SECTION 1: PASSAGE I

Read the following passages and shade your answers to the questions that follow in the corresponding spaces on the **Answer Sheet**.

Paragraph

China is one of the most popular countries for Westerners who want to adopt children. But today more Chinese than ever are doing the same thing themselves – adopting or **providing foster care** for thousands of orphans and abandoned children, almost all of **whom** are girls. The Chinese have long resisted the practice, in part because of a traditional notion that charity should be given only to those in one's family circle, and also because many could not afford the expense. While it costs Chinese couples a small fee of about US$200 to adopt, after they have done **so**, the economic challenge of raising an extra child is a discouraging factor. In addition, there is a deep shame associated with the inability to produce children. **1**

In the past five years, adoptions by the Chinese have increased steadily. In 1996, there were only 14,800 official adoptions, according to government figures. But the number was more than three times higher by 2003. In addition, many more Chinese have begun to care for orphans until they can find a permanent home. More than two decades of economic reform have created a growing middle class that has more money and time to think about larger social issues. Furthermore, with the arrival of Western non-profit organizations in China, Western ideas of **altruism** have also gradually appeared, making it more acceptable to reach out to strangers. Couples who want bigger families also adopt to overcome the one-child policy – in 1999, laws were changed so that adoptees would not count as "extra" children. **2**

As for other changes, the Chinese government has encouraged this movement. In the late 1990s, the ministry that supervises family and social welfare established a separate organization to **reform** orphanages. In 2002, the organization launched a campaign to show the Chinese that orphans belong in families, not group homes, where it is common for only a dozen or so employees to be responsible for 100 or more children. There are several hundred government-supported orphanages and welfare homes in China caring for more than 50,000 orphans and abandoned children. In cities such as Beijing, Shanghai, Guangzhou and Tianjin, officials have placed 10,000 children in Chinese foster homes over the past several years. Many families who take in children are formally adopting them. **3**

Adapted from Schafer, S. (2004)

1. According to paragraph 2, adoption laws were changed in _____.
   A. 1996
   B. 1999
   C. 2002
   D. 2003

2. '**so**' (para 1) refers to
   A. adopt
   B. done
   C. raising an extra child
   D. costs Chinese couples a small fee

3. The main idea of paragraph 2 is _____.
   A. there has been economic reform in China
   B. more Chinese care for orphans
   C. adoptions by the Chinese have increased
   D. there are many Western non-profit organizations in China

4. The phrase '**As for other changes**' in paragraph 3 _____.
   A. describes the government's effort to promote adoption
   B. introduces the idea that adoption is supported by the government
   C. explains why the government decided to improve orphanages
   D. makes the conclusion that many Chinese families are more open to adoption

5. '**altruism**' (para 2) means
   A. having more family-friendly laws
   B. generously helping people from another culture
   C. unselfishly thinking about others' well-being
   D. discouraging families from having extra children

6. It can be inferred from paragraph 1 that _____.
   A. charity should start at home
   B. money is a discouraging factor in adoption
   C. many Chinese children are adopted by Westerners
   D. Chinese society places more value on males than females

7. '**whom**' (para 1) refers to
   A. orphans and abandoned children
   B. Chinese
   C. almost all
   D. girls

8. '**reform**' (para 3) means
   A. change for the better
   B. change the shape of
   C. establish a new organisation
   D. promote adoption programmes

9. Paragraph 3 discusses the accommodation used specifically by children without parents. This is shown through the repetition of the word _____.
   A. organization
   B. orphanages
   C. welfare
   D. homes

10. '**providing foster care**' (para 1) is similar in meaning to
   A. adopting children
   B. raising an extra child
   C. reaching out to strangers
   D. taking in children

SECTION 2: PASSAGE II

Paragraph

Is aging accompanied by changes in the brain? Are these changes caused by damage to the **underlying** genes involved in the functions such as learning and memory? Exciting new research suggests that they may be, and the findings could eventually help predict and prevent degenerative brain diseases like Alzheimer's and Parkinson's. **1**

