

Answers to Part III

Academic Practice Test 1

LISTENING: Answers and Script with highlighted evidence for answers

Section 1: 1. 2/two years; 2. cook; 3. Engineering (*capital optional*); 4. model; 5. at night; 6. shy; 7. late; 8. gone; 9. city; 10. Lucy (*capital optional*). **Section 2:** 11. peace; 12. value; 13. floor; 14. maintenance; 15. G; 16. C; 17. H; 18. B; 19. D; 20. F. **Section 3:** 21. C; 22. C; 23. A; 24. B; 25. B; 26. 1925; 27. style; 28. machine; 29. concrete; 30. considered. **Section 4:** 31. A; 32. B; 33. A; 34. C; 35. A; 36. insulation; 37. blind; 38. affordable; 39. records; 40. long-distance (*hyphen necessary*).

- Narrator** Recording Sixty-eight.
Practice Listening Test One.
Section One. Choosing Flatmates.
- Julie** OK Alex, let's make a decision now. I've got to head off to my parents' place for the weekend, and we'll need our two new flatmates to move in soon. Who do we have again?
- Alex** Mauro, Spring, Katia, Lucy, and that lovely girl from Turkey (eg). What was her name?
- Julie** Aziza. I think she's my first choice; she seemed very mature.
- Alex** She did, didn't she?
- Julie** She also said she'd shared a house in Istanbul for **two years** before she came here (1), so she knows what flatting is all about.
- Alex** That's true. While you were on the phone, I had a talk to her about her part-time job as a telephone counsellor for the Turkish community. It sounds quite steady and well enough paid, so she won't have any problems with the rent unlike our old flatmate, Tina.
- Julie** Who would you choose next?
- Alex** How about a guy?
- Julie** I don't know. Neither of them was that impressive. I mean – Mauro, from Mexico – was a party animal. Remember, he only found our place because he knew there was a certain nightclub nearby, and Spring seemed spoilt to me. He told me that his father in Hong Kong paid all his parking and speeding fines, and he ate out at restaurants almost every night. I doubt he's got any idea how to **cook** (2).
- Alex** That leaves us with Katia and Lucy then, and I found Katia rather **shy** (6). We hardly know anything about her.
- Julie** I think she's the strong silent type, but while you were showing Mauro around, I had a chat to her. She's in her third year of Environmental **Engineering** (3).
- Alex** Really? She's going to be an engineer?
- Julie** Yes, in fact, she won a prize at university last year for a **model** she made (4).
- Alex** That does sound interesting.
But what about Mauro? We could do with someone social. I'm sure he'd be keen on our Sunday get-togethers. He promised me he knew how to barbecue. Plus he's working as a security guard **at night** (5), so he'll be around during the day. It's not a bad idea having someone in the flat while we're all out.
- Julie** I don't know. If he works night shift (5), he might sleep during the day. This year, I'll need to practise the piano here in the mornings for my performance course. It's likely my music would disturb him.
- Alex** That's a fair point.
- Julie** What's wrong with three women living here, Alex? I think Katia would be fine. She won't be so **shy** once she gets to know us (6).
- Alex** You know, Julie, I can't give a rational explanation for why I didn't take to Katia. I'd just prefer someone else. Why don't we reconsider Lucy? I know you were annoyed because she came an hour **late** (7), but I rather liked her.
- Julie** She's doing a Master's in Public Health, isn't she?
- Alex** Yes. I think she's quite a serious person, and since she's been a nurse, you'd hope she'd be clean.
- Julie** Yes, you would.
Didn't Lucy mention she had a boyfriend?
- Alex** I don't think so.

- Julie** I don't want anyone with a boyfriend. Remember Tina?
- Alex** How could I ever forget her! She really did have us wrapped around her little finger.
- Julie** She certainly did. I'm so glad she's **gone** (8). Yes, Lucy seemed nice and normal, and she'd probably get on with Aziza. I think they're the same age.
- Alex** I've just had a thought: we need to choose three people. Someone we like may have found another place. I love our flat, but it's some distance from the **city**, and not everyone likes an old building (9).
- Julie** So, who should we have?
- Alex** How about Aziza and **Lucy** (10), and Mauro as reserve?
- Julie** I agree with your top two (10), but I think Katia should be back-up.
- Alex** I'll call Aziza and Lucy, and if one of them has made another commitment, we'll think again.

Narrator Section Two. Designing a Veranda Garden.

Female speaker Welcome back to the workshop. In this part, we're going to look at making a veranda garden.

These days few people can afford to live in a house with a garden, but we can all create a tranquil space on a balcony or veranda.

It has long been my belief that a veranda garden softens the sharp lines of the urban environment. Greenery, blossom, and fruit, which attract birds and insects, bring us closer to nature. If well designed, its mood changes with each season, and it may reflect Japanese spiritual traditions that help us feel at **peace** (11).

Of course, everyone's needs are different. Perhaps you'd like more privacy, or to conceal an unsightly building next door. Perhaps there's too much glare from the setting sun. In these instances, fast-growing plants in strategic places will be your main ambition. One client of mine whose husband was blind chose scented plants for their veranda garden. He sat out there every night, delighting in the fragrances. Another client of mine opted for an area of raked gravel with one large ornamental rock, reminiscent of a famous temple garden in Kyoto.

From a more practical perspective, a low-maintenance veranda garden will increase the **value** of your property (12). You may be surprised to know that around the world there's a movement in big cities for roof, terrace, and veranda gardens, so buyers won't be put off by your creativity at all.

But on to our design. I'm assuming your veranda is about one point eight metres deep, and four point five metres wide. If it's larger than this, all the better. If it's smaller, you'll need to plan more carefully, foregoing some features. It doesn't matter which **floor** of the building you're on (13), but if you've got a view, you might consider how tall particular plants grow. The handout I've given you details a range of plant characteristics. For example: a loquat tree grows to six metres, but an azalea bush only reaches three. Loquats bear fruit as well, which you might like to eat, or you might find a chore to pick up and dispose of. In my design, I've chosen a Japanese maple as the centerpiece (19) since I love the way its foliage changes colour in autumn. In a large pot, a maple will grow to about four metres.

The garden design I'm going to show you is quite high **maintenance** at the start (14) – I'd say you'd have to spend three hours a week tending it – but after a year or so, it virtually takes care of itself.

...

So, let's get started.

Your veranda probably has a concrete floor and a low brick or concrete wall around it. It's more than likely you've got a drain in the top right corner (15).

The floor of the veranda garden is the first priority. In my design, I've chosen four different surfaces to create a sense of space, and because they react in different ways to light and rain. In a small area, you want to maximise texture. I've chosen practical square concrete pavers for the area under the table and chairs, and elsewhere large irregular stones (16), sourced from a river, and small round stones not much bigger than pebbles. There's also an area of sand, which is marked with the letter 'H' in your diagram (17). You'll find this might be popular with your pet if you have one.

After laying the floor, most people construct a wooden or aluminium frame over the concrete wall. Onto this, bamboo is attached for plants to climb up (18). In front of the bamboo, wooden planters or boxes may be positioned. The choice of plants in these is up to you, but, again, think about height, shape, loss of leaves, fruit, scent, and cost. Although maples are expensive, they're beautiful, and I've put one in the centre (19).

After you've planted, you'll probably want to buy a really nice set of outdoor furniture. Stackable plastic chairs are a no-no as, in my view, they're part of the ugly mass-produced culture we're trying to escape. I also discourage people from putting a barbecue on their veranda because they're so seldom used, and they take up such a lot of space. Some people do add features like a small pond or birdbath or a stone lantern to their newly landscaped area (20).

So, happy designing. Any questions?

- Narrator** Section Three. Architecture Essay
- Maria** Hi, Helen. How are you?
- Helen** I'm actually pretty excited about the research I've been doing. I've found out heaps about Art Deco architecture in New Zealand.
- While all the major cities there have pockets of Art Deco, it seems that Napier, a small city on the east coast of the North Island, is considered one of the world's purest Art Deco enclaves (21) – there are so many examples of the style still visible today.
- Maria** Really? I've been concentrating on Bandung, which is in central Java in Indonesia. It is also a major Art Deco city (21). Unfortunately, it hasn't been preserved so well, and, in the race to modernise, many marvellous buildings have gone under the wrecker's ball.
- Helen** How do you think we should structure our essay? Should we write about New Zealand first or Indonesia?
- Maria** Art Deco appeared in Bandung in the 1920s, but from what I've read, it didn't make it to Napier until much later. If we choose a chronological scheme, then Indonesia would go first, but I'm in favour of writing our essay using thematic similarities and differences.
- Helen** That's a good idea. Let's identify what the two cities have in common. From what I've discovered, in both places, Art Deco architects combined a new European aesthetic with native elements (22).
- Maria** Yes, they did.
- Helen** In New Zealand, Maori motifs were used as decoration. The Maoris are the indigenous people who lived in New Zealand before it became a British colony (22). There's a sort of spiral symbol called a *koru*, and there are zigzags, like patterns from Maori weaving, both of which were incorporated into Art Deco buildings. There's a bank in the middle of the city and an old headquarters for a tobacco company both with gorgeous carved stucco facades that utilise these motifs.
- Maria** Indonesia was also a colony – a Dutch colony. I understand almost all of the architects in the Art Deco period were Dutch, and as you said, they were influenced by a new aesthetic in Europe, but they were also affected by native architectural styles. At ITB – the famous technical institute in Bandung – there are Art Deco roofs that imitate traditional Javanese mosque or temple roofs (22).
- Helen** That's interesting.
- I know that the city of Napier was rebuilt in 1931 after a massive earthquake (23), and since people wanted the town to feel like an optimistic new place, they chose Art Deco for many of their buildings. But I've no idea why Bandung has so much of the style.
- Maria** I was quite puzzled about the prevalence of Art Deco myself. After fossicking in the library in some old journals, I learnt that there was a plan that never eventuated to move the capital from Jakarta to Bandung, so lots of public buildings were commissioned around the same time (24) – the early 1920s.
- Helen** That's curious. I thought the majority of the famous Art Deco buildings in Bandung were large hotels (25) or private houses.
- Maria** I think the split is 50-50 – private and public. Certainly the campus of ITB was enlarged then. College education for the rich expanded in the 1920s. And the local tourist industry was taking off as well (25).
- Helen** You're right we've got tourism to thank for the grand Art Deco hotels like the Savoy and the Praenger, built in the late 20s and the early 30s. Photos of the foyer and ballroom of the Praenger are so romantic.
- ...
- Helen** OK. Let's have a paragraph on the historical reasons for these two cities' featuring Art Deco; then, another on what Art Deco actually is.
- Maria** It's a French term, isn't it?
- Helen** Yes. One influence was the 1925 Paris International Expo of Decorative Arts (26). But Art Deco was chiefly a reaction against the previous style of Art Nouveau (27), which had held sway from the end of the 19th century. That was all about nature and fluid forms whereas Art Deco celebrated the machine age and the geometric (28).
- Maria** There are lots of influences, aren't there?
- Helen** Should we include anything on building materials?
- Maria** Definitely. They were different from the past. More concrete was used, more steel, more glass (29). These days, people rave about Art Deco, but at the time, it was considered somewhat low-class (30) because the materials are quite inexpensive, and fabrication was rapid. These concepts were in stark contrast with some of the previous notions of craftsmanship in building. Yes, we'll certainly need a paragraph on materials.

Narrator Section Four. Wetsuits.

Lecturer Welcome to the Monday Design Forum. Today's item is the wetsuit, used by water-sport enthusiasts, by surfers, divers, canoeists, and long-distance swimmers. Long-distance, mind. I'll tell you about the great swimsuit debate a little later (40).

The reason I chose the wetsuit for a case study is that it exemplifies two design themes: the importance of materials; and, reliable production techniques (31).

I may not look the sporty type, but I've been diving for 20 years. In that time, I've had eight wetsuits. Like much else after 1945, technology has just kept on changing.

My first wetsuit was French, and very expensive. It was made entirely from sponge rubber. It looked great, but it was horrible to get into and out of, and it weighed a tonne. In general, first-generation wetsuits were liable to rip when being removed, and were rather heavy (32). Pretty soon, I swapped my Pêche-Sport suit for a lighter neoprene version.

So what's neoprene? It's a synthetic material considerably lighter than rubber. It's still spongy because it contains tiny bubbles of nitrogen gas. Since gases have lower thermal conductivity than liquids or solids – that is: they don't transport heat well – the body heat of a person wearing neoprene escapes only very slowly through the material (33). This means that a diver in a neoprene suit stays warmer longer than one in a suit made from rubber.

Wetsuits are a recent innovation, and were invented in the US, but there's no real agreement by whom or when. Hugh Bradner tried to patent a design in 1951. However, he was unsuccessful. The Meistrell brothers and the O'Neills from California were all making and selling neoprene suits to the burgeoning diving and surfing community by 1953. In my view, it's irrelevant who the inventor of the wetsuit was (34). What is significant is that post-war prosperity brought more free time and a boom in sporting goods (35).

But back to my collection of wetsuits. Since neoprene is fragile with all those gas bubbles, it's hard to join pieces of it together. Any hole, however tiny, just grows and grows. This means sewing with needle and thread is all but impossible. Therefore, early wetsuits were made by gluing or taping their seams.

My first neoprene suit was black with yellow tape. I thought this yellow tape was to make me more visible under water, but in fact, it joined the body-hugging sections together without letting water in. While neoprene itself was warmer and lighter than rubber, the taped seams proved to be a weakness, and I tore three of my suits!

Suit number five was much stronger. Aside from being bright blue, my new suit came with lycra backing, which was a technological breakthrough. This meant my suit was a bit like a sandwich. There was lycra on the outside and inside – so putting on and taking off were easier, and there was neoprene in the middle for insulation (36).

By the early 1980s, there'd been a revolution in wetsuit production – no glue, no tape, but a new kind of stitching. In fact, a technique called **blind** stitching had been developed (37). With this, a curved needle, in a sophisticated sewing machine, is used. The stitching dips into the lycra backing – the top bread of the sandwich – but doesn't pierce the neoprene filling inside. Remember neoprene is susceptible to tearing, so covering it with lycra was a smart idea. Suddenly, wetsuits were warm, light, and durable.

This revolution is important for Design students because without this sewing technique, wetsuits would've continued to rip, and remained the preserve of the rich. In design, you want a product that's unique, reliable, and **affordable** (38).

I admit I'm still wearing my neoprene suit from three years ago, but I've heard there are now models on the market with inbuilt heating panels, and yet others made from a mix of fibres that include merino wool and titanium.

At the start of this lecture, I mentioned there'd been a swimsuit controversy. Essentially, a wetsuit not only keeps a person warm, but also provides a swimmer with a lift in the water. Unsurprisingly, swimmers wearing wetsuits break more **records** (39), so the International Olympic Committee has declared that only **long-distance** swimmers can use wetsuits (40). In short events, they're banned.

That's all from me. I'm off to the beach.

READING: Passage 1: 1. D; 2. B; 3. D; 4. A; 5. B; 6. C; 7. B; 8. H; 9. G; 10. F; 11. C; 12. E; 13. J. Passage 2: 14. C; 15. F; 16. E; 17. A; 18. C; 19. D; 20. B; 21. A; 22. D; 23. Y/Yes; 24. NG/Not Given; 25. N/No; 26. NG/Not Given; 27. N/No. Passage 3: 28. T/True; 29. F/False; 30. F/False; 31. NG/Not Given; 32. T/True; 33. was level(led); 34. bricks; 35. South Pavilion (*capitals optional*); 36. 1796; 37. doors; 38. roof; 39. 1826; 40. A.

The highlighted text below is evidence for the answers above.

If there is a question where 'Not given' is the answer, no evidence can be found, so there is no highlighted text.

Passage 1: The stress of relocation

For some people, there is little in life more stressful than moving house; for others, there is a definite excitement in relocation since the belief that the grass is greener on the other side holds sway.

However, for Dr Jill Molveldt, a psychotherapist in Durban, South Africa, (1) Relocation Stress Syndrome, or RSS, which she has been researching for a decade, is a matter of professional concern. Dr Molveldt began her career as a medical doctor in 1999, but turned to therapy when she doubted the efficacy of some medication. Time and again, patients presented at her surgery who – to all intents and purposes – had little physically wrong, but were not functioning optimally. Usually, such people with anxiety-related

disorders are prescribed drugs, but Dr Molveldt observed that many seemed to improve just as readily through talking to her. Therefore, from (2) 2006-2008, she underwent extensive training in the United States in a number of techniques used in therapy.

On return to South Africa, Dr Molveldt moved her family and her burgeoning practice – now devoted entirely to therapy – from Pietermaritzburg, a small city, to Durban, a larger, more cosmopolitan one. (2) Immediately following this move, Dr Molveldt herself fell ill. Medical testing for vague symptoms like headaches, skin rashes, and insomnia (2) brought neither relief nor diagnosis. At the time, she could not possibly have imagined that she, herself, had any psychological problems. Her only recent difficulty had been relocating to Durban due to her children's maladjustment to their third school in three years, and to the irritation caused by a protracted renovation. All the same, she far preferred the beachside lifestyle of Durban to that of conservative inland Pietermaritzburg.

Quite by chance, in the summer of 2010, (3) Dr Molveldt ran into a neighbour from her old city who had also moved to Durban. This woman (3) seemed uncharacteristically depressed, and had experienced mood swings and weight gain since her arrival. As the neighbour recounted her complicated tale of moving, Dr Molveldt suddenly realised that her acquaintance – like herself – was suffering from RSS.

Upon this discovery, Dr Molveldt began sifting through medical and psychological literature to learn more about her syndrome, only to find precious little written about it. Conferences she attended in Greece and Argentina in which stress featured as a topic for keynote speakers did little to enlighten her. Therefore, (4) Dr Molveldt felt she had no option but to collect her own patient data from medical practice and Emergency Room records in Durban and Cape Town in order to ascertain the extent of the problem. Over four years, she surveyed people with non-specific health problems as well as those who had had minor accidents.

In Durban and Cape Town, (5) it might be expected in the general population that 1% of people have moved within a month, and 5% within six months. (5) Yet nearly 3% of patients seen by GPs in Dr Molveldt's study had moved within one month, and 9% within six. Minor accident patients had also moved recently, and some of them had had more than two residential addresses in one year.

