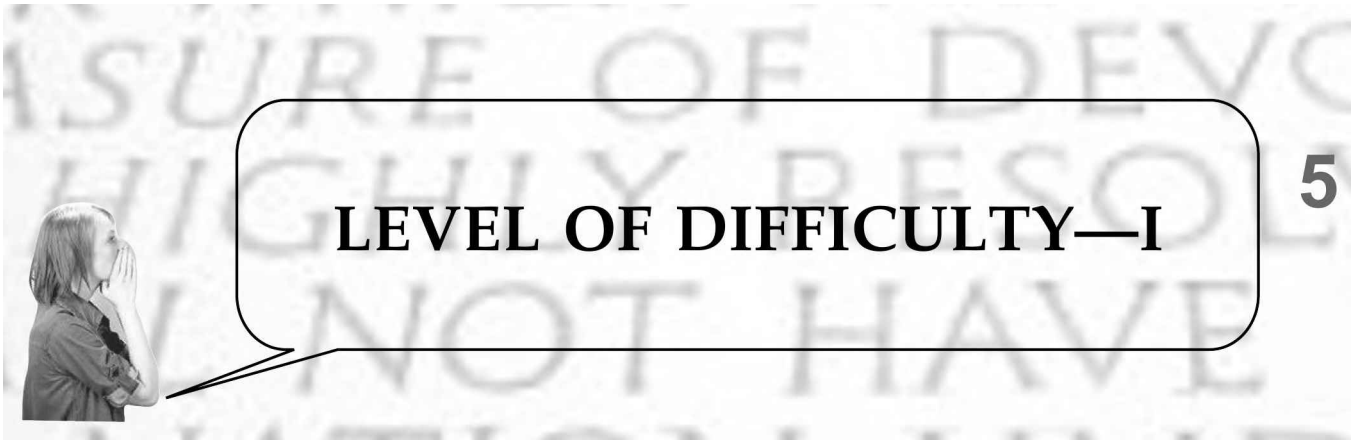

LEVEL OF DIFFICULTY—I

5

TEST I

Passage 1

One of the most successful commercial products ever launched is said to have come about as the result of a mistake. In 1896, Jacob's Pharmacy in Atlanta, Georgia, was selling a nerve tonic known as 'French Wine Cola—Ideal Nerve Tonic'. By accidentally adding fizzy water instead of still water to the recipe, a pharmacist called John S. Pemberton invented what has today become the most popular soft drink in the world: Coca-Cola. Along with its closest rival—Pepsi—which appeared on the market three years later, Coke has enjoyed phenomenal success worldwide, particularly in the past fifty years. Indeed, old Coke bottles and 'limited edition' cans can often fetch considerable sums from collectors, and there are even stores which deal exclusively in Coke products and memorabilia.

What could possibly account for the amazing success of Coca-Cola? How has this combination of carbonated water, sugar, acid and flavourings come to symbolise the American way of life for most of the world? After all, even the manufacturers could hardly describe Coke as a healthy product since it contains relatively high amounts of sugar (admittedly not the case with Diet Coke which contains artificial sweeteners instead of sugar) and phosphoric acid, both of which are known to damage teeth.

One explanation may be found in the name. The original recipe included a flavouring from the coca plant and probably included small amounts of cocaine (an addictive substance), but since the early part of this century, all traces of cocaine have been removed. However, Coke (like all cola drinks) also includes a flavouring from the cola tree; cola extract contains caffeine, which is a stimulant, and the Coca-Cola company adds extra caffeine for good measure. While caffeine is not thought to be an addictive substance in itself, there is considerable evidence that over a period of time, the consumption of caffeine has to be increased in order for its stimulating effect to be maintained, and so sales of Coke perhaps benefit as a result.

A more likely reason for the enduring popularity of Coke may, however, be found in the company's enviable marketing strategies. Over the years, it has come up with some of the most memorable commercials, tunes, slogans and sponsorship in the world of advertising, variously emphasizing international harmony, youthfulness and a carefree lifestyle. Few other companies (arguably including Pepsi) have been able to match such marketing ploys so consistently or effectively. As suggested earlier, the influences of American culture are evident just about everywhere, and Coca-Cola has somehow come to represent a vision of the United States that much of the rest of the world dreams about and aspires to. Perhaps drinking Coke brings people that little bit closer to the dream.

1. According to the paragraph, 'cans can often fetch considerable sums' means the same as:
   (a) Coke is quite expensive in some parts of the world Coke.
   (b) collectors consider carefully how much they are paying for a can of Coke.
   (c) old coke cans have a lot of value.
   (d) some collectors will only drink Coke in exclusive stores.
   (e) certain Coke cans are worth a lot of money as collectable items.
2. According to the paragraph, the author uses 'for good measure' to emphasize the fact that:
   (a) there is a lot of caffeine in Coke.
   (b) the amount of caffeine in Coke is carefully measured.
   (c) the extra caffeine improves the taste of Coke.
   (d) the extra caffeine balances the amount found naturally in the cola extract.
   (e) the extra caffeine is healthy for the drinkers of Coke.