A research team at Harvard Medical School studied changes in gene activity in the preserved brains of people who ranged in age from 26 to 106. Examining tissue from the prefrontal cortex, a centre of higher mental functions, they uncovered some surprises. While most of the genes did not show changes with aging, about 4 per cent became either more or less active. In most cases, the damage was caused by oxygen-free radicals. Prominent among the genes that lost their **youthful** vigour were genes that affect learning and memory. To compensate for this, genes that protect tissues from oxidants and genes that repair DNA had become more active. **2**

The gene damage observed in the study began surprisingly early in life. While gene activity was similar in most brains from people in their 20s or 30s, problems became apparent in some brains as early as the age of 40. Also, the activity of learning and memory-related genes dropped faster in some people than in others, suggesting that each human brain ages in its own way. Occasionally, the variations could be quite striking. In fact, one 71-year-old brain showed as much gene activity as that found in 30-year-old brains. **3**

Questions need to be asked. The biggest question raised by this study is why, in the course of normal aging, certain people are more vulnerable than others to age-related damage from oxygen-free radicals. A second question is why genes important to memory and learning appear to be more vulnerable than other genes. It is hoped that finding the answers could one day allow physicians to identify people at greatest risk of this kind of damage and to prevent it. **4**

A better understanding of this normal aging process may also **shed light on** the beginnings of degenerative brain diseases like Alzheimer's and Parkinson's. "Looking at a brain **afflicted** by Alzheimer's disease is like looking at **a battlefield after a war**," says Dr Bruce Yanker, a Harvard Medical School professor who led the study of brain-gene aging. "So much has become diseased that it is difficult to know how it started. But by studying how the normal brain ages and comparing it with early cognitive decline, we **hope** to obtain clues to the earliest events in these diseases." **5**

Adapted from Bakalar J. and Jomaroff A.L. (2005)

11. The main idea of paragraph 2 is _____.
    A. there are changes in gene activities in preserved brains
    B. discoveries from the prefrontal cortex were surprising
    C. oxygen-free radicals caused damage to genes
    D. genes related to memory and learning were affected

12. Alzheimer's and Parkinson's are _____.
    A. damaged genes
    B. changes in the brain
    C. illnesses related to the brain
    D. learning and memory functions

13. The writer expresses the opinion that _____.
    A. the aging process is such an intricate process
    B. some brains deteriorate as early as the age of 40
    C. new research into brain damage caused by aging is exciting
    D. surprising discoveries can be found from examining tissues from the prefrontal cortex

14. **'underlying'** (para 1) means
    A. forming the basis
    B. preventing diseases
    C. underneath the skin
    D. hidden cells

15. Choose the correct answer for the diagram.

Gene activity in the brain	
By age	• Age 20 – 39: Activity is mostly _____. • Age 40: Problems may appear.

    A. fast
    B. similar
    C. surprising
    D. early

16. The statement "**Questions need to be asked**" in paragraph 4 _____.
    A. compares two important questions
    B. explains why questions need to be asked
    C. shows that the writer does not understand the study
    D. introduces the idea that there are questions coming out of the study

17. Youthful (para 2) is opposite in meaning to
    A. less active
    B. early in life
    C. aging
    D. new

18. In paragraph 5, "**shed light on**" and "**hope**" show that the writer's attitude toward the research is one of _____.
    A. uncertainty
    B. surprise
    C. optimism
    D. determination

19. A brain with Alzheimer's disease is compared to **'a battlefield after a war'** because it has been _____.
    A. affected by brain-gene aging
    B. scarred by the aging process
    C. fighting hard against the disease
    D. physically damaged by the disease

20. The category of genes affected by aging includes genes _____.
    A. that repair DNA
    B. which are more or less active
    C. that protect against oxidants
    D. related to learning and memory