(6) Dr Molveldt then examined records of more serious accidents from a nationwide database, and, with the aid of a research grant, conducted interviews with 600 people. Admittedly, (7) alcohol played a part in serious accident rates, but many interviewees said they had been drinking in response to circumstances – one of which was moving house. (8) People who had had serious accidents, however, had not moved more frequently than those with non-specific ailments.

So just how stressful is moving? After all, stress is part of life – think about exams, a new job, marriage, having a child, divorce, illness, or the death of a loved one. Where does RSS fit in relation to these? (9) Dr Molveldt puts it above exams (including for medical school, and somewhere between being newly married and bearing a child. (Newlyweds and young mothers also visit doctors' surgeries and Emergency Rooms more than they should statistically.

(10) Interestingly, subjects in several of Dr Molveldt's tests rated moving less highly than she did, putting it about equal to sitting a tough exam.

As a side issue, (11) Dr Molveldt found that the number of relationships that broke down around the time of moving was elevated. She considers the link between breakdown and RSS to be tenuous, suggesting instead that couples who are already struggling move house in the hope of resuscitating their relationship. Invariably, this does not happen. Moreover, it is (12) the children in these cases who suffer most: not only has upheaval meant the loss of their old school and friends, but it also signals adjustment to occupation of their new home while one absent parent resides in another.

(13) If Dr Molveldt's research is anything to go by, next time you yearn to live elsewhere, think twice. Moving may be more stressful than you imagine, and the only papers you get to say you've done it are a fee from your doctor and a heap of mail from the previous inhabitants of your dwelling.

Passage 2: Terrific Tupperware

A Throw open anyone's kitchen cupboards (17) from Andorra (and 21) to Zimbabwe, and you'll find colourful plastic products for the preparation, serving, and storage of food. Chances are, some of these are Tupperware.

B For many people in developed countries, Tupperware is redolent of the 1950s when grandma and her friends bought and sold it at 'Tupperware parties'. Some would even say Tupperware became a cultural icon in that decade. However, these days, while parties are still popular, online sales are challenging the model. Indeed, since 2000, (20) more Tupperware franchises have opened in China than anywhere else.

C Take the Hundred Benefits shop in Hangzhou, one of China's fastest-growing cities. Located in a chic part of town, it's full of twenty-somethings who haven't yet had a child but are building a nest. They've got plenty of expendable income, and they're picking out items to reflect their new-found optimism. China is undergoing a home-decorating revolution after years of dull, unreliable products. Furthermore, the average size of living space for urban Chinese has almost doubled recently, so there's room for lots of stuff. (14) But why choose Tupperware? It's functional as well as fun. It's sealable, stackable, durable, microwave-and-freezable, dishwasher-friendly, and culturally sensitive: four-layer traditional Chinese lunch-boxes, revamped in bright sexy colours, grace the shelves of the Hundred Benefits shop.

D What is the Tupperware story? The special plastic used in (22) it was invented in 1938 by an American called Earl Tupper. (23) The famous seals, which keep the air out and freshness in, came later. (22) Tupper's company was established in 1946, and for more than forty years boasted every success, but, recently, Tupperware Brands Corporation has been sold several times, and its parent company, Illinois Tool Works, has announced that declining American prospects may mean resale.

E Until the 1990s, Tupperware relied totally on a pyramid sales model. In this, a person buys products from a person above them, rather than from a wholesale company or retail shop, and after sale of the new product to a third party, gives a small percentage of the money to the person from whom they originally bought. In turn, when the person on the lowest level recruits more vendors, those people return percentages to the person above. Initially, Tupperware operated like this because it was not available in shops. A more direct line between the manufacturer and the buyer results in cheaper products, and, as Tupperware is largely sold in the home, women suddenly have an independent income. (16) A disadvantage might be that since people typically buy from and sell to friends, there are pressures at ordinary social gatherings to do deals, which some people may consider unethical. This raises the question: am I going for a pleasant dinner at Alison's, or am I expected to buy a set of measuring cups from her as I leave? (18) This pyramid model is prohibited in China, and (18) has lost favour in many countries like Britain, **Germany**, Australia, and New Zealand, where once it was all-pervasive. At present, most US sales are still on the party plan, but online and franchise sales are catching up.

F Tupperware became fashionable after World War II. During the war, large numbers of women were in paid employment outside the home while their men were away fighting. When the men returned, the women mostly resumed their household duties. There are widely divergent views about Tupperware's role at this time. (15 and 24) Some feminists propose that the company promulgated an image of women confined to the kitchen, making the female pursuit of a career less likely. Others say that the pyramid sales model allowed women to earn, promoting autonomy and prosperity. In particular, those who were pregnant and at home could enjoy some extra cash.

G (25) Effective rebranding of Tupperware has taken place in the east, but what about (19) in America? Well, the Tupperware website there has developed a 'Chain of Confidence' programme to improve sales. In this, women reinforce the notion of female solidarity by purchasing Tupperware and swapping true stories. (19) Over a million dollars from this programme has also been donated to a girls' charity.

H (27) What the future holds for the pretty plastic product is uncertain. Will Tupperware become a relic of the past like cane baskets and wooden tea chests, or will online social programmes and avid Chinese consumers save the company?

Passage 3: Marvellous Monticello

Thomas Jefferson is renowned for many accomplishments, among which he was the principal author of the American Declaration of Independence and the third president of the United States, during which time America grew significantly in size and stature.

Jefferson also designed his own three-storeyed, 33-roomed mansion, called Monticello, familiar to every American from the nickel, or 5-cent coin, on which can be seen a simple domed building with a four-columned portico.

(28) Influenced by classical European design, and emulated across the land, Monticello took more than 40 years to build. Numerous labour-saving devices inside, invented by Jefferson himself, and gardens the envy of agronomists represent the scientific spirit of a new age.

(28) Modelled on Andrea Palladio's 16th-century Italian villas, Monticello is a tribute to the man and style that Jefferson idolised. As Palladio considered the position of a building to be of the utmost importance, Jefferson had Monticello built on a mountain with splendid views. According to Palladio, a building should be symmetrical since mathematical order bestows harmony upon its inhabitants. Thus Monticello boasts a colonnaded entrance and a central room with a dome.

But who was the man who created Monticello? Thomas Jefferson was born at Shadwell, Virginia, on the east coast of America in 1743. On his father's death, he inherited a large property where Monticello was subsequently constructed. Jefferson, both a lawyer and politician, was elected to the House of Burgesses in 1768, and in 1775 to the Continental Congress, where he revised the laws of Virginia. Two of his famous pieces of legislation include: the Virginia Statute for Religious Freedom, and the Bill for the More General Diffusion of Knowledge.

Throughout Jefferson's early adulthood, (29) America had been fighting Britain in the War of Independence. In 1776, Jefferson, who was never a combatant, wrote the Declaration of Independence, and although the conflict did not end until 1783, Americans consider the birth of their nation came with that declaration. As well as proclaiming America's freedom, the declaration outlines universal human rights, stating that all men are equal regardless of birth, wealth, or status, and, furthermore, that government is the servant, not the master, of the people. Although Jefferson's work was based on the ideas of John Locke, an Englishman, and on a body of French philosophy, it remains a uniquely American document.

After the war, Jefferson took up the post of Governor of Virginia, before returning to Congress. He then served five years in France as a US trade representative and minister. He was American Vice-President between 1797-1801 and President for the following eight years. As president, (30) he organised the purchase of a vast tract of land from the French, who were embattled in Europe and strapped for cash. This land, called the Louisiana Territory, doubled the size of America. Jefferson was also responsible for financing Lewis and Clark – two explorers who undertook a momentous journey along the Ohio River to survey nature and appraise land for settlement.

In retirement, Jefferson remained active. His huge library, donated to the nation, and known as the Library of Congress, is still one of the world's most reputable. He founded the University of Virginia, designed most of its early buildings, defined its curriculum, and became its first rector or chancellor. When he died, on the fourth of July 1826, America had lost a truly great man.

Monticello, his home for most of his life, is on the UNESCO World Heritage List partly because Jefferson lived there, but mainly because it brought classicism – the style of Palladio – to the New World. It was Jefferson's belief that if America were to assume the mantle of a powerful nation, it needed to draw on the best of the European past as well as creating its own style.

(32) Monticello is not a very large building: it is 1022 square metres (11,000 square feet) – these days, a football player or film star has a house as big.

Monticello was not all built at once since Jefferson's finances were seldom secure. Furthermore, his ideas about building changed during his sojourn in France. (33) In 1768, the mountaintop where Monticello would sit was leveled. (34) Bricks were manufactured over a two-year period by Jefferson's slaves – he owned about 200. Wood was sourced from trees on Jefferson's land; stone and limestone were quarried on his property; and – in keeping with his concept of elegance – the window glass and furniture were imported from Europe. (35 and 40) Jefferson moved into the South Pavilion in 1770. Around 1772, the Dining Room in the north wing was built. The first house was mostly complete in 1782, the year Jefferson's wife died. (36 and 40) On return from France in 1796, Jefferson had the upper storey demolished, and the whole structure remodelled, which took eleven years. (40) In 1800, the dome was fitted. A North Pavilion was added from 1806-8. Extensive gardens – both ornamental and productive – were created since Jefferson believed in pursuing agriculture in a scientific manner.

As mentioned previously, Jefferson was an inventor. Since Virginian summers can be hot, he designed special fans and blinds. Blocks of ice were stored in the cellar all year round – a rarity at the time. For the cold winters, Monticello has numerous fireplaces and stoves. In the late 1790s, Jefferson altered the fireplaces to apply some modern fuel-saving principles. He introduced skylights – another unusual feature – and (37) he designed tables that could be turned easily and doors that opened automatically. He even had a shaft-and-pulley system between floors for hoisting food. (38) However, not until 1822, was the roof covered with durable material. (39) Just four years later, Jefferson died.

Jefferson is remembered as a statesman, philosopher, educationalist, and architect. Fiercely American, he drew on a European heritage. He was optimistic, far-sighted, and creative, and Monticello remains a monument to the man as much as his age.

WRITING: Task 1

From design to display in a retail outlet, the process of making a sports shoe takes 18 months. Numbers of different people are involved in several locations.

Firstly, a shoe is designed on a computer.

Then, three basic shoe parts are collected by a factory. The leather has already been ordered from a tannery or the fabric from a textile mill. The rubber has been sourced from elsewhere, and two pieces pressed together into a sole.

Inside the factory, the leather is cut, and the uppers are sown. The tops and bottoms are glued together and sent for lacing. Pairs of shoes are then put into boxes; 12 boxes go into one carton. The cartons are moved to a warehouse.

From the warehouse, the finished product is sent either directly to a shop for sale or onto a container ship for export. One container can hold up to 5500 pairs of shoes. (152 words)

Task 2

International aid has grown considerably in the last 50 years. It aims to reduce the gap between rich and poor countries. While there are some drawbacks, I believe both recipients and donors benefit greatly from this.

Countries receive aid in many forms: the donation of free food, of medical or building supplies; and, the transfer of expertise. Sometimes, large infrastructural projects are subsidised by donors. There is a trend towards providing in-country education and training. These days, there are also some more novel ideas like direct cash handouts to the poor instead of free supplies.

As well as assisting by doing, there are efforts to persuade impoverished countries not to do. That is, to create national parks in wilderness regions instead of fishing, mining, logging, or clearing the land. Norway has recently paid Guyana in South America several billion dollars on condition that it protect large rainforests. Norway argues that the whole world will benefit from lower carbon levels due to rainforest retention. Furthermore, Norway's wealth has come from oil, one of the causes of global warming, so perhaps Norwegians feel they are compensating for their own destructive behaviour. An additional benefit to donors is international stability since severely impoverished countries often go to war with neighbours or experience destructive civil wars.

Disadvantages of international aid include: patronising attitudes of donors towards recipients; the diversion of talented individuals into highly-paid aid jobs instead of their building up local businesses or institutions; and, the corruption of officials who receive aid. Moreover, in donor countries there are still disparities between rich and poor that need to be addressed.

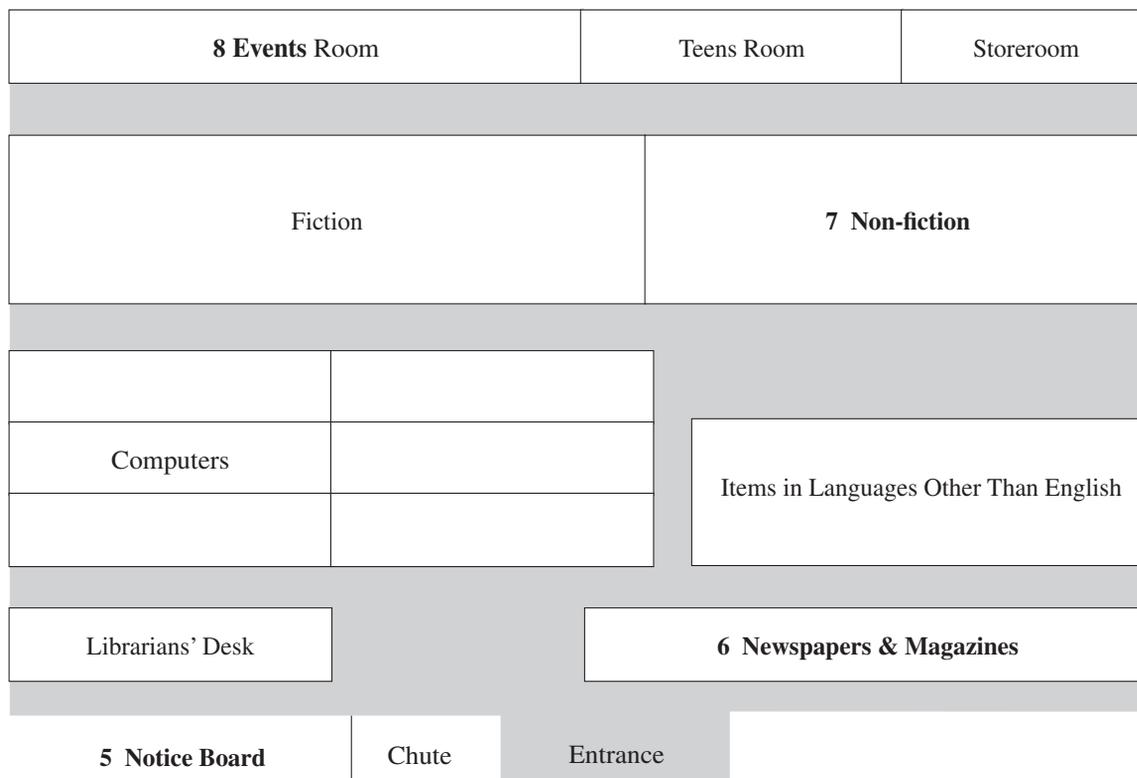
In conclusion, I consider the disadvantages of international aid are far outweighed by the advantages. For a stable, more prosperous world, aid should be increased. (291 words)

SPEAKING: There are no answers for any practice test.

Practice Speaking Test 1 – Part 2 topic

I'd like you to tell me about something you had that got broken.

- *What was it?*
- *How did you break it?*
- *What did you do afterwards?*

Academic Practice Test 2**LISTENING: Answers and Script** with highlighted evidence for answers**Plan of the library**

Section 1: 1. accountant; 2. 19; 3. Paulo2020; 4. wife; 5. Notice Board (*accepted as one word; capitals optional*); 6. Newspapers, Magazines (*in any order; capitals optional; must be plural*); 7. Non-fiction (Books/Section/Collection) (*capitals optional; hyphen necessary*); 8. Events (*capital optional; must be plural*); 9. 10/ten; 10. Saturday morning(s) (*capital necessary*). **Section 2:** 11. 363; 12. grey/gray; 13. 134; 14. heights; 15. safety; 16. sunrise; 17. static line; 18. 3/three; 19. photo(graph); 20. traffic. **Section 3:** 21. Jordan (*capital optional*); 22. relate; 23. well; 24. water-saving (*hyphen necessary*); 25. analytical; 26. C; 27. A; 28. A; 29. B; 30. A. **Section 4:** 31. learn; 32. environment; 33. four; 34. Visual (*capital optional*); 35. VARK (*capitals optional*); 36. B; 37. C; 38. A; 39. C; 40. B.

- Narrator** Recording Seventy.
Practice Listening Test Two.
Section One. Joining Up.
- Paulo** Good afternoon. I'd like to join the library (eg).
- Librarian** Take a seat. I'm Tanya Porter, a librarian here.
- Paulo** Nice to meet you, Tanya. I'm Paulo de Mello.
- Librarian** The application process is quite short and involves filling in a form and a tour of the library. In order to become a member, Paulo, I'll need some photo ID.
- Paulo** Actually, I've brought my passport.
- Librarian** Lovely. You'll also need to prove that you live or work nearby.
- Paulo** My office is just around the corner in Belmore Road. Here's my business card. Will that be enough proof?
- Librarian** Yes, I think so. Thanks. So, you're an accountant (1)?
- Paulo** That's right.
- Librarian** I'll write 'accountant' on the application form (1).
What's your residential address, Paulo?
- Paulo** My wife and I live at number 19 Wood Street (2).