3. According to the paragraph, 'Coke has enjoyed phenomenal success' suggests that the author:
   (a) thinks that the success of Coke is very strange.
   (b) believes that the success of Coke has been impressive.
   (c) thinks that the suecess of Coke is beyond explanation.
   (d) rather disapproves of the success of Coke.
   (e) considers the success of Coke to be undeserved.
4. Describing Coke's marketing strategies as 'enviable' in the paragraph, the author means that:
   (a) the strategies are based on envy.
   (b) Coke's marketing staff is encouraged to be envious of each other's ideas.
   (c) people are persuaded to buy Coke because they are envious of others.
   (d) rivals are envious of the Coke Company's successful methods of marketing.
   (e) Coke's marketing strategies are enviable.
5. It can be inferred from the last sentence of the passage that:
   (a) most people would like to live in America.
   (b) many people wish for a lifestyle like they imagine most Americans have.
   (c) drinking Coke reminds a lot of people of visiting America.
   (d) living in the United States is a bit like living in a dream.
   (e) drinking Coke is part of the American dream.
6. According to the paragraph, all of the following are not true, except:
   (a) Cocaine and caffeine are addictive substances.
   (b) At least one of the ingredients of Coke is addictive.
   (c) The stimulating effect of caffeine is reduced over time unless consumption of it is increased.
   (d) The Coca-Cola company has gradually increased the amount of caffeine it puts in Coke.
   (e) All of the above are not true.

Passage 2

Ask an American schoolchild what he or she is learning in school these days and you might even get a reply, provided you ask it in Spanish. But don't bother, here's the answer: Americans nowadays are not learning any of the things that we learned in our day, like reading and writing. Apparently, these are considered fusty old subjects, invented by white males to oppress women and minorities.

What are they learning? In a Vermont college town, I found the answer sitting in a toy store book rack, next to typical kids' books like 'Heather Has Two Mommies and Daddy Is Dysfunctional'. It's a teacher's guide called 'Happy To Be Me', subtitled 'Building Self Esteem'.

Self-esteem, as it turns out, is a big subject in American classrooms. Many American schools see building it as important as teaching reading and writing. They call it "whole language" teaching, borrowing terminology from the granola people to compete in the education marketplace.

No one ever spent a moment building my self-esteem when I was in school. In fact, from the day I first stepped inside a classroom, my self-esteem was one big demolition site. All that mattered was "the subject," be it geography, history, or mathematics. I was praised when I remembered that "near", "fit", "friendly", "pleasing", "like" and their opposites took the dative case in Latin. I was reviled when I forgot what a cosine was good for. Generally, I lived my school years beneath a torrent of castigation so consistent I eventually ceased to hear it, as people who live near the sea eventually stop hearing the waves.

Schools have changed. Reviling is out, for one thing. More important, subjects have changed. Whereas I learned English, modern kids learn something called "language skills." Whereas I learned writing, modern kids learn something called "communication". Communication, the book tells us, is seven per cent words, 23 per cent facial expression, 20 per cent tone of voice, and 50 per cent body language. So this column, with its carefully chosen words, would earn me at most, a grade of seven per cent. That is, if the school even gave out something as oppressive and demanding as grades.

The result is that, in place of English classes, American children are getting a course in How to 'Win Friends and Influence People'. Consider the new attitude toward journal writing: I remember one high school English class when we were required to keep a journal. The idea was to emulate those great writers who confided in diaries, searching their souls and honing their critical thinking on paper.

'Happy To Be Me' states that journals are a great way for students to get in touch with their feelings. Tell students they

can write one sentence or a whole page. Reassure them that no one, not even you, will read what they write. After the unit, hopefully, all students will be feeling good about themselves and will want to share some of their entries with the class.

There was a time when no self-respecting book for English teachers would use "great" or "hopefully" that way. Moreover, back then, the purpose of English courses (an antique term for "Unit") was not to help students "feel good about themselves." Which is good, because all that reviling didn't make me feel particularly good about anything.

7. According to the passage, the author implies that
   (a) self-criticism has gone too far.
   (b) evaluating criteria are inappropriate nowadays.
   (c) communication is a more comprehensive category than language skills.
   (d) this column does not meet the demanding evaluating criteria of today.
   (e) there is a dumbing down of American education.
8. According to the author, all of the following are true except
   (a) subjects are no longer taught seriously.
   (b) academic standards in schools nowadays are no longer high enough.
   (c) kids nowadays are encouraged to be self-critical.
   (d) the use of language has changed for the worse.
   (e) none of these.
9. The style of the author can be best described as
   (a) academic.
   (b) critical.
   (c) analytical.
   (d) comparative.
   (e) jovial.
10. The attitude of the author can be best described as
   (a) progressive.
   (b) reactionary.
   (c) liberal.
   (d) tolerant.
   (e) critical.
11. How would you describe the author's attitude towards current learning strategies?
   (a) distanced.
   (b) admiring.
   (c) ironical.
   (d) objective.
   (e) reviling.
12. According to the passage, the author's intention is to get us to:
   (a) confirm current trends.
   (b) rethink educational strategies.
   (c) think about what constitutes communication.
   (d) reassure parents.
   (e) redefine language teaching.