21. **'afflicted'** (para 5) means
    A. distracted
    B. aged
    C. badly affected
    D. seriously oppressed

22. The fact that individual brains have noticeably different ways of aging is emphasized by _____.
    A. the degeneration of gene activity at the age of 40
    B. similarities between 71-year-old and 30-year-old brains
    C. producing a suitable treatment and medication for brain diseases
    D. the faster decline of gene activity in some people than in others

SECTION 3: PASSAGE III

Paragraph

In the aftermath of a natural disaster like December's tsunami, some stories have happy endings. V.Selvam's began when the giant waves came crashing into the mangrove forest of Pichavaram on India's Tamil Nadu coast. Selvam, a biologist who had been working to restore the forest, made his way to a nearby village as fast as he could, expecting the worst. Instead, he found relieved villagers regaling him with anecdotes. Eyewitnesses told Selvam that the mangroves had channeled water into lagoons and rivers, through canals, sparing the settlements metres from the shore. "I couldn't believe it," he says. **1**

Similar anecdotes from all over the tsunami-affected region have had a special appeal for environmentalists and conservationists, who argue that if it were not for the destruction of mangroves and coral reefs, which form natural barriers against waves, the death toll might have been far lower. Some of the hardest-hit countries have taken this admonition to heart. That is to say, they have made mangrove restoration a pillar of their restoration efforts. Indonesia has promised to spend US$22 million to replant 6,000,000 hectares of mangroves along its damaged coastline. The state of Kerala in southern India, which has an extensive system of **waterways**, announced a plan to spend US$8 million to create a protective barrier of mangrove plants. Forest officials in Thailand, Malaysia and Sri Lanka are evaluating similar schemes. The problem is that the idea of developing physical barriers, natural or otherwise, to protect against future tsunamis is "**pie in the sky,**" according to Doug Masson, an oceanographer at Southampton University in England. **2**

There is no denying that mangroves did save some villages, like those on the Indonesian islands of Sabang, Nias and Simeulue, which were spared the worst damage even though they were close to the earthquake's epicentre. The **faulty logic** comes in generalizing these experiences to the entire region. For one thing, mangroves do not grow everywhere – only 10 to 12 per cent of India's coastline and 25 per cent of Indonesia's, for instance, naturally support mangroves. If 20 per cent of these forests had been lost to development between 1980 and 2000, as the United Nations Food and Agriculture Organization (FAO) says, or even 50 per cent, as some conservation groups insist, that would have left only a small fraction of coastlines vulnerable. **3**

The forests, too, cannot be planted just anywhere. The Indonesian government is considering laying a belt of the trees around the entire province of Aceh, which was devastated by the tsunami. But mangroves flourish only in high-salinity soils common to areas that combine an inflow of tidal water and outflow of fresh river water; they die in sandy soils, which make up the lion's share of beaches. Several efforts by NGOs to plant mangroves in Indonesia have failed. "These are very well-meaning projects, but people tend to throw one species in the mud, and basically, after two or three weeks, they are dead," says Jan Steffen, a UNESCO expert in coastal development. Says the FAO, "Planting of mangroves where they did not previously exist is rarely going to work. There is a reason why they were not there in the first place." **4**

Even if it were possible to ring the entire Indian subcontinent with mangroves, the strategy still would not work in all cases. Because the size of a wave hitting the shoreline depends to a great extent on coastal geology, the tsunami took on different shapes in different places. Locals in Indonesia reported seeing rolling, riverlike waters flooding some areas and 30-metre-high, bulldozer-like walls of sea flattening others. A 50 to 100-metre band of mangroves might have made a difference where the ocean floor slopes gradually to the shoreline and the wave travelled only a few metres inland. But in places like Lhok Nga in Aceh, where valley walls funneled the waters up to 35 metres high and the tops of palm trees were snapped off "like matchsticks", says Steffen, a few mangroves would not have helped. **5**