- Librarian** And your email address?
- Paulo** It's Paulo2020@hotmail.com. (3)
- Librarian** **P-A-U-L-O-two zero two zero** (3)?
- Paulo** Yes.
- Librarian** If you don't mind, I'll just scan your passport.
I see you're from Brazil. We've got a section for languages other than English, but I'm afraid we don't have many Portuguese items. I'd be grateful if you could recommend any must-see movies.
- Paulo** I'd be delighted.
By the way, does my **wife** need to join as well, or can she use my card (4)?
- Librarian** She's welcome to use yours, but if she brings anything back late, you'll have to pay the fine.
...
Let's go outside now, Paulo, to see the returns chute. You can put your returns in it at any time. In fact, I'm told this complex is open 24 hours, and there's always a security guard on duty. Next to the chute is the **notice board** (5), where we advertise library events and community events.
- Paulo** My wife might like to join a book club.
- Librarian** Why not? Our book clubs have proven very popular. We've got three different ones running at present. The majority of our events are free, but I would recommend booking since we only seat 20 people in the Events Room.
Back inside, here's my desk, and opposite, on the right, an area for **newspapers** and **magazines** (6). That's always a popular spot. Behind the papers is the foreign-language section I was referring to before.
Here's the main part of the library with our fiction collection. It's one of the biggest in the country. **Non-fiction**, however, is not so large (7).
- Paulo** What can I see through that glass wall?
- Librarian** Our Teens Room, for teenagers; the **Events** Room, for clubs and talks; and, a small storeroom on the right (8). When we had all that rain over the new year, the Teens Room was flooded, so while it's being renovated, we're using the Events Room instead.
- Paulo** I'm impressed. Do you also have a computer room?
- Librarian** There's no dedicated one. Our six computers are behind my desk. You'll find the library catalogue is all online, and we subscribe to a number of databases that are excellent for research.
- Paulo** By the way, how many items can I borrow at a time?
- Librarian** Up to **ten** for one month (9). You can renew everything except for DVDs for a fortnight. There's no renewal allowed on DVDs. And you can renew by phone, by text message, or online.
- Paulo** Thanks a lot, Tanya. I imagine I'll drop in to the library on the way back from work in the evenings. I see you're open quite late.
- Librarian** Yes, six PM Monday, Tuesday, and Friday, and nine PM Wednesday and Thursday.
- Paulo** But your hours are limited at weekends.
- Librarian** I'm afraid that's true. Just **Saturday mornings** (10). We're still seeking permission from the council to open on Sundays, and we'll probably get that before the end of the year.
Any more questions, Paulo?
- Narrator** Section Two. Sydney Harbour Bridge Climb.
- Kevin Peters** Hi everyone. I'm Kevin Peters, your guide today. I know it's dark and rainy, and you're probably wondering what you're doing here at four thirty AM, but let me assure you it's often the most exciting experience to climb the Sydney Harbour Bridge in wild wet weather. **Our company operates 363 days a year** (11). We have Christmas off, and about once a year an electrical storm prevents climbing.
Before I go any further, I hope you've all signed the Bridge Climb Declaration form, which is a legal requirement. It just ensures there's no one here who shouldn't be – any woman who's more than 24 weeks pregnant, any child under 10, or anyone with broken bones. It might sound like common sense to you that these people are forbidden from climbing, but, in my experience, common sense is not that common.
Now, I can see a couple of you starting to shiver. Don't worry about not having enough clothing; we've got everything you'll need.
OK. Gather round, so you can see what's on the table in front of me. You'll get these items from the dressing room later.

Clothing first: rubber-soled shoes; a jacket; a woollen hat; and, an overall. We've got shoes, jackets, and overalls in every conceivable adult size, but the hats are one size fits all. You put the overall on over everything else partly to keep warm and dry, and partly to make us feel we're a group. You'll notice the overall's **grey** (12). This way when we climb the bridge, also painted grey, we won't distract the drivers below. The traffic's crazy enough down there, and it'll be peak hour when we reach the top of the arch. Yes, today we're going right to the top, folks: **134 metres** above sea level (13).

By the way, if there's anyone who suffers from a fear of **heights** (14), you'll be leading the group. Research has shown this is the best way to overcome your phobia. Anyhow, we'll all be attached to a static line, so falling isn't a concern (17).

...

Righto, ladies and gents: the next lot of items to look at are for **safety** (15). Firstly, a headset for commentary and communication. While we're climbing, I'll be filling you in on some lesser-known details about the bridge – like the fact that about six million rivets were used to put it together, or from 1932 till 1967, it was the tallest structure in Australia. But back to your headset. This button on the left can be used if you need to speak to me – if your static line gets caught, or you're in any other difficulty. Please keep your headset switched on at all times.

Secondly, there's a chain for your glasses. I see two of you are wearing prescription glasses. **The views up on the bridge are spectacular, especially at sunrise** (16), which we'll see, but if you want to enjoy them, keep your glasses attached with the chain. Also, our company will lose its licence if anyone drops anything into the traffic.

Next, a light, which attaches to the headset. Check yours is working, won't you, because the batteries do run out. The first 20 minutes of our climb are in the dark, and we've got 200 metal stairs to go up, so you might need the light. There are also some narrow mesh catwalks to crawl along, and some girders to squeeze past.

The last safety item, and by far the most important, is the slider. **As I said before, we're all clipped to a static line while we climb** (17). That line is permanently attached to the bridge, and this slider connects us to it.

It's a comforting thought that we're all attached, but some of you might be thinking: doesn't that mean I won't go so far, or see so much? **Our climb lasts more than three hours** (18), and this bridge is the fourth-longest steel-arch bridge in the world at one point one five kilometres. Two US bridges and one in Shanghai do outdo it for length, but not for height. After sunrise, we can see the whole of Sydney harbour and up to 80 kilometres north, south, and west.

One last warning. Please leave your personal items in the dressing room. You can't take your wallet or camera, or even a bar of chocolate. I'll take a **photo** of the group at the top of the arch (19), and send it to your email address. As I think I've already mentioned, our licence is granted on condition our customers abide by all our regulations. You're forbidden from carrying things for two reasons: one – you might drop them and cause an accident in the **traffic** below (20); and, two – you need both hands free to balance, or to hold on to the static line (17). We're going up high, remember: 134 metres above sea level (13).

- Narrator** Section Three. Water For Peace Presentation.
- Beatrice** So, how are we going to do this? Shall I go first, or you, Cathy?
- Cathy** It might be better if I start the presentation, Beatrice, since I used to live in the Middle East.
- Antonio** Did you? Whereabouts?
- Cathy** **In Jordan**, where Water For Peace was set up (21). I've got quite a few photos we could use.
- Antonio** What are they of?
- Cathy** The ancient city of Petra, camels, and me at the Dead Sea.
- Beatrice** Hmm. I don't think they **relate** to our topic (22).
- Cathy** I do have some from a village where women still draw their water from a **well** (23). In the countryside this is a common phenomenon. In fact, our concept of a constant supply of clean piped water is unheard of in many parts of Jordan or Palestine. If people don't get water from a well (23), they might have it trucked in by large tanker, which is expensive as well as inconvenient.
- Antonio** And I've got photos off the WFP website of the director, Mr Koussa, and a map of the region. **The map shows all the towns and villages involved in this water-saving project** (24 and 27).
- Beatrice** That sounds better.
- Cathy** Antonio, did you find any pictures of people from Jordan, Israel, and Palestine attending WFP workshops together?
- Antonio** Unfortunately, no.

- Cathy** In my opinion, that's what this project's about – improving cross-border relations. I mean, where the population is so dense, and where there's been such a long history of conflict, it's terrific that people are now coming together to learn from each other about ways to save water, as well as ways to distribute it more equitably.
- Antonio** I agree. I find WFP very inspiring.
- Cathy** What's the focus of our presentation?
- Beatrice** To describe the research we've done?
- Antonio** I think it's to analyse our research, or reach a conclusion.
- Cathy** That's how I feel as well. I mean, we can summarise all the information we've collected, but we need to synthesise it. At Master's level we're expected to be **analytical** (25).
- ...
- Antonio** What are you going to say, Cathy, in your introduction?
- Cathy** I'll show my photos of Petra while I talk about the history of the region (26). Then, I'll use an up-to-date regional map to show fresh water sources – rivers, lakes, aquifers, reservoirs, and the like – and major concentrations of population. That'll help our audience understand the current water issues facing the three countries, and lead on to Antonio's map of individual towns and villages involved in the project (27). Lastly, I've got some statistics from 2010 about how much water is used in agriculture, in industry, and domestically. I'll cut and paste these into the photo of **women getting water from the well** (23) that I mentioned earlier.
- Beatrice** Don't forget to emphasise the importance of the Jordan River, Cathy, and how WFP has saved it.
- Antonio** Yes, that's amazing isn't it? And all thanks to one man, really, Mr Koussa (28). Maybe I should follow Cathy since my research is on WFP itself. Whereas, Beatrice, you're more interested in international law and the role of the United Nations, aren't you (29)?
- Beatrice** Yes. I've found all the development goals that WFP is aiming towards. According to the World Health Organisation, the right to water is linked to other rights enshrined in various United Nations treaties, such as the rights to food, livelihood, and housing.
- Cathy** That may be so, but not all three countries in this project are bound by the same international law. Frankly, on paper, governments may be signatories to treaties and conventions, but, on the ground, they've failed in their efforts to ensure those rights, or to protect the environment.
- Antonio** In my country, the Philippines, we've tried to get international money and support for big government-led projects, but they're often ineffective. WFP is working from the grassroots up, which I think is preferable (30). What do you think, Beatrice?
- Beatrice** I'm not sure. The wider context *is* important. We need the UN to provide a legal framework and to set standards.
- Antonio** Perhaps. D'you think we've got time tomorrow to practise our presentation?
- Narrator** Section Four. Learning Styles.
- Lecturer** Good afternoon. Today we're going to ask the question: what helps students **learn** (31)?
- We've all been students from an early age, and we all remember teachers and schools we loved. Considerable research has been done into factors that contribute to learning, and there's certainly a connection between how we feel about our teachers, and how well we do in education. A teacher's own knowledge and passion for a subject is instantly communicated to his or her students, and this translates into successful learning outcomes. The teacher's personal qualities of warmth, humour, fairness, and dedication are also significant. Some educators believe the rapport between the teacher and the student is the single most important factor in learning. Research has also shown that the classroom **environment** affects performance (32). Children in classes with a small number of students, and those in clean, warm, spacious, and pleasantly decorated classrooms score consistently higher on aptitude tests.
- But in the 1970s, another idea swept through education like wildfire: millions of teachers, including me, were trained in this method. Basically, it maintained that students learn best when they use one particular learning style. The first famous learning-style theory was proposed by Kolb. He divided learners into **four** personality types (33). Two of these tended towards abstract conceptualisation, while the other two favoured concrete experience. He claimed if teachers devised activities related to personality type, learners would be more likely to retain information.
- Later, Fleming developed a similar theory, which was the one taken up by education ministries around the world. His model is known as the VARK Model: or the **Visual**, Auditory, Reading-Writing, and **Kinesthetic** learning styles model (34). Fleming said visual learners benefit from material being presented in diagrammatic form or in photographs. Boys are often considered more visual learners than girls. Auditory learners prefer to pick up new concepts from listening either to their teacher or another source. Class discussions or debates often suit them. Reading-Writing learners do fine with the traditional methods which rely heavily on these skills. Kinesthetic or tactile learners learn faster through experience, for example if they build models, conduct experiments, act out plays, or go on excursions.

Fleming believed that less than half of students benefit from reading and writing alone, and that others should be taught according to their preferences for visual, sound-based, or movement-based activities (34).

Let's fast forward to the 1990s. Chris Jackson is a neuropsychologist. He's interested in changes in the brain as a result of learning. Using MRI scans, Jackson declared that Fleming's VARK Model was inadequate (36). He concluded that four *other* factors influence learning. These are: goal-setting; diligence; concentrated reading; and, being emotionally intelligent (37). In 2007, Siadaty supported Jackson. She added that considering what a student's *achievement* will be is by far *the most effective* way to learn. Making a child understand what he or she will be able to do makes it easier for the steps along the way to be learnt.

But let's go back to Fleming's VARK model (35) for a moment, and consider it from a teaching perspective. Deciding which students are visual, and which like moving around takes time (36). Developing specific activities is even more laborious. Furthermore, children these days need to learn rather more than children only 30 years ago. The world is a more complex and competitive place. Besides which, most exams, national and international, have little interest in the visual or kinesthetic, preferring answers that are written or spoken.

Recent experiments with VARK, in ideal situations, have produced results no better than using traditional teaching methods (39).

So, back to the question I posed at the beginning: what helps students learn (31)? It appears the significant factors remain: the classroom environment (32), the teacher's personal qualities, the student's relationship with the teacher, and, above all, each student's long-term goals, or belief in achievement. In my view, VARK has burdened teachers with extra preparation, pigeon-holed many learners, and been a diversion from the main game (40).

READING: Passage 1: 1. ii; 2. vii; 3. iv; 4. i; 5. around \$100,000 (*dollar sign necessary*); 6. Lynx (*capital optional*); 7. a few ('*a*' *necessary*); 8. several; 9. PayPal (*capitals optional*); 10. T/True; 11. NG/Not Given; 12. T/True; 13. F/False. Passage 2: 14. D; 15. A; 16. B; 17. D; 18. D; 19. B; 20. C; 21. C; 22. B; 23. A; 24. A; 25. C; 26. C. Passage 3: 27. D; 28. A; 29. F; 30. G; 31. New Zealand (*capitals optional*); 32. climate change/environmental pressures; 33. young; 34. bones/skeletons; 35. D; 36. A; 37. C; 38. B; 39. B; 40. E.

Passage 1: Been there; done that – in zero gravity

Section A: Until recently, only nation states and their agencies were capable of sending satellites and astronauts into space. We've all heard of NASA, ESA, and the ISS (International Space Station), but now some private firms are challenging those institutions. The question is: are these companies merely chasing tourist dollars, or will their space exploration benefit humanity?

Section B: (1) Currently, there are at least **four** big American and **two** British companies involved in the new space race – the mission to send tourists to the edge of Earth's atmosphere. There they can experience the thrills of weightlessness, and the marvellous sight of our planet so far away.

One such company, Blue Origin, was founded by Jeff Bezos. The billionaire Bezos was the man behind Amazon, America's largest online retailer. The main project of Blue Origin is a vertical take-off and landing rocket, designed exclusively for tourism.

Armadillo Aerospace was also set up by a well-known American: John Carmack. He gave the world the video games *Doom* and *Quake*. Armadillo is developing a similar spacecraft to that of Blue Origin. (5) Fares for suborbital trips will start at around **\$100,000**. Although the spacecraft is still in the testing stage, a travel agency, Space Adventures, has signed a deal with Armadillo to sell seats.

A cheaper alternative to Armadillo's trip may be a ride on (6) a **Lynx** spacecraft. This is the brainchild of Jeff Greason, of XCOR Aerospace. This company subcontracts for NASA, and is well known for producing reliable craft. Its new tourist spacecraft can take off and land on a runway at a civilian airport. It may be able to make four daily suborbital flights, (6) but will carry only one passenger each time.

Richard Branson, a British entrepreneur, is planning to start space-tourist flights (7) on his Virgin Galactic craft. These will carry six passengers, paying up to \$200,000 for their space thrill. Once thrust upwards, the craft will head for the edge of the atmosphere. (7) The whole journey will last just a **few** minutes.

(8) Starchaser, a company headed by Briton Steve Bennet, hopes its rockets will offer a more enduring experience – a 20-minute flight, (8) **several** minutes of which will be spent in zero gravity.

But probably the most impressive private space company is SpaceX. This was set up by Elon Musk, an internet entrepreneur born in South Africa. (9) Musk made his fortune creating **PayPal**, which eBay bought from him for \$1.5 billion. While anyone else with that kind of money may well have retired, Musk works 100 hours a week at his Los Angeles rocket factory, intent on realising his dream.

Section C: For Musk, space travel is not just about ticking things off in a Lonely Planet guidebook. (3 and 10) He believes the future of humanity lies in its ability to colonise other planets. (This shows Musk is 'an idealist'.) Since his days as a student at Penn State University, he has been passionate about the future. He is certain living on other planets is the only way humans can prevent self-destruction or save themselves from a catastrophic event like the impact of a large meteorite.

(3) Musk established SpaceX in 2002. Yet within only seven years it had launched a satellite from its rocket, Falcon 1. (This shows Musk is 'a realist'.) By contrast, agencies like NASA and ESA take decades to achieve similar feats. In 2010, SpaceX sent its much larger Falcon 9 rocket into space. The next venture is to provide a taxi service to the ISS with Dragon, a small shuttle that Falcon 9 launches. This will deliver cargo and astronauts to the station. Dragon is radically different in design from the existing Shuttle, and far less costly.

Section D: In fact, before building Falcon and Dragon, Musk thoroughly researched the costs of building and launching rockets. (2) He could not understand why government agencies spent so much money on these activities, and he concluded, **quite simply**, that they were inefficient. (The answer is not 'iii – NASA spends too much' because this is too general, and the main idea of this paragraph is that Musk easily worked out how he could spend less. The idiom 'It's not rocket science' means 'It's easy.')

To prove his theory, SpaceX has produced the Merlin engine, which is elegantly designed, extremely powerful, and relatively cheap. It runs on highly refined kerosene that costs half the price of other rocket fuel. In most of SpaceX's spacecraft, parts are re-usable, an innovation in the industry. There are also fewer stages in rocket transformation. That is: there are fewer times a rocket separates into smaller parts. All of this means spacecraft can be produced at a fraction of the cost of competitors while maintaining the same high safety standards.

Section E: (12) Musk maintains that the Falcon 9, a rocket that carries astronauts, is so powerful it could already reach Mars if it were assembled in Earth's orbit. He believes this technological advance will occur within 20 years – something most experts consider unlikely. (4) Moreover, he firmly believes living on Mars is possible within the lifetime of his children. (This shows colonisation.) For him, the new space race is not only about selling tickets for a mind-blowing ride, but also about securing the future of our species.

For other private companies, however, there is no urge to invest heavily in missions to distant planets. (4 and 13) Making a profit at the high end of the tourist market here on Earth is their only goal. (This shows revenue generation.)

Passage 2: Brand loyalty runs deep

At almost any (14) supermarket in Sydney, Australia, food from all over the world fills the shelves. Perhaps you fancy some Tick Tock Rooibos tea made in South Africa, or some Maharaja's Choice Rogan Josh sauce from India. (15) Alongside local Foster's beer, Chinese Tsingtao and Indonesian Bintang are both to be found. For homesick Britons, the confectionary aisle is stocked with Mars Bars and Bountys, while for pining Poles sweets manufactured by firms like Wawel or Solidarposc are available. Restaurants in Sydney range from Afghan to Zambian, catering for different ethnic groups as well as the rest of the curious general public.

(17) All of this variety is a result of population movement and changes in global trade, and to a lesser extent, reduced production and transportation costs. While Australia can claim around 40% of its population as first generation, other countries, like Switzerland, may have fewer international migrants, but still have people who move from city to city in search of work. Even since the 1990s, taxes or tariffs on imported goods have decreased dramatically. The World Trade Organisation, for example, has promulgated the idea of zero tariffs, which has been adopted into legislation by many member states. It is estimated that within a century, agriculture worldwide has increased its efficiency five-fold. Faster and better integrated road and rail services, containerisation, and the ubiquitous aeroplane have sped up transport immeasurably.