Passage 3

The first arrival on being introduced, asked me if I was the owner of the hotel. The second arrival shook my hand vigorously, then proclaimed. "Yes, of course, I've read your book—No full stops in India."

"That was Mark Tully", I said, "He smokes a pipe."

The third or fourth arrival got it right, but spoilt it all by asking, "Do you still write, Mr. Bond?"

This is like asking a chef if he still makes soup, or a cobbler if he can repair a shoe. I couldn't be bothered answering his question, but a little boy came to my rescue by asking me to sign my latest book. Nevertheless, the question lingers and sometimes I ask myself: Did I find my dream—the dream of 45 years ago? Do I remember that dream? Most of it, I do believe. To live independently as a fulltime writer, that was part of the dream. And I have done that for most of my adult life. No riches, no houses, no cars, no computers. But independence, certainly.

To live in the place of my choice. While I was away in Delhi in the early 1960s, I decided I was going to live in the hills and work from there. Just as, five years earlier, I had decided that my home was India and not England.

Mussoorie may not have been the perfect choice (there are places more lovely), but in many ways, it has suited me. I'm near the Doon (familiar territory), not too far from Delhi (and my publishers), and just a short walk into the solitude of the mountains. I have lived with the family and companions of my choice—Prem and his children and grandchildren, and many good people on the hillside who have been generous to me over the years.

And have I won the time for leisure, books, nature, love and friendship? Yes, most of these things, for some of the time. Not everything falls neatly into place. How can it? But I think I've done most of what I set out to do. I could have done it a little better, and perhaps there's time to do more. My

faults and limitations are many, but I've always accepted that I'm a most imperfect specimen of humanity, which means I've always been on friendly terms with myself! And yes, Sir, I'm still doing my thing—cobbling shoes, making a tolerable soup, and recording my life and the life around me to the best of my ability. Talking of hotels—most of them, big or small, have one thing in common: the occasional guest who makes off with the linen, the cutlery, and sometime, even a TV set.

Nandu (of the Savoy) tells of how one customer drove off with a mattress rolled up on the luggage rack. When the manager realized what had happened, he phoned the police at the toll-barrier, and they stopped the car and took possession of the mattress. The owner of the car promptly blamed his driver for the theft, but the driver responded—"Sir, you asked me to pick up two mattresses, and now you are blaming me for stealing one!"

Of course there are some tourists who leave their belongings behind; or if not their belongings, their fellow-travelers. The day after a group of jolly, beer-guzzling young men vacated their room, the housekeeper opened a cupboard to have a dead body tumble out on top of her. In a different hotel, a box-bed was found stuffed with a decaying corpse. Both cases went unsolved. Equally enterprising were the young men from Haryana who stabbed to death one of their companions and left the body in the Landour cemetery. But these gentlemen left so many clues behind that they were caught a few days later. Hill-stations are, by and large, peaceful places, but just occasionally, crime rears its ugly head and an old lady is found strangled in her bed or a failed businessman is found hanging in the bathroom. We won't dwell on these tragedies but think instead of the thousands who come here in high spirits and go away in even better spirits—the combination of clean mountain air, breath-taking scenery, and, just occasionally, spirits of the bottled variety having done wonders for their outlook on life.

To me, flowers are the most sensual of living things, or perhaps, it's just that the appeal to the sensuality of my own nature. A rose in bud, the heady scent of jasmine, the unfolding of a lily, the flaunting colour of dahlias and giant marigolds, the seductive fragrance of the honeysuckle, all these excite and entice me.

A wild species of geranium (the round-leaved cransebill, to give its English name) with a tiny lilac flower, has responded to my overtures, making a great display in a tub where I encouraged it to spread. Never one to spurn a gesture of friendship, I have given it the freedom of the shady back verandah. Let it be my flower of the month, this rainy August.