In the absence of any definitive studies on the effect of mangroves on waves, it would be wiser, says Southampton's Masson, for Indian Ocean nations to invest instead in civil-defence plans that include educating the public about what to do if such a disaster recurs, and a regionwide early-warning system like the one that exists in the Pacific. Still, protecting and restoring mangrove forests would provide habitats for juvenile fish, crabs, shrimps and mollusks; nesting sites for hundreds of bird species, and shelter for the Royal Bengal tigers of India and Bangladesh, among other endangered animals. Those are worthy enough reasons for planting trees. **6**

Adapted from Overdorf, J. and Unmacht, E. (2005)

23. According to paragraph 4, places where mangroves flourish are only _____ soils.
    A. high-salinity
    B. sandy
    C. muddy
    D. clay

24. Mangroves are useful because they _____.
    A. grow everywhere
    B. are natural barriers against waves
    C. could reduce the occurrence of tsunamis
    D. beautify the natural environment along coastlines

25. An example of a particular tsunami shape is a tsunami that looks like _____.
    A. a ring
    B. a slope
    C. matchsticks
    D. a bulldozer

26. Countries which suffered most from the tsunami have taken notice of criticism. This is made clear by their actions in _____.
    A. lowering the death toll
    B. preserving wildlife habitats
    C. focusing on replanting mangroves
    D. spending millions on repairing coastlines

27. '**pie in the sky**' (para 2) means
    A. an expectation for something good to happen
    B. a plan that is impossible to achieve
    C. a visionary thought
    D. an ambitious plan

28. Waterways (para 2) includes _____.
    A. rivers and canals
    B. lagoons and coral reefs
    C. waves and coastlines
    D. the shore and riverlike waters

29. In the passage, the writer's main argument is that _____.
    A. planting mangroves to protect coastlines is not necessarily the best defence against tsunami
    B. mangrove forests should be restored because they provide protection for wildlife
    C. the cost of replanting mangroves involves millions of dollars
    D. mangroves are highly-sensitive plants

SECTION 4: PASSAGE IV

Paragraph

Ose Ordovas has glimpsed the future of medicine. Ordovas, Director of the Nutrition and Genomics Laboratory at Tufts University in Massachusetts, believes the era of sweeping dietary recommendations for the whole population – also sometimes known as fads – may be coming to an end. Within a decade, doctors will be able to take genetic profiles of their patients, identify specific diseases for which they are at risk and create customized nutrition plans accordingly. **1**

The promise of nutritional genomics – a field that barely existed five years ago – is not to overturn a century's worth of dietary advice but to understand on the most basic level how health is determined by the interplay of nutrients and genes. The old paradigm was of a one-way process, in which "bad" foods gave people heart disease or cancer unless "good" genes intervened to protect them. New research suggests a continual interaction, in which certain foods enhance the action of the protective (or harmful) genes, while others tend to suppress them. This supports what we know from observation: that some individuals are better adapted than others to survive a morning commute past a dozen doughnut shops. Individuals have widely varying responses to high or low-fat diets, salt, even exercise. Overwhelmingly, though, researchers expect that conventional dietary wisdom will hold for most people. **2**

The model for nutritional genomics is the work that has already been done on drug-gene interactions. Researchers are starting to unravel the mystery of why a drug may be a lifesaver for one person while causing a fatal reaction in another, and in a third has no effect at all. Why do a third of patients fail to respond to the antidepressants known as SSRIs, including Prozac, Paxil and Zoloft? The drugs are meant to increase levels of the neurotransmitter serotonin by blocking its "reuptake", or clearance from the brain. Obviously, they can work only if serotonin is being produced in the first place. Late last year, researchers at Duke University discovered that some people have a variant gene which reduces the production of serotonin by 80 per cent – making them both susceptible to major depression and resistant to treatment with SSRIs. **3**