(17) (*This is inferred – not stated.*) Even with this rise in the availability of non-local products, recent studies suggest that supermarkets should do more to increase their number to match more closely the proportion of shoppers from those countries or regions. (19) (*This is inferred – not stated.*) Thus, if 10% of a supermarket's customers originate in Vietnam, there ought to be 10% Vietnamese products in store. If Americans from southern states dominate in one northern neighbourhood, southern brands should also be conspicuous. (18) Admittedly, there are already specialist shops that cater to minority groups, but minorities do frequent supermarkets.

(20) Two separate studies by Americans Bart Bronnenberg and David Atkin have found that brand loyalty (choosing Maharaja's Choice over Patak's or Cadbury's over Nestlé) is not only determined by advertising, but also by a consumer's past. If a product featured in a person's early life in one place, then, as a migrant, he or she is likely to buy that same product even though it is more expensive than an otherwise identical locally-produced one.

In the US context, between 2006 and 2008, Bronnenberg analysed data from 38,000 families who had bought 238 different kinds of packaged goods. Although the same brands could be found across America, there were clear differences in what people purchased. In general, there were two leading brands in each kind of packaged good, but there were smaller brands that assumed a greater proportion of consumers' purchases than was statistically likely. (21) One explanation for this is that 16% of people surveyed came from interstate, and these people preferred products from their home states. Over time, they did buy more products from their adopted state, but, surprisingly, it took two decades for their brand loyalty to halve. (22) Even people who had moved interstate 50 years previously maintained a preference for home-state brands. It seems the habits of food buying change more slowly than we think.

Bronnenberg's findings were confirmed by Atkin's in India although there was something more unexpected that Atkin discovered. Firstly, (23) during the period of his survey, the cost of all consumables rose considerably in India. As a result, families reduced their spending on food, and their calorific intake fell accordingly. It is also worth noting that (24) although India is one country, states impose tariffs or taxes on products from other Indian states, ensuring that locally-produced goods remain cheaper. (21) As in the US, internal migrants bought food from their native place even when it was considerably more expensive than local alternatives, and at a time when you might expect families to be economising. This element made the brand-loyalty theory even more convincing.

There is one downside to these findings. In relatively closed economies, such as India's, people develop tastes that they take with them wherever they go; in a more globalised economy, such as America's, what people eat may be more varied, but still dependent on early exposure to brands. (25) Therefore, according to both researchers, more advertising may now be directed at minors since brand loyalty is established in childhood and lasts a lifetime. In a media-driven world where children are already bombarded with information their parents may not consider appropriate yet more advertising is hardly welcome.

For supermarkets, this means that wherever there are large communities of expatriates or immigrants, (26) it is essential to calculate the demographic carefully in order to supply those shoppers with their favourite brands as in light of Atkin and Bronnenberg's research, advertising and price are not the sole motivating factors for purchase as was previously thought.

Passage 3

(27) Imagine a bird three times the size of an ostrich, or a burrowing animal as big as an elephant. How about a kangaroo three metres tall? Such creatures were all Australian megafauna, alive during the Pleistocene.

Fifteen million years ago, 55 species of megafauna were widespread in Australia, the largest of which was the marsupial diprotodon, weighing around 2,700 kilograms (5,952 lb). Giant snakes, crocodiles, and birds were also common. Wombats and kangaroos reached more than 200 kg, and even koalas weighed 16 kg. (28) Then, rather suddenly, around 46 thousand years ago (46 kyr), all these animals became extinct. (32) Some scientists claim this was due to **environmental pressures**, like climate change or fire; others favour predation.

At the end of the Pleistocene, (29) humans reached Australia via Indonesia, and, according to the archaeological record, by 45 kyr their settlement was widespread. One hundred and sixty archaeological sites in Australia and New Guinea have been much surveyed. There is some disagreement about the dates of these sites; meantime, a forceful movement aims to push human settlement back before 45 kyr.

(30) Dating the rare bones of megafauna was highly controversial until 20 years ago, when a technique called optically stimulated luminescence (OSL) was developed. With OSL, the age of minerals up to 200 kyr can be established with +/- 10% accuracy.

The largest OSL dating of megafauna was carried out in 2001 by (35) Roberts, who put the extinction date for megafauna at around 46 kyr, very early on in the time of human habitation.

Megafaunal bones are rare enough, but, at archaeological sites with human habitation, they are extremely rare with fewer than 10% of the 160 sites containing them. Bones that show cutting, burning, or deliberate breaking by humans are virtually non-existent, and thus far, not one megafaunal skeleton shows conclusively an animal was killed by humans. (31) There are no 'kill sites' either whereas in **New Zealand**, where the giant moa bird became extinct in the 18th century due to hunting, there are sites with hundreds of slaughtered creatures. As a result, many scientists still believe that humans were not responsible for megafaunal extinction – especially as the weapons of Australian Aborigines at 45 kyr were only wooden clubs and spears.

(36) There is, perhaps, a cultural record of megafauna in Aboriginal myths. The Adnyamathanha people of South Australia tell of the Yamuti, something like a diprotodon. An ancient rock painting in Arnhem Land shows an extinct giant echidna. But this record is small and open to interpretation.

If the Aborigines were not technologically advanced enough to kill them, what else might have destroyed megafauna? (32) One theory has been **environmental pressures** such as **climate change** – perhaps there was a relatively hot, dry period between 60-40 kyr. Research suggests otherwise. Indeed, at 40 kyr, the climate was moderate, and Lake Eyre, in central Australia, grew. If there was desertification, scientists would expect megafauna to have moved towards the coast, looking for food and water, but instead, the fossil record details an equal distribution of the dead inland and on the coast.

In addition, changes in specific vegetation occurred *after* the extinction of the megafauna. Trees that relied on large animals to eat their fruit and disperse their seed covered far smaller areas of Australia post 40 kyr. These plants were not threatened by climate change; rather, they died off because their megafaunal partners had already gone.

Typically, climate change affects almost all species in an area. Yet, around 46 kyr, only the megafauna died. Previously, there had been many species of kangaroo, some as heavy as 200 kg, but, after, the heaviest weighed only 32 kg. This phenomenon is known as dwarfing, and it occurred with many animals in the Pleistocene.

(37) Dwarfing has been studied extensively. In 2001, Law published research related to fish farming. Despite excellent food and no predators, farmed fish become smaller as generations continue. This adaptation may be a response to their being commercially useless at a smaller size, meaning they hope to survive harvest.

(33) Of the dwarf marsupials, the most notable development over the giants was their longer reproductive lives, which produced more **young**. They were better runners as well, or, those that were slow-moving retreated to the mountainous forest, beyond the reach of humans.

If climate change isn't a credible factor in extinction, what about fire? Fire is caused naturally by lightning strikes as well as by humans with torches. Surprisingly, the charcoal record for many thousands of years does not show a marked increase in fire after human habitation of Australia – there is only a slow increase over time. Besides, it could be argued that forest fires aid megafauna since grass, their favoured food, invariably replaces burnt vegetation.

(38 and 39) Johnson, an archaeologist, has proposed that the Aborigines could have wiped out all 55 megafaunal species in just a few thousand years. He believes that the 45 kyr human settlement date will be pushed back to make this extinction fit, and he also maintains that 700 years are enough to make one species extinct without large-scale hunting or sophisticated weapons. Johnson used computer modelling on a population of only 1000 animals to demonstrate this. If just 30 animals are killed a year, then the species becomes extinct after 520-700 years. Human populations in Australia were small at 45 kyr – only 150 people occupied the same 500 square kilometres as 1000 animals. However, at a rate of killing just two animals a year by each group of ten people, extinction is highly likely.

A recent study on the albatross has shown the bird has almost disappeared due to females' occasionally being hooked on fishing lines. A large number of animals do not need to be killed to effect extinction especially if an animal breeds late and infrequently like the albatross and like megafauna.

(34) With Johnson's model, it is easy to see that the archaeological record need not be filled with tonnes of **bones**. Megafaunal **skeletons** are not visible because hunting them was a minor activity, or because they are yet to be found.

The mystery of the rapid extinction of Australian megafauna may be over. These animals probably became extinct because they were large, slow, easy victims whose birth rates never exceeded their death rates. (40) Their disappearance is consistent with predation rather than environmental change. Although hard evidence of hunting is lacking, it remains the simplest explanation.

WRITING: Task 1

The chart and table show worldwide energy consumption by six sectors in 2010, and the percentage change in consumption on 2009. Overall, more energy was consumed in 2010 than the previous year since every sector increased output, with one sector – renewables – increasing dramatically by 15.5%.

Oil and coal consumption dominated in 2010 with 34% and 30% respectively. However, in 2009, 7.5% less coal was used while 3% less oil was used, which indicates dependence on oil may be weakening. Natural gas was the third most popular energy source in 2010 at 24%. Like coal, it had risen substantially in use since the previous year – by 7%. Two small sectors, hydroelectricity and nuclear energy, represented six and five percent of energy consumption in 2010. Hydroelectricity, however, increased in use since 2009 by 5% whereas nuclear rose by 2%.

Rising in use by 15.5% in a one-year period may seem like a victory for renewables, but as it generated only 1% of energy in 2010, it is a relatively unimportant sector. (169 words)

Note: This is a tricky task. The percentage change on 2009 **cannot** be subtracted from the percentages on the 2010 pie chart. For Task Fulfilment, a candidate must say that more energy was consumed overall, that oil and coal dominate in 2010, and that renewables represent a negligible energy source despite a recent rise in output.

Task 2

In the developed world, some advanced and wealthy nations are finding that the numbers of secondary or high school children taking science subjects is declining. With fewer students studying science, there will be fewer science graduates, a lessening of scientific knowledge, less research, fewer scientific breakthroughs, and ultimately, a decline in economic superiority.

Science is an integral part of our lives. Everyday we cook, go to the doctor, grow or buy vegetables, use electricity, log on to a computer, gaze at the stars, handle money. Seldom do we think that these involve chemistry, biology, botany, physics, engineering, astronomy, and mathematics. If students were made aware of the scientific connections with everyday life, perhaps more would develop a love for science enough to make it a career.

Not studying science in any depth will not only disadvantage children's futures, but also the future of their nations. Although arts subjects are essential for students to develop a rounded approach to life, science subjects will provide them with intellectual challenges which could result in new discoveries. With these discoveries the business world will flourish, and a natural follow-on is that their countries will flourish economically.

So how are we going to attract these reluctant learners to the world of science? First, introduce them to science at a very young age, even at the preschool-level through games. Then let them make predictions about certain actions. Get them to keep a worm farm, and subsequently use the fertiliser to feed a small garden. Have them play counting games with adding and subtracting. Make it fun.

At primary-school level, children's interests need to be catered to, and the approach may be more mysterious, or more personal. Depending on the age group, investigating the family gene pool may be of interest. For example, the colour of eyes and hair, or special family characteristics could be tabled over three generations and the results discussed. Children need visual representations, simple graphs, pattern recognition, and games.

At secondary- and highschool-level, general science and maths are a must, but again, students need to be kept involved. They need to have a passion for an area of science that will stay with them. They might be asked to find out about genetically modified genes, about how to end aging, about a disease-free world, about artificial intelligence, about electricity from plant life, or about driving on air. While there are science fairs to encourage ideas, above all, children need exciting and innovative teachers.

Hopefully, then, students will take science subjects at tertiary level, and thereby continue to keep their nations at the scientific and economic forefront. (433 words)

Practice Speaking Test 2 – Part 2 topic

I'd like you to tell me about a small company you know that has been successful.

- What is the company called?
- What does it do?
- Why has it been successful?

Academic Practice Test 3**LISTENING: Answers and Script** with highlighted evidence for answers

Section 1: 1. interview; 2. experience; 3. typing; 4. redesign; 5. C; 6. B; 7. B; 8. B; 9. A; 10. A. Section 2: 11. Italy/Venice (*capital optional*); 12. traditions; 13. pet; 14. council; 15. model(l)ing; 16. wax; 17. high; 18. 3/three; 19. setting; 20. installation. Section 3: 21. presentation; 22. study; 23. 3000; 24. low; 25. boss; 26. 12/twelve; 27. distance; 28. complex; 29. awful; 30. reduce. Section 4: 31. A; 32. C; 33. A; 34. C; 35. B; 36. chose; 37. upset; 38. confronting/facing; 39. past; 40. underlying.

- Narrator** Recording Seventy-two.
Practice Listening Test Three.
Section One. Curriculum Vitae or CV.
- Harry** What's up, Jun Hee? You don't look happy.
- Jun Hee** I rang about three jobs, today, Harry. Two of them had already gone. The last employer asked for my CV, which I sent off straight away, but I know he won't call **back** (eg).
- Harry** Oh dear. Would you like a cup of tea?
- Jun Hee** Thanks a lot. What I'd really like is some advice. I haven't had a single job **interview** in the entire month I've been looking for work (1), and if I don't find something soon, I'll have to borrow money from my parents again to continue my studies. I really don't want to do that.
- Harry** I saw your friend, Fumiko, today. Why don't you get a job with her in the café?
- Jun Hee** I'd love to, but I've never worked in hospitality in any capacity. In fact, that's one of my problems: I don't have **much experience** at anything (2). I've only been a nanny for a summer in Paris just before I started my undergraduate degree.
- Harry** Didn't you work for your uncle in Seoul?
- Jun Hee** I worked for a fortnight when his office assistant was away, but I wouldn't call that a job.
- Harry** What did you do?
- Jun Hee** Photocopying and typing mostly. I'm not very good at **typing** (3).
- Harry** Is that job on your CV?
- Jun Hee** No. I was too ashamed to include it. Besides, what would happen if anyone actually gave me a typing test – I'd fail miserably (3).
- Harry** I've got an idea: show me your CV, and I'll help you **redesign** it (4).
- Jun Hee** Would you, Harry? I'd really appreciate that.
- ...
- Harry** Looking at your CV, I do like the colours you've chosen; I'd certainly keep them (5).
Do you know what I mean by the word 'font'?
- Jun Hee** The style of the letters: whether they're Times New Roman or Arial?
- Harry** Yes. You've got about ten different fonts.
- Jun Hee** I thought that'd show I had creative flair. It's fun to use a variety, isn't it?
- Harry** Fun for a party invitation. Stick to two fonts is my advice (6).
- Jun Hee** All right. What about the content? You're a local lad – I expect you can give me some pointers about the content.
- Harry** Your education in Korea is fine, and so is being a nanny. In Britain, people don't usually mention whether they're single or married (7). It's unnecessary to include your hobbies, especially if they're dangerous (8).
- Jun Hee** Are you sure about that? Doesn't snow boarding make me sound more interesting, like a person who's looking for a challenge?
- Harry** No. Employers might think you won't find their job exciting enough.
- Jun Hee** It seems we should cross off both my marital status and my sports (7 and 8).
- Harry** I can't see here that you're a Master's student, or that you've got a driving licence.
- Jun Hee** No. I didn't want to say I was doing a post-grad course because an employer might wonder why I'm applying for such a lowly job. I didn't mention being able to drive because almost everyone here my age can. Do I really need to spell that out?
- Harry** Yes (9). And you're fluent in Mandarin, right (10)?

- Jun Hee** Right. I studied in Nanjing for almost two years as part of an exchange programme. My spoken Mandarin is pretty good, and if necessary, I could brush up my writing. I used to know about 2000 characters.
- I picked up some French while I was nannying in Paris, but I'm hardly fluent, and I doubt it would be useful to an employer here.
- Harry** So, let's add Driver's Licence and three languages as your skills (10). We'll forget about your being single (7) and the snow boarding (8). Let's keep the blue (5), put all the text on the left, and reduce the fonts (6).
- Jun Hee** Thanks, Harry. That's much better.
- Narrator** Section Two. Copper Sculpture.
- Interviewer** And now on 'Art Today', I've got Michelle Blanche.
- Michelle Blanche** Good morning.
- Interviewer** So you're off to **Italy** tomorrow (31)?
- Michelle Blanche** Yes. I'm taking part in a major international art exhibition, called the **Venice** Biennale (31).
- Interviewer** Congratulations. What work are you taking?
- Michelle Blanche** Ten small copper sculptures that I'm just putting the finishing touches to. They're on the theme of people and pets.
- Interviewer** That's kind of a strange theme for a contemporary art show, isn't it?
- Michelle Blanche** Perhaps, but I follow **traditions** that date back to ancient Greece (12). I believe in highly developed craft as well as accessibility to the viewer. Frankly, I find a lot of modern art has alienated the public both with its form and content. I'm trying to create something that people can easily respond to.
- Interviewer** So why people and pets?
- Michelle Blanche** You're not the first person to have asked me that question. Actually, I've never owned a pet myself, but last year, I saw an amazing TV programme about a general hospital in Calgary. Volunteers take dogs onto wards there during visiting hours, and the presence of the animals has been found to improve patients' health significantly. Raising the spirit does wonders for the body. It seems that people heal faster if they can be around an animal or if they have their own **pet** (13), so I decided to explore this in my artwork.
- Interviewer** Interesting. Who buys your sculptures?
- Michelle Blanche** I've sold to both private art collectors and public museums. All of about 20 of my small works have been purchased by individuals. The Lightfoot Building downtown has one of my early copper pieces in its foyer – you can see it through the window from Brook Street – and two regional museums have bought large bronze sculptures that I made in 2011.
- Interviewer** And you've just been asked by the mayor to produce a statue, right?
- Michelle Blanche** Not the mayor, himself, but a local **council** (14). The council had a competition for a work based on local history (14), which I won. I'm making a sculpture for a square downtown. It's my first major outdoor commission, so I'm very excited.
- Interviewer** Anything to do with animals?
- Michelle Blanche** Yes, it honours a dog that saved a girl in the river. Everyone in the city knows this story – it's practically a legend – but there's not one memorial to this incredible act of devotion.
- ...
- Interviewer** So, Michelle, tell our listeners about the process of making a large copper sculpture.
- Michelle Blanche** For me, the process is as remarkable and as enjoyable as the finished product. Its physically quite tough, which I think accounts for not many women pursuing metal-based sculpture.
- Generally, I submit a portfolio of work to a client. After being chosen for a commission, I spend around two weeks **modelling** (15) the sculpture in clay. Then, I make a perfect wax copy, coated in a slurry of stucco, and ducted with ceramic granules –.
- Interviewer** Hang on a minute. That's too technical for me.
- Michelle Blanche** OK. Basically, I make a clay model; then, I make a copy in **wax**. I use wax because (16), ultimately, this will be melted and replaced with copper. The wax model is painted with a special liquid, which is called stucco. It's a kind of soft plaster. Then the stucco is sprayed with tiny grains of ceramic to make a hard shell or cast.
- Interviewer** What's next?

