well as habitats for wildlife. Some wetlands also perform many important natural , hydrological functions including flooding reduction, water quality improvement (by, removing pollutants) and groundwater recharge. Thus for the millions of people , worldwide who depend directly on wetland resources or benefit from wetland functions, i providing water for the environment and for people are one and the same.

D. When water resources are used at a rate greater than they are being replenished, 1 the resource will decline and the usage becomes unsustainable. In many areas of the 1 world, for example, groundwater is being extracted from the underlying aquifer more 1 rapidly than it is being replenished. Around Quetta in Pakistan, where the abstraction 1 rate is 2. 5 cubic meters per second (cumecs), whilst the recharge rate is 2, 0 ' cumecs, the groundwater level is falling at around one meter per year. Furthermore, the problem is likely to worsen as the population is growing at seven percent per year. In some areas of Libya, no recharge currently occurs, the sustainable use rate is zero and thus the water is effectively being mined. Part of the problem is that planning has often taken place by deciding first how much water is needed and then trying to find a ,source. In contrast, the opposite process is likely to lead to more sustainable water, use, by first assessing the available water resource and then deciding how best it can be used

E. There is a need to develop a broad-based approach to water management, with greater emphasis on integrated regional planning and conservation of critical habitats. The environment is composed of a set of physical, chemical and biological components, including water, oxygen, plants, animals, soils, minerals. Each plays 'an important role either providing structure, such as rocks, or through interaction with ' other components, maintains crucial processes, such as energy flow or nutrient' cycling. Superimposed on this natural environment is the effect of human beings. There is no place on earth unaffected by human beings, who have had large scale impacts on the earth's environment ever since agriculture began thousands of years ago. The ecosystem management approach aims to integrate all the important , physical, chemical and biological components and processes which interact with i social, economic and institutional factors. This requires integrated management of mountains, dry lands, forests, agriculture, housing, industry, transport, waste disposal, aquifers, rivers, lakes, wetlands and anything which has an effect on the 1 environment. Once the scientific basis for management options has been defined by professional staff, the participation of local communities, farmers, industry and 1 conservation organizations is needed to satisfy the needs of different interest groups.

F. Institutions at various levels are essential for equitable allocation of water. Whatever he level, institutions need well-informed members who have an appreciation of the wide range of issues facing water resource allocation. Training is an essential element, but training needs vary with the type of institution. Professional technical advisors require formal training courses, for example, on water resource planning and wetland , management, whilst local community representatives may be best trained with ,involvement in local activities, such as participatory rural appraisal or through visits to demonstration projects.

Questions 28-33

Reading Passage 3 has 6 paragraphs **A- F.** Which paragraph contains the following information1?

28. Providing water lo die environment means providing water to people.
29. When the water recharge rate is zero, countries are forced to drill their wells
30. Ancient civilizations diverted water from streams into irrigation systems.
31. The participation of local communities to inform scientists is crucial.
32. The basic formula for water consumption is that assessment should precede usage.
33. The higher the living standards of people, the more the water people use.

Questions 34-36

Choose the appropriate letters **A-D** and write them in boxes **34-36** on your answer sheet.

34 It has been found that the ancient civilizations were often on the basis of……..

A irrigation ditches B fertile land
C floodwaters of the Nile River D irrigated agriculture

35 Countries with less than experience water scarcity. …….. per person per year are considered to

A 1 ,700m3 **B** 1 ,000m3 **C** 4,600 liters **D** 700m3

36 How many African countries will suffer severe water stress by the year 2025?

A 12 **B** 10 **C** 250 **D** 22

Questions 37-40

Do the following statements agree with the information given Heading Passage 3? In boxes **37—40** 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.

37. Libya is well on its way to running out of water.
38. Environmental management is a broad approach water management.
39. Industry and conservation organizations should decide environmental management options.
40. Institutions at various levels need different training.