13. What is the author's view towards his own life?
    (a) He's pretty relaxed about his life.
    (b) He's pretty satisfied by his life.
    (c) He's concerned about his life.
    (d) He's thinking about what the future holds for him & wants to forget the past.
    (e) He is living in the past.
14. According to the passage, after the beer guzzling young men vacated their room, the housekeeper was shocked by:
    (a) Not finding the carpet.
    (b) Finding a box.
    (c) By finding a dead body of a young man in the cupboard, which tumbled out on top of her.
    (d) All of these.
    (e) None of these.
15. Why does the author choose to stay in Mussourie?
    (a) It suited him in many ways.
    (b) It was near to Doon; which was familiar to him.
    (c) It was not too far from Delhi & his publishers.
    (d) All of the above.
    (e) None of the above.
16. What has been the author doing for the most of his adult life?
    (a) Travelling to different places.
    (b) Living independently as a full time writer.
    (c) Collecting riches for future.
    (d) Marvelling at the nature.
    (e) Living in the place of his choice.
17. What does the author want to imply by saying "Not everything falls into place".
    (a) A person cannot have all the things he wants from life.
    (b) A person cannot win time for leisure, books, nature & love all at once.
    (c) Life is like a jumble and its very hard to fit the right word at the right place.
    (d) Life can be cruel at times.
    (e) None of the above.

Passage 4

Recent technological advancement in manned and unmanned undersea vehicles, overcome some of the limitations of divers

equipment. Without a vehicle, divers often became sluggish and their mental concentration was limited. Because of undersea pressure that affected their mind, concentration among divers was difficult or impossible. But today, most oceanographers make observations by means of instruments that are lowered into the ocean or from samples taken from the water. Direct observations of the ocean floor are made not only by the divers, but also by deep-diving submarines. Some of these submarines can dive to depths of more than several miles and cruise at depths of 15 thousand feet. Radio equipped buoys can be operated by remote control in order to transmit information back to land-based laboratories including data about water temperature, currents and weather. Some of mankind's most serious problems, especially those concerning energy and food may be solved with the help of observations made possible by these undersea vehicles.

18. With what topic is the passage primarily concerned?
    (a) recent technological advances.
    (b) communication among divers.
    (c) Direct observation of the ocean floor.
    (d) undersea vehicles.
    (e) Technological advancement of undersea vehicles.
19. Divers have had problems in concentrating underwater because:
    (a) the pressure affected their minds.
    (b) the vehicles they used have not been perfected.
    (c) they did not think clearly.
    (d) the pressure destroyed their mental processes.
    (e) of distractions while diving.
20. This passage suggests that the successful exploration of the ocean depends upon:
    (a) vehicles as well as divers.
    (b) radio that divers use to communicate.
    (c) controlling currents and the weather.
    (d) removal of the limitations of diving equipment.
    (e) Development of undersea vehicles.
21. Undersea vehicles
    (a) are too small for a man to fit inside.
    (b) are very slow to respond.
    (c) have the same limitations that divers have.
    (d) make direct observations of the ocean floor.
    (e) are technologically primitive.
22. How is a radio-equipped buoy most likely to be operated?
    (a) By operators inside the vehicle and underwater.
    (b) By operators outside the vehicle on a ship.
    (c) By operators outside the vehicle on a diving platform.
    (d) By operators outside the vehicle in a laboratory on the shore.
    (e) Cannot be inferred.
23. According to the author, what are some of the problems the underwater studies may eventually resolve?
    (a) Weather and temperature control.
    (b) Food and energy shortages.
    (c) Transportation and communication problems.
    (d) Overcrowding and housing problems.
    (e) Resource shortages.

Passage 5

BOOKSHOPS are piled higher than ever before with lavishly illustrated children's books tricked out to look like instant classics. What to buy?

1. Books for Five-year olds and under

Whether to be read alone or to be read aloud, a good picture book for young children strikes a balance between words, which must not be too plentiful, and images, which must not shout too loudly. "How Many Miles to Bethlehem?" is a deft retelling of the story of the Nativity by an English poet, Kevin Crossley-Holland, with Peter Malone as illustrator. The words are spare and well chosen (every actor in the drama, from the ass to the angel, has a page to present his point of view), while the rich pictures are almost Giotto-like in atmosphere and choice of detail.

Also ringing the changes on a seasonal theme is "Santa's Littlest Helper"—a collaboration between Anu Stohner and Henrike Wilson as illustrator. One of Santa's undervalued assistants stumbles upon a startling fact: animals, unlike children, don't usually get presents.

Alexis Deacon is one of the finest of a younger generation of English illustrators for children. In his third work, "Jitterbug Jam: A Monster Tale", Mr. Deacon collaborates with an American writer, Barbara Jean Hicks, to produce a gentle morality tale about the nature of strangeness. His horned monsters, alarming to look at but gentle in character, seem distantly related to Maurice Sendak's wild things.

The best animal picture book of the season is "Lord of the Forest" by Caroline Pitcher and Jackie Morris. Ms. Morris's

illustrations are lavish and painterly, and the story—who exactly is the king of the jungle?—holds the reader in suspense until the very last page.

The funniest new picture book is Posy Simmonds's "Baker Cat", the tale of a baker's cat who manages to outwit his owner, a thoroughly punitive and miserable fellow, by forging a cunning alliance with the very mice he is supposed to be keeping out of the bakery. Children will adore the fussy detail and the hilarious dialogue.