- Michelle Blanche** The cast is fired – heated to a very **high** temperature – in an industrial furnace (17). My studio is in a disused boiler-making factory, and I'm very fortunate to have this furnace. The firing process is a little dangerous, so I employ two assistants. While they're firing the cast, I prepare the metal.
- Interviewer** The copper?
- Michelle Blanche** Yes. In fact, a copper sculpture is not one hundred percent copper. It consists of **three** elements: ninety-five percent copper, four percent silicon, and one percent manganese (18). The trace elements strengthen the copper without altering its other qualities.
- Interviewer** Uh huh.
- Michelle Blanche** After the cast is made, the molten metal is poured in, and left to set. **Setting** takes several hours, depending on the size of the work (19). When the cast is removed, the sculpture is polished. This also takes time, but is quite thrilling since you see the brightly shining metal emerge beneath your hands. As I said before, the process is quite physically demanding, but the end result is gorgeous.
- Interviewer** Indeed.
- Michelle Blanche** Finally, it's approved by the commissioning authority, and installed in its permanent place – in this case the city square.
- Interviewer** When is the **installation** date (20)?
- Michelle Blanche** The third of June, which marks the centenary of the girl's rescue.
-
- Narrator** Section Three. University Counselling Session.
- Counsellor** So, Rachel, how have things been going?
- Rachel** All right, I suppose.
- Counsellor** Are you ready for your **presentation** tomorrow (21)?
- Rachel** I think so.
- Counsellor** Great. **What about the rest of the study plan we made (22)?** Have you been sticking to it?
- Rachel** Well... That's why I came back to you. I did manage to get everything done for my presentation, but now I'm way behind with my other assignments (21), and I'm starting to panic.
- Counsellor** You've got the **3000-word essay for Criminal Law, haven't you (23),** and one on Taxation?
- Rachel** That's right.
- Counsellor** What seems to be preventing you from doing them?
- Rachel** My own indecision is one factor. You see, we were given two choices for the Criminal Law essay, and I seem to change my mind daily about which one to do.
- I remember in our last session that you said I might be using procrastination to obscure some other inadequacy – perhaps not understanding the legal topic as well as I ought to. If I get a **low** mark, I can just say, 'Well, I did that essay in such a rush' instead of admitting that I don't have a grasp of the subject (24). Intellectually, I understand what you've told me, but I'm afraid it hasn't made a difference to my starting the essay.
- Another thing that's affecting me is the demands of other people (25).**
- Counsellor** Like what?
- Rachel** Take my flatmate, Teresa, who's a nursing student (25). We've been sharing a flat for over a year, and we used to get along really well. But recently, she's been pestering me to help her with her assignments.
- Counsellor** You might suggest your flatmate get help from her college with her studies.
- Rachel** I've done that, and she claims she's been going to the Student Learning Centre on campus. Meantime, if I don't help her at home, she calls me selfish, or arrogant, or unfriendly, and then starts sulking. The atmosphere in our place is poisonous.
- What can I do about my boss (25)?** Last week, I worked **twelve** hours' overtime (26). I'm exhausted! I felt obliged to accept the work because right now he's making decisions about who to keep on over the summer, and if I turn down extra shifts, he may not consider me. I certainly can't afford to lose my summer job.
- Counsellor** Remember, Rachel, your goals and priorities. Is your long-term goal to work in a supermarket, or to be a lawyer?
- Rachel** Of course to be a lawyer. I know I've got to concentrate on that.
- As I think I've said, I can see everything clearly when I'm here in the office with you, but I waver as soon as I leave.

- ...
- Counsellor** You wanted to talk about your ex-boyfriend, Dan.
- Rachel** Yes. Dan. Hmm. I know we went through all this in the last session as well, but he's been bugging me again.
- Counsellor** What does he want?
- Rachel** To get back together.
- Counsellor** Do you want that?
- Rachel** Yes. No. I mean... I ended the relationship. Dan's a great person and I'll always think of him fondly, but we somehow brought out the worst in each other.
- Counsellor** All right. **Keep Dan at a distance (27)** while you focus on your studies. Politely tell him that you want to remain apart.
- Let's make another study plan, now, with your starting work on your 3000-word essay tomorrow (22 and 23). That's due on the ninth, isn't it?
- Rachel** Yes, just ten days away. I can't possibly do it by then. Even if I settle on a topic, the reading list is as long as my arm. And I've another confession to make: I've barely attended a single tutorial for that course, so I don't even understand the basics. **With the state I'm in, I won't be able to absorb any of the complex arguments, let alone critique them (28).** Really, my situation's **awful (29)**. Do you think I could get an extension?
- Counsellor** Rachel, your situation is difficult, not awful (29), and all of these things, we can solve. **Remember: reduce contact with people who don't help you (30),** and reduce your hours at the supermarket. Focus on your essays and your future goal.
- Narrator** Section Four. Rational-Emotive Therapy or RET.
- Lecturer** Good afternoon. **Last week, we discussed why people seek therapy. This week, we're going to look at one kind of psychotherapy called Rational-Emotive Therapy or RET (31).**
- But before we get started, I'd like to quote a first-century philosopher, called Marcus Aurelius, whose words I think are apposite to this discussion. He wrote something like: 'The universe is about change; life is what thinking makes it.'
- RET is also about accepting the world while changing thought patterns.
- RET was created by an American, Albert Ellis, in the 1950s.
- The main aim of RET is to develop healthy emotional responses to cope with unfortunate circumstances (32).** Anger, anxiety, or depression is replaced with upset, followed by acceptance, then by moving on.
- Let's take the example of a person who is involved in a car accident. Of course, your physical injuries are your primary concern, and satisfactory medical assistance in hospital is critical, but how fast you heal after that assistance is not only determined by the kind of medical care you have received, but also by your attitude. You probably had no control over the accident, but you *can* control how you feel about it afterwards. Anxiety, guilt, and even rage at others involved are all mental states that you can overcome.
- Here's another scenario: your sister borrowed some money from you a year or so ago, and hasn't made any effort to give it back. A well-balanced person thinks: 'Oh dear, never mind', but an unbalanced one says: 'My sister *should* give me my money back'; 'She *mustn't* do this to me'. Or, 'She's *always* been so selfish'; 'She *never* treats me well'. Now, people, including your sister, are both good and bad, and they *do* change. Imagining how awful your circumstances are doesn't help. **You're far more likely to get your money back if your sister knows you don't judge her, and you avoid words like 'should', 'must', 'always', and 'never' (33).**
- One of Albert Ellis' fundamental beliefs was that too many people these days 'awfulise'. Yes, he even coined the term to awfulise. **He considered that people make things seem awful that really aren't. They disable themselves through anxiety, rather than accepting the challenges there are in modern life (34).**
- To introduce his ideas to the world, Ellis came up with the ABC scheme. In this, 'A' stands for 'adversity' – something out of the ordinary that causes difficulty. Ellis was convinced that when A struck, it was B – a person's 'beliefs' – that often affected them more than A itself. This leads to C, or 'consequences'. Some of these could be relatively minor, like headaches or skin disorders, but others could be serious and debilitating like long-term mental illness.
- Ellis added 'D' to his ABC scheme. This means a person 'distinguishes' between 'awfulising' and healthy beliefs (35). During this process of distinguishing, a person's mental worldview undergoes a significant change, and as a result, he or she makes a genuine recovery.

Albert Ellis set up his practice in the cosseted world of New York City, where the majority of his patients could afford superior medical care, and probably hadn't really experienced any great trauma.

So what if something really awful does happen? How would RET be effective with those sufferers?

Quite a lot of research has been done on refugees from major conflicts. They appear to fall almost equally into two groups: one, the badly affected, and, two, the largely unaffected. All the refugees lived through the same war, but they *chose* to be happy, or they *chose* to be sad (36).

So, how does RET work? Initially, therapists and patients target specific problems, and set daily and weekly goals. Exercises are connected to everyday life. There are links on my website to some of these if you're interested. As I mentioned earlier, replacing anger with **upset** is the first phase of treatment (37). Anger can be as threatening to the body as the original trauma.

Confronting the very thing a patient is afraid of is another approach (38). If a person has a phobia of cars after an accident, he or she is put right back behind the wheel.

Critics of RET say the treatment is too short and too unkind, and its rehabilitation rate of around 40% is not very high.

Because it focuses on mental states in the present, and it completely ignores a patient's **past** (39), detractors believe it fails to address **underlying** issues. Other, more conventional methods of therapy, explore the past in some detail (40).

Nevertheless, Ellis and RET have reintroduced rationalist philosophical notions into everyday treatment. I'll leave it up to you to evaluate their success.

READING: Passage 1: 1. M; 2. O; 3. J; 4. C; 5. E; 6. K; 7. G; 8. L; 9. B; 10. D; 11. A; 12. C; 13. B. **Passage 2:** 14. ix; 15. iii; 16. vi; 17. v; 18. vii; 19. viii; 20. happiness; 21. yesterday; 22. 5.5 (*point not comma*); 23. 46/forty-six; 24. cultures; 25. realistic; 26. D; 27. A. **Passage 3:** 28. B; 29. F/False; 30. F/False; 31. T/True; 32. NG/Not Given; 33. 336; 34. converter; 35. microwaves; 36. rec-tenna; 37. General configuration (*capital optional*); 38. Solar array (*capital optional*); 39. Testing methods (*capital optional*); 40. C.

Passage 1: Driving on air

(1 and 2) No matter how costly, hazardous, or polluting they are, nor how tedious it is to be stuck in traffic jams, cars are here to stay. In fact, the global car industry is worth a massive two trillion dollars a year.

Recently, Guy Negre, a French engineer on Renault's Formula One engines, designed and produced the Airpod – a vehicle which runs on air, is lightweight and compact, and capable of reaching moderate speeds.

Since the transport sector constitutes one seventh of all air pollution, (4) Negre spent 15 years developing the Airpod, hoping to significantly reduce greenhouse-gas emissions. (3) Petrol-electric hybrids, already on the market, are touted as being environmentally friendly, (4) yet he says they are barely less polluting than combustion-engine vehicles. The Airpod, on the other hand, produces just 10% of the carbon monoxide of other cars.

Major manufacturers are now considering hydrogen as a power source for vehicles, but this technology may be decades away. Meantime, according to Negre, electric vehicles remain impractical: batteries are expensive, and need replacement within five years; recharging takes several hours.

(5) Negre's secondary aim in creating the Airpod was to bring cars within reach of consumers in the developing world. To date, his most impressive deal has been with an Indian car manufacturer which predicts the Airpod will retail for the price of an average motorcycle.

Currently, only three-wheeled Airpods are available, but Negre has a four-wheeled, five-door family saloon, plus vans, buses, taxis, boats, and aircraft on the drawing board.

So what is (6) an Airpod? This small vehicle resembles an ordinary car except that it is made mostly from fiberglass – ten times as strong as steel (6) but very light – meaning an Airpod weighs just 220 kilograms (484 lb). It has glass windows and an aluminium engine. However, it uses a joystick instead of a steering wheel, and it has backward-facing passenger seats and a front-opening door.

(7) The 180cc engine of an Airpod allows it to reach a speed of around 70 kilometres per hour (kph) (43 mph), and it can drive for about 220 kilometres (137 miles) before refilling is necessary. It takes as little as 90 seconds to pump air into an Airpod from a high-speed compressor at a gas station, with air costing a mere 50 cents for a 220-kilometre journey. An on-board pump can refill the tank at home overnight.

How does an Airpod work? Quite simply: air is released through pistons in the engine, which drive the wheels. Compressed air tanks store up to 175 litres (46 gallons) of air at about 180 times the pressure of an average car tyre. (8) Passengers and passers-by might have concerns about explosions with such pressure, but, in the rare event of one, the thermoplastic tanks split to release air, rather than shattering and exploding. In fact, the same tanks are already installed on natural-gas buses.

For longer journeys, there is a battery-assisted hybrid Airpod, which (9) Negre maintains is capable of reaching 80 kph and travelling around 1500 kilometres on four litres of petrol, although this version has yet to be manufactured or tested.

Still in its infancy, the Airpod has both supporters and critics. Marcus Waardenberg, the organiser of an Airpod trial at a major Dutch airport, was impressed. 'The Airpods went over 40 kph, were quiet and manoeuvrable. Refilling was fast and straightforward.' As a result, his company is replacing its fleet of electric service vehicles with Airpods.

Perhaps more significantly, AK Jagadeesh, from the Indian conglomerate, Tata, signed a \$60 million deal. 'We're going to use Airpod technology in Tata's Nano car,' he said.

(10) Ulf Bossel, a sustainable energy consultant, commented that the Airpod easily reaches speeds of over 50 kph. 'Initially, it could capture the second-car market. Then, there are those older people who can no longer afford conventional cars.' Both Europe and North America have ageing populations.

(11) Bill Robertson, a motoring journalist, noted that the Airpod would suit large numbers of people who make two or three trips a day of fewer than ten kilometers, or who live in distant suburbs of big cities where public transport is poor. (11) If the Airpod looked a little sexier, there would be the potential for it to make inroads into the golf buggy sector, which currently uses electric vehicles.

Among the detractors of the Airpod is the former champion racer, Martella Valentina, who would prefer a vehicle with a more robust engine. 'There are so many aggressive drivers out there,' she said. 'As a woman, I don't feel safe in an Airpod.' She added, 'Refilling overnight is a drag.'

The automotive engineer, (12) Hamid Khan, concurs, expressing skepticism about sufficient energy storage under reasonable pressure to drive the car any distance, let alone the alleged 220 kilometres before refill. He insists this is unconfirmed by independent tests. Stopping and starting in typical city conditions would also lower the range even further, and more distressingly, safety data is lacking for crash testing. 'Negre claims fibreglass is stronger than steel, but the Airpod looks as though it would crumple under the wheels of a normal saloon,' commented Khan.

Nevertheless, (13) Negre has signed deals to manufacture his car in the US, Latin America, India, and several European countries. Compressed air may no longer take a back seat to other power sources, and it is even conceivable that one day we may be flying in aircraft that fly on air.

Passage 2

Section A: In the past, economists measured the wealth of a country and its inhabitants according to the amount of income generated annually, using a figure called the Gross Domestic Product (GDP) or the Gross National Income (GNI). From GDP or GNI, an average income of individuals within a country could be extrapolated. It was also widely held that the richer a country was, the happier its citizens were. More recently, economists have started to rate countries according to additional criteria like: how livable its main cities are; what access to decent education and green space its people have; how safe a country is; and, how clean – or uncorrupt – its government is.

The Human Development Index (HDI) is considered (20) the most reliable of these new economic indicators, but an even more focused measure, the Human **Happiness** Index (HHI), is steadily gaining in popularity.

Section B: In 2008, (14) Bhutan, a country surrounded by India, Nepal, and China, (14) developed its own Gross National Happiness index to assist in its planning policies. If its inhabitants indicated one of their major concerns was rising fuel costs, then the government attempted to subsidise fuel, not only because it hoped to retain power, but also because if this anxiety were reduced, its citizens would be happier and more productive. Another apprehension of the Bhutanese may be the quality of primary education. Once alerted to this, the state can commence investment. The same year, two famous economists, Amartya Sen and Joseph Stiglitz, were invited by the President of (14) France to devise a happiness index for his country; (14) Britain has recently followed suit.

Section C: (15 and 21) There are two common measures of happiness: a global measure and a hedonic measure. The former appraises life in general; the latter a person's emotional feeling just **yesterday**. Two measures are considered necessary because altered circumstances produce different results. As any parent can attest, having children makes people happier overall, especially as the children mature and start their own families, yet, on a day-to-day basis, when the children are young, raising them can be difficult: parents may experience stress, anger, and in some rare cases even misery. Globally, parents are glad they have family; hedonically, they may be going through a bad patch. Likewise employment: a secure enjoyable job contributes greatly to a person's happiness, but being temporarily unemployed can have a deleterious impact.

Section D: Using both these measures – the global and hedonic – some surprising data have come to light. (16) **Firstly**, wealthier is indeed happier, but there are still some miserable rich people. Danes and Hong Kong Chinese have almost identical purchasing power, meaning although they earn different amounts of money, what they can do with it is about the same. (22) **Yet**, on a scale of one to ten, Hong Kongers consistently rate their happiness as 5.5 whereas Danes give theirs as 8. Likewise, incomes in Latin America vary little from those in countries of the former Soviet Union, like Ukraine or Kazakhstan, but Latinos are far healthier, longer-living, and more cheerful.

(16) The second significant finding is that the level of happiness increases with age. Despite the body's decay and fewer financial resources, older people are more stable, less anxious, and most importantly, less angry. It is now universally agreed that suicide rates worldwide peak in the early forties for women and the early fifties for men. Of 72 countries in one recent poll, (23) the average age was 46 after which life became easier. Ukrainians bucked this trend, not finding happiness until after 62, while the Swiss were fortunate for their discontent to decline from 35.

Section E: (17 and 24) Some common beliefs have been confirmed by the happiness data, for instance that introverted **cultures** produce more unhappy people. Asians all identified themselves as being unhappier than Western Europeans (with the exception of the Portuguese and Greeks). In 2010, Japan rated highly on the HDI, but near the middle of the HHI. Still, Japan has the world's

longest-living women – 83 years is their average life expectancy – so, if people are generally happier as they age, Japanese women do have longer than women elsewhere in which to get happy!

Section F: (18 and 25) What are the reasons for happiness after middle age? Basically, people understand where they fit in the world. Their ambitions have settled to **realistic** levels – they accept what they can and cannot do. For example, I won't be able to win the Nobel Prize for Literature, but I could conceivably take first place in a local short-story competition.