But food interactions are usually far more complicated. "Normally, you take one drug at a time and for a limited amount of time," says Dr Muin Khoury, Director of the Office of Genomics and Disease Prevention at the U.S. Centre for Disease Control and Prevention. "If you have a certain genetic variant, you stay away from a particular drug or take a different dose." But food nutrients come in bulk, people consume them for a lifetime and they can get them without a prescription. Food metabolism involves huge numbers of genes interacting in uncountable ways. There are at least 150 gene variants that can give rise to type 2 diabetes, 300 or more that are associated with obesity, according to Ordovas at Tufts. He compares the situation to an electrical panel: "We know about certain switches and how to turn them on and off. But in some people, you turn the switch but the light doesn't come on, because there are other switches upstream and downstream that we don't know about yet." It must be admitted that it will be years before researchers have a good diagram of the circuit. That has not prevented the growth of a fledgling industry in personalized nutritional supplements to treat everything from **4**

osteoporosis to obsessive-compulsive disorder. At least one company will even profile people's genes to take the guesswork out of choosing makeup.

Pieces of the diagram are beginning to emerge. Green tea contains potent anti-oxidants known to help prevent heart disease and certain cancers, but only some women seem to show a reduction in breast cancer from drinking it. A study at the University of Southern California suggests that part of the reason lies in a gene that produces an enzyme called COMT that inactivates the cancer-suppressing compounds; women with the gene variant that produces a less active form of COMT showed the most benefit from tea. **5**

The broader purpose of research in the field is to understand the interplay of nutrition and genetics. What protects Asians who eat a traditional soy-based diet from hormone-sensitive breast and prostate tumours? The most common explanation is that soy contains compounds that bind to estrogen receptors on cells, making them unavailable to more potent hormones. But a researcher has identified a soy constituent called lunasin that increases, by his count, the activity of 123 different genes in prostate cells. Among them are genes that suppress tumour growth, initiate the repair of damaged DNA and promote apotosis, the programmed "suicide" of damaged cells before they begin to multiply. When all is said and done, though, the recommendation will probably stay the same: eat more soy. **6**

Adapted from Underwood, A. and Adler, J. (2005)

30. It can be inferred from the passage that _____.

A. members of the same family need to have separate diets because of their genetic differences
B. drugs may work for some people while for others they have no effect
C. eating more soy-based food can protect Asians from tumours
D. some people have a stronger will power to control their diet

31. The most effective argument that supports the idea of drug-gene interaction is _____.

A. some people need to avoid certain drugs
B. different people need a different dose of a drug
C. a particular drug saves some lives but not others
D. there is a minimum of 150 gene variants which can cause type 2 diabetes

32. Although it is known that genes interact like an electrical panel, the writer anticipates that _____.

A it will not lead to personalised nutritional supplements
B. how metabolism and genes interact is difficult to understand
C. how the genes interact will not be known for a long time
D. the profiling of one's genes will be necessary

FOOD CONSUMPTION PATTERNS AMONG MALAYSIANS
2001 – 2005 (%)

Types of Food	2001	2003	2005
Rice	82	74	71
Fruits	80	92	109
Vegetables	78	89	99
Fish	89	90	90
Beef	23	22	16
Poultry	113	106	106
Soy-based food	65	80	86
Confectionary	58	47	39

33. It can be inferred from the table that _____.

A. soy-based food is becoming more popular among Malaysians
B. rice is commonly taken together with fish and/or poultry among Malaysians
C. there is an increase in the pattern of fruit and vegetable consumption among Malaysians
D. Malaysians are becoming more aware of the type of food they consume in relation to health

34. Passages 2 and 4 are similar because they discuss _____.

A. nutrients that can cure only one type of disease
B. the effectiveness of the food consumed depends on the person's genes
C. how genes determine an individual's vulnerability to disease
D. how genes are important to memory and learning

35. The concept of nutritional genomics leads to the conclusion that _____.

A. women will not face difficulties in choosing makeup
B. people will go back to conventional dietary practice
C. the study of how food interacts with genes is complex
D. individualized nutritional programmes will be available