New in Britain, "The King of Capri" is a tale by Jeanette Winterson, who is better known for her novels for grown-ups; it is illustrated with panache by Jane Ray. The wind blows away the clothes of a greedy king, but they land on the roof of a tender-hearted woman. The story has all the ease and surprise of an old folk tale.

2. Six-to-ten-year olds

Two new editions of classic books head the list for children at the younger end of this age range. Naomi Lewis has produced an excellent new selection from the "Tales of Hans Christian Andersen." All the favourites are here, from "Thumbelina" to "The Little Mermaid" and "The Emperor's New Clothes", along with lesser known stories, such as "The Flying Trunk". Joel Stewart's illustrations bring out the many moods in Andersen's stories—their darkness, their vertigo-inducing strangeness, their wild flights of humour.

From the same publishers comes Martin Jenkins's sensitive abridgement of Jonathan Swift's "Gulliver". The illustrations of Chris Riddell, formerly with *The Economist*, show his characteristic flights of fancy.

Admirers of Philip Pullman for his a "Dark Materials" trilogy, will be pleased to discover that he is no less adept at writing fantasy for younger children. "The Scarecrow and His Servant" has familiar elements of plot and characterisation, from the perky and comical scarecrow himself, to the serendipitous journey he takes in the company of a small, hungry boy called Jack. Yet, the familiar is transformed by the engaging and unpredictable way in which the story unfolds. Sheer delight.

"Magical Children" brings together three short novels by Sally Gardner about children who have magical gifts—the strongest girl in the world, a boy who can fly and another who just happens to be invisible. Ms Gardner's strength lies in her ability to combine the extraordinary with the utterly unexceptional.

"Christopher Mouse: The Tale of a Small Traveller" is a wonderful first novel by William Wise for readers with growing confidence. It is about the adventures of a mouse who moves from family to family and after much travel and heartache, finds a happy home. The delight of this book is in the deft humour of the first-person storytelling.

Two novels not to be missed at the upper end of the age range are Linda Newbery's "At the Firefly Gate" and Shannon Hale's "Enna Burning". The first is about an unconfident urban boy, newly displaced to rural Suffolk, who makes strangely magical links across the generations. The second is a historical fantasy which circles around the mysteries of fire.

3. Eleven and above

Children's fiction for this age group has long been dominated by fantasy published in series. This season, two authors with an excellent record have new titles to their name, Herbie Brennan adds to his "Faerie Wars" series with a new book, "The Purple Emperor". In it, a son has the unenviable task of following in the footsteps of a father who has returned from the grave. Mr Brennan's manner is both brisk and amusing.

Paul Stewart and Chris Riddell have again collaborated on the latest novel—the seventh—in the "Edge Chronicles" series. "Freeglader" is set in foot-slogging, mist-choked Tolkien/Pratchett country. A young knight-librarian, Rook Barkwater, inches his way through peril, meeting ferocious birds, treacherous blowholes and bogs, and much else to keep him on his mettle.

Ursula Le Guin is a distinguished author of fantasies for older children. Her new novel, "Gifts", feels rooted in the folk tales of some distant, mythic tribe. The intricate plot is plainly yet absorbingly written.

Frank Cottrell Boyce has written a delightful and quirky thriller, set in Ireland, just before the introduction of the euro. "Millions" is quite unlike anything else recently written for this age group. The narrator, Anthony Cunningham of Year Six, has a direct and beguiling voice: funny, odd and compulsively readable. This is a story about money—how it arrives out of the blue, and how it needs to be to spent, fast.

More poignant and inward-looking is "Private Peaceful", a novel by Michael Morpurgo, Britain's children's laureate. A young private, trapped in the trenches during the first world war, reflects upon his peaceful rural childhood. The closer danger creeps, the more he faces backwards into the past to retrieve some sense of inner tranquility.

24. What should a good picture book for children not contain?

    (a) Quantum of words.

(b) Images should not be blatant.
(c) There should be a balance between words and images.
(d) Difficult concepts.
(e) All of above.

25. In Anu Stohner's "Santa's Littlest Helper"
(a) There is a story on morality about strangeness.
(b) There are horned monsters.
(c) both a and b.
(d) The words are spare and well chosen.
(e) None.

26. Which of these books is not listed in the passage?
I. "Gifts"
II. "Privately Peaceful"
III. "The Purple Emperor"
(a) I.
(b) II.
(c) II & III.
(d) I & II.
(e) None.

27. According to the passage, which of the following books has humour?
(a) "Christopher Mouse–The Tale of a Small Traveler".
(b) "Magical Children".
(c) "Gifts".
(d) At the Firefly gate.
(e) Enna Burning.

28. Which of the following books has been set in a time just before the introduction of the euro?
(a) Dark materials
(b) Freeglader.
(c) Private Peaceful.
(d) Millions.
(e) At the Firefly gate.