Section G: (27) It is good news that people get happier as they grow older because populations in most developed countries are ageing, and projections are for many developing countries to have more people over 50 after 2020. Governments have had some concern about the burden on younger taxpayers of this greying population, but perhaps they should reconsider the data: (19) older people, being happier, are potentially more capable than younger ones. Loss of memory and poorer physical skills are balanced by their cheerfulness. Therefore, retirement age can be extended without concern about productivity.

(26) Personally, I would rather have a smiling competent grey-haired colleague than a pretty twenty-something who pretends to know it all but, underneath, is a seething mass of discontent.

Passage 3: Space-based solar power

In an energy-hungry world, new safe ways to generate electricity are constantly being sought.

Space-based solar power, or SBSP, is not yet up and running, but several space agencies and commercial companies are keenly pursuing it.

(28) SBSP is a system that would harness sunlight in space, (29) **convert it into electrical energy**, and beam this to receivers in the Earth's equatorial zone. (30) SBSP satellites would be in low orbit 1100 kilometres (683.5 miles) above the Earth.

Advantages

To date, solar energy has been collected on the ground, but it is estimated there is 144% more solar power available in space as the Earth's atmosphere absorbs light. Furthermore, since our planet rotates, energy can only be collected during daylight. It is possible at the poles to collect light almost continuously in summer, but in winter such plants cannot operate due to snow, ice, and darkness. (31) In space, however, solar power collection could occur around the clock.

A further benefit may be that the energy produced could be directed to multiple locations whereas terrestrial power plants are limited to sending power one way into a grid.

Design

Most prototypes of SBSP structures look like a giant tent hanging in space. (33) Its light, hollow equilateral triangular frame is 336 metres (1103 feet) long while its depth is 303 metres (994 feet). Down two sides are solar collectors, called arrays; (34) on the floor of the 'tent' sit a solar converter and a transmitting antenna. (35) The antenna sends microwaves to Earth. These waves are at a frequency of 2.45-5.8 gigahertz, or somewhere between infrared and radio signals. They pass through Earth's atmosphere easily with only minor energy loss. (36) On Earth, the invisible column of microwave energy – perhaps two to three kilometres (a mile or two) wide – is received by a large oval-shaped 'rectenna' – a new word combining 'rectifying' + 'antenna'. A pilot beam, also on Earth, ensures the satellite stays in position in space.

Two major technical obstacles remain before SBSP becomes a reality. The first is launching satellites into orbit. While most scientists favour low orbit, others believe a higher orbit like 36,050 kilometres (22,400 miles), about one tenth of the distance between Earth and the Moon, would harness more sunlight. However, no agency or company has any experience of launching and controlling a satellite in high orbit, and the cost would be exorbitant. The second problem is wireless power transmission. While this seemed like a physicist's fantasy a few years ago, in 2009, US and Japanese researchers successfully sent microwave energy between two islands in Hawaii which are 145 km (90 miles) apart – equidistant to Earth's atmosphere – but it is unknown whether this can be reproduced in space.

History

SBSP is not a new idea. Dr Peter Glaser designed a system in the late 1960s, and was granted a US patent in 1973. The US Department of Energy in conjunction with NASA (the American space agency) conducted feasibility studies in the 1970s, but a conservative administration in the 1980s discontinued investment. Only in 1997 did the US government reconsider the idea.

In 2009, an American commercial company Space Energy Incorporated announced it planned to provide SBSP 'within a decade'. Subsequently, a company called Solaren stated it was likely to provide 200 megawatts of solar power from an SBSP to Pacific Gas and Electric from 2016. PowerSat Corporation has begun the process of patenting a system of interconnected satellites that will project one extremely powerful microwave beam down to Earth. It has also developed a special thruster to lift a satellite from low orbit into higher orbit.

Small-scale scientific projects connected to SBSP have long been in operation in Europe. In 2010, several private European firms joined the space power race, and scientific conferences were held on electromagnetic wireless transmission in Italy and Germany.

Japanese initiatives

It is the Japanese, however, who have come nearest to producing a reliable system. Both Mitsubishi Electric Corporation and IHI Corporation currently fund research. Since 1998, JAXA (the Japanese space agency) has been involved in all aspects of SBSP, and it predicts its first satellite will be in orbit by 2030.

There are six broad areas that JAXA is working on. These are: (1) (37) general configuration; (2) assembly work and operation; (3) (38) solar array; (4) transmitting antenna; (5) power transmission and reception system; and, (6) (39) testing methods. (37) The first of these is the most developed. (38) The solar array and transmitting antenna are second in terms of development. (39) Testing methods are relatively unsolved. Assembly work and operation, and power transmission and reception system remain far from being solved.

Disadvantages

SBSP has numerous detractors. There are those people who imagine the microwave beam to be something like a science-fiction death ray. Physicists reassure the public it is a non-ionising wave, like a radio wave or x-ray. It cannot displace electrons from atoms to charge particles, so it does not damage DNA. The waves may be slightly warm, but they present no danger to wildlife or humans.

Other opponents of SBSP say that while there is neither corrosion nor damage from plants or animals in space, background radiation could harm the satellite. There is the very real danger of collision with space junk as recently happened at the International Space Station, or with small meteors' hitting it. The less likely event of an enemy nation firing rockets to destroy the equipment also causes concern. Repairing an unmanned structure so far from Earth would be extremely difficult.

Solar power via the Moon is an option which some scientists say can be in operation in ten years at a fraction of the cost.

(40) But the majority of those against SBSP consider it expensive and unnecessary given that many other forms of renewable energy on Earth are operating successfully. Terrestrial solar power is relatively underdeveloped; the Arizona Desert in the US, and deserts across North Africa provide easily-accessible locations for new systems that would be five times more cost-effective than SBSP.

Viability

Nevertheless, as energy requirements accelerate, as unrest in oil-producing regions and nuclear accidents make alternative energy more attractive, space-based solar power may have the future after all.

WRITING: For Task 1, go to Grammar and Vocabulary Test 1 on page 390. For Task 2, there are some ideas on pages 162-164.

Practice Speaking Test 3 – Part 2 topic

I'd like you to tell me about a photograph of yourself that you like very much.

- Who took the photograph?
- What were you doing when the photograph was taken?
- Why do you like the photograph so much?

Academic Practice Test 4

LISTENING: Answers and Script with: highlighted evidence for answers

Section 1: 1. mobile/phone; 2. 18/eighteen; 3. teaching; 4. screen; 5. 300; 6. insurance; 7. C; 8. C; 9. B; 10. A. **Section 2:** 11. management; 12. cleaner/lighter/service; 13. 40/forty; 14. product; 15. 5-year/five-year (*must be singular; must have a hyphen and not be written as two separate words*); 16. C; 17. B; 18. A; 19. A; 20. iii. **Section 3:** 21. 2,500 (*comma optional*); 22. interested; 23. argument; 24. sources; 25. stealing; 26. school; 27-30. (*in any order*): B, C, F, G. **Section 4:** 31. B; 32. A; 33. Pumping (*capital optional*); 34. concentrate; 35. Tank (*capital optional*); 36. 5/five; 37. 20/twenty; 38. 10/ten; 39. 1.5 (*must be a point and not a comma*); 40. millions (*must be plural*).

| | |
|-----------------|--|
| Narrator | Recording Seventy-four. Practice Listening Test Four. Section One. Phone Services. |
| Salesman | Good morning, may I help you, ma'am? |
| Ann | I'm reading one of your brochures on wireless services since I'd like to get the internet at home (eg). I wonder if you could you tell me about some different deals. |
| Salesman | Certainly. |
| Ann | First of all, do you have any packages that are wireless and mobile/phone combined (1)? |
| Salesman | I'm afraid we don't. |
| Ann | That's a pity. |
| Salesman | You may like to know that from next week, we're starting a deal whereby anyone who signs a phone contract for 18 months gets a brand new smartphone (2). That way, the internet is with you all the time, on your phone, and not just at home on your computer. How does that sound? |

- Ann** I'm sure lots of people will jump at it, but I don't want the internet with me all the time. I don't need a fancy phone. I need to be contactable for work – I'm a post-grad student, and I support myself with relief **teaching** (3). I need to send a few texts and make a couple of calls a day, but that's all. A basic phone and pre-paid monthly vouchers suit me.
- Salesman** As you please.
- Ann** Also, my friend bought a smartphone recently, dropped it, and shattered the glass **screen** (4). To get the screen replaced, she's going to spend \$300. Well, **\$300** is almost my annual phone budget (5).
- Salesman** Yes, you do have to be careful with smartphones. However, for just a few dollars a week, we also offer **insurance** (6) against damage or theft. That might be worth considering.
- Ann** Thank you for the offer, but I'm sticking to my cheap phone that I've dropped a dozen times but still keeps working.
- ...
- Let's get back to wireless services at home. I've brought my laptop, and I'd like to see if your modems are compatible.
- Salesman** We've got a comprehensive range of modems, so I'm sure we'll find something.
What operating system do you have?
- Ann** OSX twelve point five. I'll just check that. Sorry, it's OSX twelve point nine.
- Salesman** Yes, several of our modems will work with that.
- Ann** If I choose a deal now, is there any chance I can get my computer set up right away?
- Salesman** Absolutely. You can be online in 15 minutes.
- Ann** Really?
- I know I said I didn't want a long-term plan for my phone, but for wireless, your 24-month plan looks the best.
- Salesman** I think it's excellent, ma'am: \$80 a month for ten gigabytes and a modem.
- Ann** If I opt for this contract, what would you need from me now other than the cash?
- Salesman** Proof of identification, financial details, and an official letter with your address (7).
- Ann** Pardon me?
- Salesman** Proof of ID, a bank statement, and a letter like a gas bill or pay slip sent to where you live.
- Ann** I'll see what I've got in my purse. Here's my student card. I do online banking now, so no statements. Here's an electricity bill I paid yesterday.
- Salesman** I'm sorry to say, ma'am, but those things aren't enough. You can't sign a long contract without showing your passport or driver's licence, and something from your bank (7).
Have you thought about the pre-paid one-month internet deal similar to the one you already have for your phone?
- Ann** According to your brochure, it's a lot dearer – about 50% dearer – than the two-year contract.
- Salesman** Yes, pre-paid is always more expensive, but it has fewer obligations.
- Ann** What do you mean?
- Salesman** Well, on the 24-month plan, there's also a \$200 cancellation fee if you end the service by leaving the country permanently (8).
- Ann** Goodness. I had no idea such things existed!
- Salesman** I'm afraid so.
- Ann** How about one-year contracts? I couldn't see any one-year contracts advertised. D'you have them?
- Salesman** They've just been discontinued (9) – there wasn't enough demand – but a six-month pre-paid is possible.
- Ann** Do I need lots of ID for that?
- Salesman** No.
- Ann** What about the modem – is it still included?
- Salesman** With pre-paid, customers supply their own modems (10). I do, however, have one here for only \$110.
- Ann** A hundred-and-ten!
I think I'll need some time to think things over.
- Salesman** Not a problem.

- Narrator** Section Two. Running a Small Business.
- Interviewer** Let's welcome John Lim, owner of Business Training, to today's show.
- John Lim** Nice to join you.
- Interviewer** First of all, I've heard you've got triplets, John, as well as a growing business.
- John** That's right. Two boys and a girl. They're six years old. I tell people running a business is like looking after children. Apart from being flexible, and expecting the unexpected, you need clear priorities and excellent time management (11). In a way, I owe my business success to my children. Like so many young families who struggle with the high cost of living, we couldn't afford to stay in the city any longer, so we moved to Casterbridge, which, at the time, met all our requirements. It was really flourishing, particularly because its cleaner industries, like light engineering and servicing, were replacing agriculture and mining (12). So it seemed a desirable place for people to set up small businesses.
- Interviewer** What's it like now?
- John** Unfortunately, the last three years have been pretty tough due to the downturn in the economy. A third of the new companies in Casterbridge have gone bust. Still, the national figure for the failure of small businesses within two years of establishment is around 40%, so maybe a third isn't too bad (13).
- Interviewer** Forty percent (13)! Why so high?
- John** Let's consider success for a moment. To be successful in a small business you need to know your customers – who's going to want your product. You need to lower expenses – not by putting off staff – but rather by cutting out unnecessary luxuries. And most importantly, you need to tailor your product to a niche market. In the case of my company, I had a good product – training (14). Initially, we provided basic accounting training for non-accountants. Later, we provided business management skills seminars (20). For a company to stay alive, it needs a good product, followed by another good product.
- Interviewer** You diversified, right?
- John** Yes, I did. After providing overall management skills techniques, I moved into the more specialised area of time management (20). I gave workshops on how to manage time to businesses in Casterbridge and surrounding areas. You see, even if a company has capital – the money to get it up and running – many business people don't manage their time well, or plan well. Time management is easy if you stick to the rules, which are: schedule large and small tasks; keep to your time limits; keep focused; learn to delegate; set goals; and, learn to rest. That 40% failure rate I mentioned earlier is mostly the result of poor planning.
- Interviewer** I see.
- John** To be successful you've got to operate on two levels. First, you need a five-year plan – where your business is headed and what its core activities are. And second, you need a day-by-day plan – a list of daily tasks in order of importance (15).
- ...
- Interviewer** When I spoke to you before the show, you said you were branching out once more.
- John** That's right. I've recently sold the management and training parts of my business, and now I'm into research and counselling (20). In fact, I've just completed a major survey on working from home for the government.
- Interviewer** Working from home is my dream.
- John** Really? Wait till you hear the statistics. Six out of ten respondents to our survey said their efficiency was lower at home than in an office (16). Five out of ten people we surveyed worked many more hours each week than they would in a conventional office (17). It's all too easy to check your emails after dinner, rather than scheduling them into acceptable working hours. And four out of ten people in our survey suffered from loneliness.
- Interviewer** Loneliness?
- John** Perhaps they miss the office gossip, or haven't got a pet to talk to. Seriously though, many of us need to socialise because, on the whole, humans are gregarious creatures (18).
- Interviewer** Tell me about your counselling work.
- John** I'm helping people who've gone bankrupt. As you probably know, this is a dreadful experience, both financially and emotionally. It's one time when you really do need a good accountant (19), so you come out with something.
- Interviewer** Indeed.
- John** Also, here's a tip. It may sound odd, but, if your business does go bankrupt, take a holiday – have a week in Bali. Or if you can't afford that, head off to a lake, a beach, or a national park. And then, shrug your shoulders, and go on. Life goes on.
- Interviewer** Yes, it does. Many thanks for your insights, John.

- Narrator** Section Three. Essay-Writing Skills.
- Isaaq** How's it going, Sue?
- Sue** Pretty well, except that I'm almost asleep on my feet. I was up until 2 AM finishing my essay.
- Isaaq** Me too. However, I've still only written 1800 words, and we're meant to hand in **2500** (21). I've no idea where I'm going to get another 700 from.
- Sue** Oh dear. I've got the opposite problem – my essay's nearly 4000 words long, so I'll need to be quite brutal with editing.
- Isaaq** How ever did you manage that?
- Sue** I'm really **interested** in the topic (22), so I did lots of independent research. I've got a pretty thorough knowledge of the HDI now.
- Isaaq** The HDI?
- Sue** The Human Development Index. You know, the list of indicators for health, income, sustainability--
- Isaaq** Yeah yeah.
- Sue** What statistics did you draw on for your discussion of poverty?
- Isaaq** Don't ask. The graphs and charts I found I didn't know how to describe, so in the end I cut and pasted a table and a paragraph from my friend Abdul's essay. He took this course last year. I don't really understand any of the stuff I copied from him either, but he passed, which is all that counts.
- Sue** I see.
- Isaaq** Before we meet our tutor, Sue, I wonder if you could do me a favour. When I had my consultation with him last week, he crossed out so much of my first draft that I had to start all over again.
- Sue** OK. Show me your first page.
Well, you might add a sentence to your introduction – **it's not clear to me which argument** you support (23), or is that in the conclusion?
- Isaaq** But if I add one sentence to the introduction that's only another 20 words.
- Sue** True.
Skimming through this, it seems you've used two **sources** for research, whereas our lecturer insisted that we have at least five (24).
This quote on the second page is really long. It is relevant, but I hope you realise quotes aren't counted in the word limit.
- Isaaq** So, now I don't even have 1800 words?
How about I take away the quotation marks, so it'll look like my own writing?
- Sue** I don't think that'll work. **In fact, it's plagiarism – stealing** from another writer (25).
Our essays are put through a computer program to check what's copied from elsewhere.
- Isaaq** I don't get why people care about plagiarism. In my country, that's how we learn.
- Sue** **At secondary school** here, some students do copy, but, at university, we should develop our own ideas (26).
- Isaaq** What if I don't have any ideas?
- Sue** Then, it's time to get some!
...
- Isaaq** What shall I do about this long quote, Sue?
- Sue** You can paraphrase or summarise it (27A). You'll need a reference as well.
- Isaaq** A reference?
- Sue** **An in-text citation** (28C), like the Harvard System. You need to acknowledge where the information came from.
- Isaaq** Whoa!
- Sue** We were given a worksheet on the Harvard System in the first tutorial. Have a look at my essay, now, to see what you need to do.
- Isaaq** Are these names and dates in brackets a reference?
- Sue** Yes. They refer to the bibliography on my last page.
That reminds me, you don't seem to have attached your bibliography. Do you have it floating around in your bag?