TEST 2

Passage 1

For something that was supposed to be the next global gold rush, the Internet sure seems disappointing. True, companies such as America's Netscape Communications Corporation that sell the technology for setting up shop on Internet's World Wide Web, are doing a land-office business and making immense paper fortunes in a bull market dazzled by the Web. But it's damned hard to find any of the prospectors who use those tools actually hitting pay dirt by selling merchandise and information or running advertisements on the Internet.

The horror stories of money-losing Web ventures are everywhere, including high profile fumbles by some of the premier names in media and communications. The biggest losers so far have been US companies, mainly because they plunged in early with money to burn. But players large and small, are now following in Europe and Asia. They're likely to hit red ink as well Take two US leaders, Time Warner and AT&T. Don Logan, the New York-based CEO of Time Inc., last year complained publicly that Pathfinder, Time's glitzy Web site, gives new definition to the term 'black hole'. Since then, Pathfinder has gotten new management, a facelift, and a plan to begin charging for some content. Now, Time Warner executives say the site will generate profits ahead of schedule.

Meanwhile, AT&T as part of an overhaul of its Web strategy, ended up killing an ambitious 'Health Site' before even finishing testing. MCI Communications Corporation's Internet shopping mall failed to lure tenants and is shuttered. No wonder the question being asked—ever more nervously by bankers, entrepreneurs, investors and corporate executives is: Can you make money on the Net? The answer is yes, but not a lot of it yet. The number of losers still exceeds the number of money makers by more than 2 to 1. But it turns out that while the corporate giants have been thrashing around noisily in cyberspace, showing how not to make money on the Net, scores of entrepreneurs have been quietly tinkering, creating new business models for retailing, marketing, publishing and advertising that work for them and could perhaps point the way to an Internet payoff. This first wave of profitable companies is proving that electronic commerce can work, that you can sell ads on the Web, and that at least sometimes, people will pay for online information. "Companies that are offering a unique business proposition on the Web can and will be successful," says San Francisco analyst Betty Lyter of Montgomery Securities.

One example is American jazz fan, Jason Olim. Frustrated by skimpy selections in music shops, he came up with the idea of a cyber store that could offer every jazz album made in the US and 20,000 imports. The beauty of it: no brick-and-mortar costs and no inventory. Shoppers place their orders

with CD*now*, which, in turn, contacts distributors. Most discs are delivered to the customer's door in 24 hours. Add in advertising revenues, and CD*now* expects to hit $6 million in sales in 1997, triple last year's revenue, with 18% operating margins. Says Jason Olim: 'We're dancing as fast as we can'.

In California, Peter Ellis was nearly wiped out by the deep recession of the early 1990s. He lost $15 million, when he was forced to sell off or close 16 auto dealerships. But last January, he was back in business on the Net. Auto-By-Tel, his new company, makes money by selling sales leads to auto dealers across America. For a monthly subscription fee of $250 to $1500, dealers get the names of Web surfers who have checked in at Auto-By-Tel and decided to buy at the listed "no-haggle" price. Some 1400 dealers use the system, and at the current growth rate, Ellis says he will return a profit of $6.5 million of revenues this year. "This thing is on fire", he says.

In Silicon Valley, veteran entrepreneur Jerry Kaplan thinks he has the right formula this time. His previous startup, a maker of handwriting recognition software called Go, went south in early 1994. In July, he launched ONSALE, an on-line computer auction. For a growing audience of computer-savvy consumers, bidding in the twice-weekly sale has become a ritual: part bargain hunting, part entertainment. By August, each auction was bringing in an average $445000, putting the company on an annual run rate of $45 million. What's more, ONSALE, with 10 to 20% gross profit margins, has been profitable since January.

Olim, Ellis, and Kaplan are not the only "Netpreneurs" who are making it big on the Web. In a June survey of 1100 US Web-based businesses, conducted by market researcher ActiveMedia, 31% claimed to be profitable, with 28% more saying that they will be in the next 12 to 24 months. Those surveyed accounted for $130 million in Web revenues in June alone. And this only reflects the average company on Net rather than the large companies, which are not included.

1. Active media is a firm _____
   (a) in the business of Internet service.
   (b) using Internet extensively.
   (c) involved in marketing research.
   (d) A web marketing firm.
   (e) None of these.
2. Auto-by-Tel is in the business of _____
   (a) selling auto spares.
   (b) selling automobiles at the 'no-haggle' prices.
   (c) selling addresses of people who are interested in buying an automobile.
   (d) selling addresses of those who have surfed the service on Net.
   (e) Selling cars on telephone.
3. The term 'Netpreneurs' has been used to address _____
   (a) individuals who have an access to the Internet.
   (b) entrepreneurs who take assistance from the Net for locating a supplier.
   (c) entrepreneurs who use the Net for their business advantage.
   (d) Entrepreneurs who run net busineses.
   (e) None of these.
4. To be successful on the net, you need to _____
   (a) be a successful businessman.
   (b) offer a unique business proposition.
   (c) have massive funds.
   (d) be renowned in the field.
   (e) Have an internet sales model.
5. Which of these sentences is true, according to the passage?
   (a) Netscape, completely robbed off, was back in the business on the net.
   (b) Peter Ellis, completely robbed off, was back in business on the net.
   (c) Even average companies are making huge money in business through net.
   (d) All of the above.
   (e) None of the above.
6. According to the passage, the MCI was looking for _____
   (a) shoppers.
   (b) electronic tenants.
   (c) physical tenants.
   (d) Customers.
   (e) None of these.
7. Which of the following sentences is incorrect, according to the passage?
   (a) Recession of the early 90s caused severe economic damages around the world.
   (b) Pathfinder's management got an upstart with the new definition of the term 'black hole'.
   (c) There is a sort of cacophony on the net because of the presence of a notion how to make money through the Internet.