- Isaaq** Yes, here is it. Have a look.
- Sue** Is this your bibliography or Abdul's?
- Isaaq** What do you mean?
- Sue** Well, I'd say it was Abdul's because there are seven sources, and none of them is either on our reading list or referred to in your essay. Our tutor wasn't born yesterday (29F)!
- Isaaq** I can sort the bibliography out later. That's the least of my worries.
We still haven't solved how I'm going to write another 700 words in fewer than 24 hours.
- Sue** You'll need to do some more research today. I found Newcombe really helpful and also Sword. Why don't you read them (30G)?
- Isaaq** I would if I had time, but I'm working tonight. In fact, I start at two o'clock and go through till nine thirty.
- Sue** Read the articles at work, then. They're not very long. I found both of them offered convincing arguments for redefining poverty, and their alternative indicators for failed states are also interesting.
- Isaaq** But I'm running out of time, and I can't walk around the Menswear Department reading scraps of paper.
Look, let me make a suggestion. Why don't you write the extra paragraphs, Sue? I bet you'd be able to do them in about half an hour. You could email them to me tonight – I'll check my email the minute I get home. In return, I'll give you a gift voucher from my department store.
- Sue** Nice try! Firstly, I've got to work tonight as well. Remember, I told you about editing my essay. Secondly, the tutor will spot my writing style. And lastly, believe it or not, I'm that rare breed of female who doesn't like shopping.
- Narrator** Section Four. Desalination.
- Lecturer** In an era of climate change, many countries no longer have the rainfall they used to have. Furthermore, with population increase, the already depleted groundwater supplies are running out. Therefore, worldwide, governments, cities, industries, and ocean-going ships have opted for desalination.
There are various methods of desalination used in the world today – there's solar desalination, geothermal desalination, multi-stage distillation, and salt-water reverse osmosis desalination.
In this lecture, I shall describe salt-water reverse osmosis desalination, with particular reference to the supply of fresh drinking water. I shall also outline its drawbacks.
Desalination is the process of removing salt and other minerals from water molecules, making it potable, or ready for drinking (31).
In reverse osmosis desalination, seawater is purified by being forced, at very high pressure, through a membrane – a kind of skin. The solid waste and bilge are separated out, and the water sent on to the consumer.
There are seven stages to the process. Follow me on the diagram while I explain. In the top left-hand corner, you can see the word 'intake', which means filling a pipe in the ocean. This water goes to the **Pumping Station** (33). Here come two objections to desalination – there are lots of pipes, causing leakage or evaporation, so we lose the very water we're trying to catch. Secondly, pumping requires energy – massive amounts of energy – which produces greenhouse gases (32).
Back to the diagram. At the Pumping Station, the water is screened (33): sand, shells, and rubbish are removed. Next, the water is forced into a revolving cylinder. Inside this cylinder there's mesh and a sandwich of membranes through which the impurities are spun out. The **concentrate** – brackish, salty waste – is pumped back into the sea. That's number 34 on your diagram (34).
After desalination, fluoride is added. Then, the water goes into a huge Clear-Water Storage **Tank** (35) before entering the city's existent water network.
Desalination produces fresh water, but at what cost? In fact, in the US, the organisation *Food and Water Watch* found desalinated water to be the most expensive form of fresh water available, costing **five** times as much to harvest as other sources (36).
The price tag on one plant in Sydney was more than two billion Australian dollars.
Another objection is that cheaper alternatives exist. Take recycling. Currently, in Sydney, about 2% of the total amount of water used is recycled. However, if rainwater were captured in tanks on the roofs of buildings, then it'd be easy to recycle up to **20%** a year, roughly the amount of fresh water a desalination plant produces in the same time (37).

Recently, there's been a campaign to educate Australians about water use. There've also been restrictions in place, like when you can water your garden or fill your swimming pool. With just these two things – education and restriction – Sydney residents used **10%** less water in the past five years than in the five preceding (38).

As I've said, desalination plants require excessive energy, but there's another problem: they flood the ocean with waste. In Sydney, up to **1.5 billion litres** (39) of concentrate (34) go into the Pacific Ocean daily. And perhaps even more alarmingly, there's a problem at the intake end too. Marine biologist Sylvia Earle has commented on the hidden environmental cost of desalination, by claiming that ocean water is filled with living creatures, and most of them are lost in the process of desalination.

You might be asking: why were desalination plants built in the first place? Probably because water could be even scarcer in future; and, it's easier to build big projects than to persuade **millions** of homeowners to recycle (40).

READING: Passage 1: 1. warfare; 2. school; 3. 28/Twenty-eight (*capital optional*); 4. violent; 5. burial; 6. T/True; 7. NG/Not Given; 8. F/False; 9. F/False; 10. A; 11. D; 12. D; 13. C. **Passage 2:** 14. C; 15. A; 16. B; 17. B; 18. B; 19. Raw materials (*capital optional*); 20. 0.25cm/0.1inch (*zero and point are both necessary. This cannot be written with a comma*); 21. Purification (*capital optional*); 22. First/Initial firing (*capital optional*); 23. glazing; 24. burn; 25. kiln; 26. 700; 27. solidify. **Passage 3:** 28. land; 29. poor; 30. aid; 31. business/traders; 32. communities; 33. China (*capital optional*); 34. geography; 35. investment; 36. education; 37. 34/thirty-four; 38. suffering; 39-40. C and E/E and C.

Passage 1

March 29th, 1461, in tiny Towton was one of the bloodiest days in English history, yet only recently have a small number of soldiers' bodies undergone exhumation and examination. Several thousand still lie buried in mass graves on the battlefield. (1) **Early analysis of the remains has led to a reassessment of medieval warfare.**

Towton, a village in the north of England, between York and Leeds, is unknown to many English people. (2) **History taught at school largely ignores the mid-15th century.** Towton itself has neither museum nor large memorial, merely a roadside cross to mark where the battle took place.

In 1996, a building nearby called Towton Hall was being renovated when labourers unearthed skeletons in its grounds and beneath its floor. (3) **Twenty-eight** of these were complete; another 20 or so were partial. (4) **What shocked archaeologists was the violent way in which the men had met their deaths and the callous manner of their** (5) **burial.** We are all familiar with the gory wars of the 20th century, and might assume that technology and politics have become more destructive over time. However, it could be the case that humans have long been vicious – only now is the evidence coming to light.

(6) **So what was the Battle of Towton? It was one clash of many between two powerful families – the Lancastrians and the Yorkists – who each wanted their king to rule England.** The Lancastrians believed the current King of England, Henry VI, was incapable if not insane, whereas the Yorkists, led by Richard Plantagenet, supported Henry since he had chosen Richard as the next king. When Richard was killed in 1460, his son Edward, only 18, vowed to assume the throne in his father's place. Needless to say, the Lancastrians disputed this. Effectively, the Battle of Towton would legitimate Edward's reign.

Prior to Towton, military encounters in England had been small-scale: battles were fought with hundreds or at most a few thousand men, and no army was professional. In so-called peace time, private armies consisted of men – ranging in age from 15 to 50 – whose levels of fitness were variable, and whose training and equipment were poor. This meant that when fighting did erupt, it seldom lasted long – perhaps just a few days. Nor were many men killed. In fact, there is evidence that more men died from their wounds or other illnesses *after* combat. Towton it seems was different, for here was a battle in which both sides assembled large armies, and there were terrible casualties in the field.

The number of soldiers killed at Towton is a matter of speculation as few records have come down to us, and those that do survive may have exaggerated the victory of King Edward IV, as Edward became, in order to intimidate his enemies. (8) **One estimate of the dead is 28,000 out of the 75,000 soldiers who took part. These 75,000 represent 10% of all fighting-age men in England at the time – the total population being just three million. Twenty-eight thousand dead on one day is, therefore, a staggering number.**

As injuries show on the skeletons of soldiers already studied, those men were hacked to death, shot by arrows, or trampled by horses. Some of the first bullets used in England were fired that day. Lead-composite shot has been dug up on the battlefield, and one archaeologist claims to have found part of a handgun, (9) **but there are no obvious deaths from guns, and it is hard to say how they were used.** The most effective weapon was the poleaxe – a long, heavy iron weapon with a sharp tip, a small axe blade on one side and, on the other, a large sharp head like a Philips-head screwdriver. (10) **It was used to kill soldiers who were running away as battle lines broke up, and it is thought this is how most of the Lancastrians buried at Towton Hall died.**

It is not known why the death rate in this battle was so high, nor why the bodies of soldiers were so disfigured. Skeletal evidence indicates that often a dozen blows were given to a man who would have been killed by the initial two or three. Archaeologists are uncertain when these additional blows were made – on the battlefield or in the burial process – but such savagery suggests the emergence of a new concept of an opponent as not merely someone to kill but someone whose identity should be utterly effaced. After death, in a ritual never before seen in English warfare, soldiers were stripped of their clothes and tossed into mass graves to further dehumanise them.

It is easy to forget that in medieval England burial was sacred, and people believed ascent to Heaven only took place when the body of the dead was whole. In all Europe, there is only one other known mass grave on the scale of Towton from around the same time – that is in Sweden from 1361. (12) There, however, soldiers from the Battle of Wisby were buried whole in their armour.

It appears that the savagery of the Yorkists did effect submission since Edward remained king for the next 22 years.

Today, at Towton, work continues on excavation and analysis of the medieval skeletons. Theories about a new kind of violent warfare and the purpose of mass graves abound. (13) It seems that organised brutality is no recent phenomenon; it existed 550 years ago.

Passage 2: Hard-paste porcelain

Definition and origin

The term porcelain refers to ceramics made from similar materials and baked at high temperatures which are light, durable, and vitreous. Porcelain combines the positive qualities of glass and clay – glass is smooth and translucent while clay retains its shape when moulded. However, due to the addition of a few more minerals, porcelain is stronger than either glass or clay. It is also extremely beautiful and valuable: Chinese Ming Dynasty (1368-1644 AD) (14) bowls can fetch a million dollars on the international art market.

For around fifteen hundred years, porcelain has been employed as tableware and decoration, but its more recent applications include: dental crowns and electrical insulators.

(15) Porcelain was first made in China. During the Tang Dynasty (618-907 AD), small amounts were used by the court and the very rich. High-quality porcelain, like that manufactured today, was not widely available until the Yuan Dynasty (1279-1368 AD).

Chinese porcelain was traded with kingdoms in Central, Southeast Asia, and the Middle East from the seventh century. By the Middle Ages, it had reached Europe.

European obsession

Porcelain was consumed in enormous quantities by European royal families, nobles, and the church, all of whom tried desperately to discover its chemical composition. (16) The English word, 'porcelain', derives from the Portuguese name for a sea creature, the nautilus, which has a spiral orange vitreous shell from which it was believed at one time that porcelain was made. Other more astute Europeans contended the ceramic contained crushed glass or bone.

Early experiments in the production of porcelain included adding ground glass to clay. The result is called 'soft-paste' as it is weaker than true porcelain.

So great was the frenzy for possessing Chinese porcelain, or attempting to recreate their own hard-paste, that a number of European principalities endangered themselves financially, spending as much of their budgets on pursuing porcelain as on their armies. Frederick II of Prussia (now in Germany) was one such fanatic. Fortunately, for Prussia, two scientists – Johann Böttger and Ehrenfried von Tschimhaus – in the monarch's service, solved the porcelain puzzle. Their discovery, made in 1707, combined clay with ground feldspar – a mineral containing aluminium silicate.

Meanwhile, in England, the recipe was a little different: ash, from cattle bones, was mixed with clay, feldspar, and quartz. (18) This became known as 'bone china', and is still manufactured. Although not true porcelain, it remains popular in the US and the UK because it is harder than porcelain.

Constituents

(19) The raw materials from which porcelain is made are abundant. They are: white clay (china clay or ball clay), feldspar, or perhaps flint, and silica – all of which are noted for their small particles. Feldspar and flint are used as fluxes, which reduce the temperature needed for firing, and bind the glass, silica, and clay granules. Porcelain may also contain other ingredients like alumina or steatite.

Manufacture

To produce porcelain, the raw materials are selected and weighed. Then, they are crushed in a two-stage process. Jaw crushers work first; (20) mullers or hammer mills subsequently reduce particles to **0.25 cms (0.1 inch)** or less in diameter. A third crushing, using ball mills, takes place for the finest porcelain. (21) During **purification**, which follows, granules that are not of uniform size are screened out. Magnetic filtration then removes iron, commonly found in clay, because this prevents porcelain from forming correctly. The fifth stage, preparatory to firing, is formation. There are several types of formation by hand or machine. (22) After formation, the ware undergoes its initial firing in a kiln – a special oven.

A glaze is a glassy liquid similar in composition to porcelain. If a porcelain object is painted, a glaze covers the paint, or its decoration may just be the glaze. (23) Glaze is applied by painting or dipping, and takes place after the first firing. Not only are porcelain wares gorgeous, but their decoration and glazing are also of great interest.

In making porcelain, the temperature in the kiln is critical – high enough to reconstitute the elements, yet low enough to vaporise contaminants and minimise shrinkage. A typical temperature is 1,454° Celsius (2,650° Fahrenheit).

During the firing process, a number of chemical reactions occur. (24) Carbon-based impurities **burn** out at 100-200°C (215-395°F). (25) As the **kiln** is heated, carbonates and sulfates decompose. (26) When heated to **700-1100°C** (1295-2015°F), the fluxes react

with the decomposing minerals to form liquid glass. (27) After a certain density is reached, at around 1200°C (2195°F), the ware is cooled, causing the liquid glass to **solidify**.

Pause for thought

So, next time you dine from fine porcelain, take a moment to reflect on the complicated history and sophisticated manufacture of this exquisite product.

Passage 3: Is aid hurting Africa?

(28 and 29) Despite its population of more than one billion and its rich **land** and natural resources, the continent of Africa remains **poor**. The combined economies of its 54 states equal that of one European country: the Netherlands.

It is difficult to speak of Africa as a unit as its states differ from each other in culture, climate, size, and political system. Since mid-20th-century independence, many African states have pursued different economic policies. Yet, none of them has overcome poverty. Why might this be?

One theory says Africa is unlucky. Sparsely populated with diverse language and culture, it contains numerous landlocked countries, and it is far from international markets.

Dambisa Moyo, a Zambian-born economist has another theory. In her 2009 book, *Dead Aid*, (30) she proposes that international **aid** is largely to blame for African poverty because it has encouraged dependence and corruption, and (31) has diverted talented people from **business**. One of her statistics is that from 1970-98, when aid to Africa was highest, poverty rose from eleven to 66%. If aid were cut, she believes Africans would utilise their resources more creatively.

When a state lacks the capacity to care for its people, international non-governmental organisations (NGOs), like Oxfam or the Red Cross, assume this role. While NGOs distribute food or medical supplies, Moyo argues they reduce the ability of the state to provide. Furthermore, during this process, those in government and the military siphon off aid goods and money themselves. Transparency International, an organisation that surveys corruption, rates the majority of African states poorly.

Moyo provides another example. Maybe a Hollywood star donates American-made mosquito nets. Certainly, this benefits malaria-prone areas, but it also draws business away from local African traders who supply nets. (32) More consultation is needed between do-gooder foreigners and local **communities**.

(33) Moyo also suggests African nations increase their wealth by investment in bonds, or by increased co-operation with **China**.

The presidents of Rwanda and Senegal are strong supporters of Moyo, but (34) critics say her theories are simplistic. The international aid community is not responsible for **geography**, nor has it anything to do with military takeover, corruption, or legislation that hampers trade. Africans have had half a century of self-government and economic control, yet, as the population of the continent doubled, its GDP has risen only 60%. In the same period, Malaysia and Vietnam threw off colonialism and surged ahead economically by investing in education, health, and infrastructure; by lowering taxes on international trade; and, by being fortunate to be surrounded by other successful nations.

The economist Paul Collier has speculated that if aid were cut, African governments would not find alternative sources of income, nor would they reduce corruption. Another economist, Jeffrey Sachs, has calculated that twice the amount of aid currently given is needed to prevent suffering on a grand scale.

(40C) In *Dead Aid*, Moyo presents her case through a fictitious country called 'Dongo', but nowhere does she provide examples of real aid organisations causing actual problems. Her approach may be entertaining, but it is hardly academic.

Other scholars point out that Africa is dominated by tribal societies with military-government elites. Joining the army, rather than doing business, was the easiest route to personal wealth and power. Unsurprisingly, military takeovers have occurred in almost every African country. In the 1960s and 70s, European colonials were replaced by African 'colonials' – African generals and their families. Meantime, the very small, educated bourgeoisie has moved abroad. All over Africa, strongmen leaders have ruled for a long time, or one unstable military regime has succeeded another. (35) As a result, business, separate from military government is rare, and international **investment** limited.

(36) Post-secondary **education** rates are low in Africa. Communications and transportation remain basic although mobile phones are having an impact. The distances farmers must travel to market are vast due to poor roads. High cross-border taxes and long bureaucratic delays are par for the course. African rural populations exceed those elsewhere in the world. Without decent infrastructure or an educated urbanised workforce, business cannot prosper. Recent World Bank statistics show that in southern Africa, the number of companies using the internet for business is 20% as opposed to 40% in South America or 80% in the US. There are 37 days each year without water whereas there is less than one day in Europe. The average cost of sending one container to the US is \$7600, but only \$3900 from East Asia or the Pacific. All these problems are the result of poor state planning.

Great ethnic and linguistic diversity within African countries has led to tribal favouritism. Governments are often controlled by one tribe or allied tribes; civil war is usually tribal. It is estimated each civil war costs a country roughly \$64 billion. (37) Southern Africa had **34** such conflicts from 1940-2000 while South Asia, the next-affected region, had only 24 in the same period. To this day, a number of bloody conflicts continue.

Other opponents of Moyo add that her focus on market investment and more business with China is shortsighted. The 2008 financial crisis meant that countries with market investments lost money. Secondly, China's real intentions in Africa are unknown, but everyone can see China is buying up African farmland and securing cheap oil supplies.

All over Africa, there are untapped resources, but distance, diversity, and low population density contribute to poverty. Where there is no TV, infrequent electricity, and bad roads, there still seems to be money for automatic weapons just the right size for 12-year-old boys to use. (38) **Blaming the West for assisting with aid fails to address the issues of continuous conflict, ineffective government, and little infrastructure. Nor does it prevent terrible suffering.**

Has aid caused problems for Africa, or is Africa's strife of its own making or due to geography? (40E) **Whatever you think, Dambisa Moyo's book has generated lively discussion, which is fruitful for Africa.**

WRITING: Task 1

The table compares the population of the world's top ten countries in 2010 with projected numbers in 2100.

In 2010, China had the highest population of 1,341 million, with India second on 1,225 million. However, by 2100, India is projected to have the highest population of 1,551 million with China second on 941 million – down 400 million since 2010.

Although the USA is projected to increase its population from 310 million to 478 million, it steps down from third to fourth place, being overtaken by Nigeria, which moves up from seventh place with 158 million, to a total of 730 million, representing a massive increase of 572 million. Brazil drops from fifth place in 2010 with 195 million, down to tenth in 2100 on 177 million – a decrease of 18 million.