(d) There are netpreneurs apart from Olim, Ellis and Kaplan.
(e) None of these.

Passage 2

Proton and Daewoo bid for Lotus and after a fierce battle, Proton bought Lotus, lock, stock, and sports cars for a total of $51 million. Why? Stop before you dismiss this as an irrelevant question and turn to the next story. The answer could have a link with India's much-won muddle at its largest car-maker, Maruti Udyog Limited (MUL). To understand why, you need to know about Proton and what Lotus means to it. Proton is Malaysia's number one car manufacturer, and it has announced an all-new product range that will be on the road by the turn of the millennium. Proton was set up by the government of Malaysia, in cooperation with Japan's Mitsubishi. The first Proton, fitted with the most modern Japanese technology, rolled off the production line in 1985, a year after MUL rolled out its first car. At present, its production capacity is over 180,000 vehicles, whereas MUL is nearly 300,000.

By 2000, Proton plans to increase production to over 400,000 cars a year. In just two years after the first Proton rolled out, the company started exports. Proton now exports to 32 countries, has sold over 80,000 cars in the UK and is easily one of the most successful importers there. Impressive? Yes. But can Proton sustain the growth? And whatever happened to Mitsubishi, the Japanese partner? The most important difference between Proton and MUL is that while the government of Malaysia wanted to build a national car and was ready to support it for as long as it was needed, MUL was the creation of a lobby of politicians. But first, let us concentrate on what the government of Malaysia did to ensure Proton's future. To start with, the Japanese never had more than 30 per cent stake in the company. Instead, the Malaysian government, which held the majority stake through a company called Hicon Holdings, was always ready to pay the Japanese any royalties they wanted. Mitsubishi began losing interest and now holds only a marginal stake.

But last year, Proton got a new owner. The 50-year old Tan Sri Yahaya Ahamad is the son of a forestry official who trained at Loughborough University as an automotive engineer, then returned to Malaysia to sell cars. He went from one success to another, and when the Malaysian government decided to sell the state owned Hicon Holdings, Yahaya was its man. He is now one of the biggest players in the rapidly growing Malaysian economy. A true technocrat, he saw no growth for Proton unless investments were made in research and development. The timing was perfect. Lotus, the legendary sports car maker and research firm that designs everything from Olympic medal winning cycles to Corvette engines, was up for sale.

It would take Yahaya and Proton lots of money to buy Lotus—in fact, fully double of what the previous owner Romano "Silver Fox" Artioli paid General Motors for the ailing firm just a few years ago. Too much was at stake for Artioli and with bailiffs knocking at the door, he was willing to part with 80 per cent of Lotus. The seeming simplicity of the deal may have had something to do with the size of the offer. For a company grappling with terminal cash-flow problems, an offer for 80 per cent amounting to roughly double the company's value three years earlier, was irresistible. Yahaya guaranteed Artioli a seat on the board of the new Lotus, committed himself to doubling the production of the Elise sports car, and expanding the contract engineering business.

The last was actually Yahaya's trump card. And now that Mitsubishi link was weakening every day, Proton needed all the services Lotus could offer. And Yahaya would try to maximize every penny of the $80 million that he had spent acquiring that controlling stake. A glimpse of things to come was seen at the Frankfurt International Auto Show '97, where Proton launched the stylish 1800cc coupe, combining high performance, responsive handling and lavish standard specifications. The concept is to explore the market developed by the South Korean giants by playing their own value-for-money game. So Proton, a former government owned company is emerging as a credible player on the competitive global car market. There are lessons in this for MUL. The problem with MUL was that the desire to make a national car came from the ruling Congress party. It wanted to pay homage to Sanjay Gandhi whose dream was an affordable automobile for the masses and one that was built in India. And those who worked feverishly to achieve that can be proud because MUL does make an affordable quality automobile in large volumes in India. But once the company was created, the need to protect it became so paramount that competition was not on the agenda in the start up period. To Suzuki, the partner, this was something new. Financially speaking, no partner can be better than a government and whatever difficulties Suzuki had to face were erased easily by government sops. So what started for Suzuki as a minor overseas operation, soon became its largest car plant outside

Hamamatsu. And India became a good money earner for Suzuki outside Japan, with 74.6 per cent of its global profits coming in from the Rs. 800 crore profit made by MUL in 1996–97.