Some countries such as Bangladesh, Russia, and Japan do not appear on the 2100 list. Instead, they are superseded by Tanzania, the Democratic Republic of Congo, and the Philippines.

Except for China and Brazil, all other projections show an increase between 2010 and 2100, but there is a significant shuffling of position by some countries, the elimination of others, and the introduction of new contenders for a top-ten placing. (200 words)

Note: The overall statement comes at the end of this model.

Task 2

Health care in most countries is a major social concern. Healthy people live longer, work better, and are generally happier than those who suffer from illness and disease. But since medical care is very costly, just how to finance health care is a worldwide problem. Should the government pay for all health care, or should the people contribute? Should there be a combination of both? Of the many systems of health care, I shall discuss two in this essay: free health care, and a combination of state and personal payment.

Free health care, that is, all medical payments from doctors' visits to prescriptions to hospital care and convalescence, has long been an ideal of welfare states. It takes away the worry of where money is to come from when medical attention is needed, and it usually means that people seek medical advice before a symptom develops into something worse.

But free health care must be funded by very high taxes. In Denmark, this system has worked well for 40 years. The health of the nation is excellent, the standard of living is high, and people are happy. However, in Great Britain, free health care seems to have got out of hand. Medical rooms are always full, and patients get less quality time with a doctor. Also, patients go to the doctor for minor complaints, which eventually heal of their own accord. Because it is free, people take advantage. Moreover, free health care is a drain on the country's revenue. However, for all that, under free health care, people get the medical attention they need, without being financially disadvantaged.

Another way of providing health care is for payment to be divided between the state and the people themselves. This system is used where taxes are not too high. For example, in New Zealand, once a welfare state, taxes are no longer high and health care is no longer free, except for hospital care for permanent residents. Otherwise, the state pays a proportion of a doctor's fees, while the patient pays the rest – almost half and half. Prescriptions are also subsidized. Due to the relatively high payment for doctors' visits, many people have private medical insurance to cover costs. Whatever the method of payment, people pay through taxes, medical insurance, and out of pocket. As a result, those in the low socio-economic sector are often reluctant to seek medical help, and are far less healthy than those who can afford to pay.

There seems to be no perfect way to provide health care. Quality free health care means very high taxes. However, the overall health of the nation is usually very good because medical needs are attended to quickly. Conversely, where the government pays a proportion of health care and the public the rest, poorer citizens are medically and financially worse off. Therefore, in the interests of fairness and overall national wellbeing, health care paid for by the state seems preferable to that of a combined system. (495 words)

Practice Speaking Test 4 – Part 2 topic

I'd like you to tell me about the oldest person you know.

- *Who is this person?*
- *What is interesting about his or her life?*
- *What kind of life does this person have now?*

General Training Practice Test

LISTENING: See Academic Practice Test 1 on page 407.

READING: Section 1: 1. 850; 2. 0800; 3. \$300; 4. cats; 5. 2½ hours; 6. thick fog/severe storms; 7. \$100; (*Remember to add the additional rate of \$30 for a 4-wheel drive to the one-day rate for sedans of \$70, so your answer = \$100*). 8. B; 9. A; 10. C; 11. C; 12. D; 13. A; 14. D. Section 2: 15. C; 16. A; 17. D; 18. A; 19. E; 20. D; 21. B; 22. vi; 23. vii; 24. i; 25. viii; 26. v; 27. ii. Section 3: 28. available; 29. 10,000; 30. stem; 31. 15/fifteen; 32. cloth; 33. trade; 34. E; 35. C; 36. I; 37. A; 38. F; 39. G; 40. B and E/E and B.

Section 1: Great Barrier Island

Great Barrier Island is near the city of Auckland in New Zealand. (1) It has only **850** permanent residents, but it is a popular tourist destination.

| Ferries | | | |
|---|----------------------------|---|----------------------------|
| To Great Barrier Island | | To Auckland | |
| Monday-Friday | Weekends & Public holidays | Monday-Friday | Weekends & Public holidays |
| First ferry: 0530 | 0630 | (2) 0800 | 0900 |
| Ferries leave on the hour every hour throughout the day | | | |
| Last ferry: 1800 | 1800 | 2030 | 2030 |
| Fares | | One way | Return |
| Adult: | | \$75 | \$120 |
| Student/Pensioner: | | \$50 | \$80 |
| Child (5-15; young children travel free): | | \$25 | \$40 |
| (3) Family (2 adults + 2 or more children): | | \$180 | \$300 |
| Pet (Dogs must be on a lead); (4) cats are forbidden: | | \$10 | \$15 |
| Booking | | | |
| By phone: 846 1305. | | In person: Tickets may be purchased at Wharf 4. | |

| Other information | | |
|--|-----------------|------------|
| There is a restaurant on board. | | |
| (5) The journey lasts 2½ hours in calm seas. | | |
| (6) Ferries do not operate in thick fog, severe storms , or on Christmas Day. | | |
| Car hire on Great Barrier Island | | |
| <i>Rates are for sedans; (7) four-wheel drives are an additional \$30 per day.</i> | | |
| Half day (1-4 hours) | 1-4 days | 4 days + |
| \$40 | (7) \$70 | \$65 a day |
| Bicycle hire | | |
| <i>Rates are for mountain bikes.</i> | | |
| Half day (1-4 hours) | 1-4 days | 4 days + |
| \$20 | \$35 | \$30 |

What can tourists do on Great Barrier Island?

| | |
|---|---|
| <p>Walking</p> <p>There are ten walking tracks that go through native forest or around beaches. (8) Hiking times and degree of difficulty vary from 30 minutes and very easy to five hours and quite demanding. (9) Views are stunning.</p> | <p>Mountain Biking</p> <p>Recent track development by the Department of Conservation makes biking exciting on Great Barrier. It is New Zealand law to wear a helmet when riding.</p> <p>(10) Watch out for walkers as they share tracks.</p> |
| <p>Surfing and Swimming</p> <p>There are several famous surf beaches with big waves. Inland, there are hot springs. (11) Bring plenty of sunscreen because the UV rays are extremely dangerous. Burn times in mid-summer are as low as ten minutes, and you still burn in the water.</p> | <p>Kayaking and Diving</p> <p>There are two hire companies operating on Great Barrier for all the gear you need. (12) Kayaking is done on the sheltered western side of the island. Snorkeling and scuba diving are popular everywhere. The wreck of the Wiltshire, off the south coast, provides extra interest.</p> |
| <p>Fishing and a Seafood Festival</p> <p>Eating seafood is a must. Indulge in fish caught by locals, or try your luck at some popular fishing spots. (13) January sees the Mussel Festival. Shellfish is cooked up in every way imaginable, accompanied by musical performances.</p> | <p>Learning About Local History</p> <p>(14) The hardwood forests on Great Barrier Island were exploited for over 100 years by loggers. Walking around, you will see ruins from this industry. Most trees are protected these days.</p> <p>There are some old wooden houses from the 19th century that make for excellent photographs.</p> |

Section 2: Courses

| |
|---|
| <p>A</p> <p>Building Trades (Including: Bricklaying, Building, Carpentry, Fire Protection, Floor and Wall Tiling, and Plumbing) <u>Building:</u> Part-time: 12 hours per week (16) Duration: 2 years This course is for people wanting to acquire building skills for the residential construction industry. You will study the social, environmental, and legal aspects of residential construction projects. Special focus will be on: quantities of materials, site safety, and computing. (18) This course, along with Carpentry and Bricklaying, will give you the technical qualifications for a Builder's Licence.</p> |
| <p>B</p> <p>Child Studies (Including: Children's Services, Early Childhood Education and Care, and a Traineeship) <u>Diploma of Early Childhood Education and Care:</u> Part-time: 21 hours per week (3 days) Duration: 18 months This course is for people wanting to become qualified childcare workers in day care centres. You will develop the skills, knowledge, and attitudes relevant to meet the intellectual, physical, and emotional needs of children in day care. Special focus will be on: occupational health and safety, ethical work practices, and legal issues. (21) On completion of this diploma, graduates may apply for advanced standing at universities that offer Early Childhood courses. Note: A police check will be carried out before applications are accepted. A criminal record involving violence or abuse seriously affects career prospects.</p> |
| <p>C</p> <p>Real Estate (Including: Agency Management, Marketing, and Property Services) <u>Property Services:</u> (15) Full time: 35 hours per week Duration: 4 months This certificate, which is recognised nationally, provides learners with the skills and knowledge needed to market, sell, lease, and manage property within an agency. It is a pre-requisite for the diploma.</p> |

| |
|--|
| D |
| <p>(20) Screen and Digital Media (Including: Film and TV Production, Interactive Digital Media, and Network Administration) Film and TV Production: (17) Part-time: 21 hours per week (3 days) Duration: 4 months This certificate, a pre-requisite for the Diploma of Screen and Digital Media, introduces learners to the film and television industry. You will learn how to write a script, plan and produce a short pre-recorded programme segment, and work effectively as a production crewmember.</p> |
| E |
| <p>Outreach A variety of courses chosen by learners from all Certificate I-II courses on offer at the college, as well as compulsory: Introductory Computing, First Aid, and English Language. Flexible delivery options. (19) <i>Outreach</i> aims to remove barriers for people wanting to return to education. These barriers could be: income level, English-language ability, little previous education, geographic isolation, disability, or family commitments.</p> |

Mature-aged students

A Only a generation ago, there were few tertiary students who had begun their studies when they were over the age of 21. It was virtually unheard of for people to start courses in their forties or fifties. These days, in all developed countries, not only are there large numbers of online learners who are mature-aged, but, on campus, mums and dads with their laptops and library books are also making an appearance. In some countries, China for example, university study still remains the preserve of the young. Population pressure means that providing education for those aged 18-24 is difficult enough. Only English-language and IT opportunities exist at private colleges for older people.

B (22) There are four main reasons for this rise in mature-aged students. Firstly, universities have changed entry requirements as more courses have become fee-paying. If students can afford to pay, and meet the academic level, then it doesn't matter how old they are. Secondly, the concept of a job for life is a thing of the past. Many people now have several careers. Life expectancy has reached 80 in at least 20 countries; retirement ages have risen accordingly. Therefore, retraining for longer working lives is essential. Lastly, there has been a general expansion of the education sector as the workforce needs to be better trained for a more competitive knowledge-based world.

C Clearly there are advantages to undertaking study later in life. There is the increased likelihood of a higher salary after study, and enhanced self-esteem. But what are some of the difficulties mature-aged students face? The most glaring one is the visual fact that they're not as attractive or energetic as all those young things lounging on quadrangle lawns. (23) It's unlikely that they will socialise with people the same age as their sons or daughters, and that could make university life rather lonely. Befriending other mature-aged students is a possibility, but perhaps they also seem too old.

D In lectures and tutorials, older learners may get tired more quickly, but research has proven they focus on their studies. They work harder, and generally perform better than younger students. Their life experiences and analytical powers are good study aids. (24) When there are group assignments, older students may become annoyed, feeling they do all of the work while the youngsters are out partying or working at part-time jobs. Furthermore, younger students often feel the pressure of their peers more acutely. They may be scared to participate in tutorials, worried what those their own age think of them. This means older students contribute more to discussion. While tutors are certainly grateful for their efforts, the mature-aged students themselves may occasionally wish they are not in the spotlight so often.

E For most mature-aged students, juggling work, family, and other commitments is a tricky business. Their organisational skills are admirable. (25) However, their children, partners, or workmates may resent the absence or distraction of the older student. The student may win a qualification, but he or she may have to fight other battles on the home front.

F (26) Then there are the greatly discouraged mature-aged drop-outs. These people already feel they failed at the end of their schooling by not going on to university, and being unable to complete their studies a second time can cause considerable anxiety. Fortunately, statistics show there are not very many of these people. Completion rates for undergraduate and post-graduate courses, for mature-aged students, are high.

G It takes courage, determination, personal and financial sacrifice to complete studies at university. (27) Despite these difficulties, large numbers of mature-aged men and women all over the world are succeeding.

Section 3: The humble banana

(28) As the world's most eaten fruit, it is hard to believe that the banana has only become widely **available** in the last 100 years. Nor can most people imagine a world without bananas. However, disease is threatening the existence of popular varieties, and while the banana itself is unlikely to die out, what consumers call a banana could change dramatically since new disease-resistant strains may differ in taste, texture, size, and colour from fruit currently on offer.

History

A native of tropical South and Southeast Asia, it is thought (29) bananas were first cultivated in today's Papua New Guinea around 10,000 years ago. Spreading to Madagascar, Africa, and then the Islamic world, bananas reached Europe in the 15th century. The word 'banana' entered English via Portuguese from Wolof – a West African language. Only in 1872 did the French writer, Jules Verne, describe bananas to his readers in some detail as they were so exotic, and it was another 30 years before plantation-grown produce from Central America would flood the global market.

Botanical data

Most modern edible bananas come from the wild species *Musa acuminata*, *Musa balbisiana*, or their hybrids. Two common varieties today are the larger more curved Cavendish and the smaller straighter Lady Finger both of which turn yellow when ripe.

Bananas are herbs, not trees, although they can reach more than seven metres (24 ft). (30) Their stem, not trunk, is a soft fibrous shoot from an underground corm, or bulb. After fruiting, the whole stem dies, and the plant regenerates from the corm, one of which may last 25 years.

Normally, each banana stem produces one very large purple heart inside of which the fruit develops from female flowers, and hangs in a cluster weighing 30-50 kilograms (66-110 lb) and containing hundreds of bananas.

Domesticated bananas no longer have seeds, so their propagation must occur through the removal and transplantation of part of the corm, or through tissue culture in a laboratory, the latter being a complicated procedure that can lead to plant contamination.

Uses and benefits

As bananas grow all year round, they have become a vital crop. They are easy to eat (just peel) and easy to transport (no packaging needed).

Banana fruit, skin, heart, and stem are all edible, and alcohol can also be made from the plant.

The world's greatest banana-eaters are in East Africa, where the average Ugandan devours 150 kilograms (330.6 lb) a year, and receives 30% of calories this way. This habit is healthy since a single 100-gram (3.5 oz) banana contains 371 kilojoules (89 kcal) of energy, and protein represents 1.09% of its weight – 25 times more than that of an apple.

(31) In daily requirements for an adult, one banana provides: 2% of Vitamin B1, 5% of B2, 4% of B3, 7% of B5, 28% of B6, 5% of B9; (31) 15% of Vitamin C; 1% of calcium; 2% of iron; 7% of magnesium; 3% of phosphorous; 8% of potassium; and, 1% of zinc.

A further health benefit is a lower risk of breast, bowel, or liver cancer, and some psychiatrists recommend bananas as they increase dopamine levels in the brain, thus improving mood.

Aside from food and drink, bananas have other uses. Their large flexible leaves become recyclable plates or food containers in Asia. (32) Traditionally, the Japanese boiled banana shoots in lye until their fibres softened and separated. Fine cloth was woven from this fibre. Paper is made from banana stems, and more recently, skins have been employed to clean up polluted rivers as their absorption of heavy metals is high.

In several religions, bananas feature prominently. Tamils believe the banana is one of three holy fruits. Buddhists often decorate trays with bananas to offer to the Buddha. Moslems eat copious quantities (33) during the holy month of Ramadan during which time global trade in the fruit spikes.

Threats to bananas

Between 1820 and 1950, a banana called the Gros Michel was the most common commercial variety. (34) Suddenly, this was attacked by a fungus called Panama disease, and worldwide, the Gros Michel was almost wiped out. Its commercial replacement, the Cavendish, considered less delicious by gourmands, may now suffer the same fate as its predecessor. (35) All Cavendish bananas are genetically identical, making them susceptible to disease. (36) While the original Panama disease was controlled, it mutated into Tropical Race 4 (TR4), which has destroyed banana crops in Southeast Asia, and for which there is no known defence except genetic modification.

Black Sigatoka is another deadly disease. In Uganda – once a world-leader in banana production – it reduced crops by 40% in the 1970s. The treatment for Black Sigatoka is as controversial as it is expensive (\$1000 per hectare per annum) since chemical spray contaminates soil and water supplies. Banana cultivars resistant to Black Sigatoka do exist, but none has been accepted by major supermarket buyers because their taste and texture differ greatly from bananas that shoppers are used to.

In 2010, East Africa was hit by another plague – Banana Xanthomonas wilt. (37) The Ugandan economy lost more than \$500 million due to this, and thousands of small farmers abandoned bananas as a crop, leading to widespread financial hardship and a far poorer diet.

(38) Scientists, however, have not given up hope, and the National Banana Research Programme in Uganda has been adding a sweet pepper gene, disease-resistant in a number of vegetables, to bananas. Yet genetically modified crops remain banned in Uganda, and other scientists believe identifying and domesticating disease-free wild bananas rather than adopting expensive and largely unproven gene technology would be more prudent.

(39) Human civilization has a long and critical relationship with bananas. If this is to continue, it may be time to reconsider what a banana is. (40B) The supermarkets may no longer be stocked with big sweet yellow cultivars but with tiny purple, pink, red, or green-and-white striped ones (40E) that currently exist in the depths of the forest and will not be cheap to domesticate.

WRITING: Task 1

Dear Mr Habibi,

I am writing to you about the possibility of taking a fortnight off work in order to complete my Master's degree in Engineering. I am almost finished writing my thesis, which must be submitted to my university by June 30th. Unfortunately, all my annual leave has been used up. Any time I took off, would naturally be unpaid; I would also check my email daily, and be available for emergency phone calls. On return, I would endeavour to come into the office earlier than usual and work Saturdays in order to catch up on anything I had missed. I have already spoken about my situation to my colleagues Mr Grunewald and Ms Tak, who are both willing to assume my responsibilities for two weeks.

I realise my temporary absence could be an inconvenience to you and the rest of the team, but in the long term, our company will benefit from my research. As you may be aware, I have been investigating 3-D printing for some time, and my thesis compares three printers already on the market with two designs pending patent and production. Since our company is considering developing software for these printers, my expertise will help give us a competitive edge.

I look forward to hearing from you.

Yours sincerely,

Edwin Bambang Soesanto (219 words)

Task 2: Go to 'If you want a Seven', on page 140.

ADDITIONAL GT WRITING: Task 1: Go to Grammar and Vocabulary Test 2 on page 390.

Task 2: Go to page 437.