The Maruti 800 became the benchmark car in India and a shooting yen prevented MUL from swapping the model from Alto nee Zen, the same car made an entry in India as a classier hatchback and a replacement market car. And the 800 cc continued to reign supreme. Credit must go to MUL and Suzuki for indigenising the car and making it one of the cheapest in the world—it retails well under US $10000 mark. But Suzuki fast became complacent and with the stake of the company raised to 50 per cent from a mere 26 per cent in 1992, it became ever more so. Nowhere in all this did the government think of setting up an R&D wing big enough to develop newer designs or at least revamps, without going to Hamamatsu. To be fair, Suzuki never voiced the need for an in-house MUL R&D.

8. Which of the following sentences is correct, according to the passage?
   (a) Lotus was taken over by Proton so as to be able to offer a new product range.
   (b) Lotus was taken over by Proton for increasing its cash balance.
   (c) Lotus was taken over by Proton for contract engineering expertise.
   (d) (a) & (b) both.
   (e) a, b & c.
9. Which of the following statements is correct, according to the passage?
   (a) Hicon Holdings was a Malaysian Government owned company.
   (b) Maruti Udyog Ltd. belongs to the joint sector.
   (c) Proton is an internationally competitive company today.
   (d) a & b.
   (e) None of these.
10. As per the passage, Maruti Udyog Ltd. has been successful because:
   (a) It was created by a lobby of politicians.
   (b) It had the protection of government regulations.
   (c) It catered to 70% of the Indian market.
   (d) It created a national car for the requirements of the common Indian.
   (e) It was technologically superion than its competitors.
11. As projected by the passage, the MUL has nurtured the interest of_____
   (a) Indian polity
   (b) Indian economy
   (c) Suzuki's profits
   (d) India's growth story
   (e) None of these
12. The major difference between the Proton and MUL has been
   (a) the political backing.
   (b) the Japanese Collaboration.
   (c) the emphasis on R&D efforts.
   (d) The use of technology.
   (e) None of the above.
13. Which of the following sentences is incorrect, according to the passage?
   (a) The realization of Maruti cars in India is in consonance with the dream of the late Sanjay Gandhi who desired to have an affordable automobile for the masses.
   (b) The contribution of Suzuki Motors towards indigenising the car is noteworthy.
   (c) A high performance & efficient 1800 cc coupe was launched to explore the South Korean market.
   (d) The Maruti 800 became the benchmark car in India.
   (e) None of the above.

Passage 3

Sheepish scientists now admit that the first and most famous cloned animal, Dolly, is probably growing old before her time. It is reported that Dolly suffers from arthritis in one of her hind legs. Created from a cell taken from an adult ewe's mammary glands by Ian Wilmut and his team of scientists at the Roslin Institute in Scotland five years ago, Dolly created ripples in frontier biotech research. Hundreds of such cloned animal foetuses created before Dolly were found to be either abnormal or incapable of survival or both. Now, sceptics point out that Dolly's arthritis at so young an age is proof of the untenability of the cloning technique itself. In Dolly's case, they say, the issue at hand is premature ageing; in others, however, the consequences could be much more

complicated and serious. Anti-cloning activists are quick to point out that the dangers of serious side-effects would be similar in human clones—making the entire technology highly questionable. Dolly's limping back into the limelight has opened up a fresh debate on the pros and cons of using cloning techniques to create new embryos, stem lines and tissues, whether animal or human. "The cloning process still has some problems producing a true copy of donor animals", admits a Japanese scientist based in Tokyo. He also concedes that the animals might indeed develop health problems in the future.

Dolly's creator, however, is optimistic. According to him, only systematic studies could help us overcome all these difficulties as there is no way of knowing whether Dolly's arthritis is due to cloning, or whether it is an unrelated occurrence. Scientists say that it is unusual but not unknown for a five-and-a-half year-old sheep to develop arthritis. "It should keep a lot of us in business for a long time," he says. Dr. Wilmut had earlier come out strongly against extending cloning to human embryos, as he felt that the nascent technique ought to be perfected and understood in animals before being extended to humans. Dolly's premature ageing, however, was not entirely unexpected as it was revealed—soon after her birth—that she had very short telomeres for a newborn. Produced during embryonic development, telomeres are the nubs that cap the ends of chromosomes rather like shoe-lace ends. As the cells mature and divide with growth, the telomeres crumble and eventually, when the erosion is complete, the cell dies. Dolly's shortened telomeres are attributed to the fact that she was made using genetic material taken from a six-year-old ewe, making her technically as old as her 'Mom'. As such, Dolly's ageing should not be taken as a representative example of how cloning technology can go wrong. The case should be treated as pointer to the complexities involved and could provide guidance for the future. The therapeutic value of cloning to create stem cells and tissues to treat terminally ill patients is too important to be dismissed summarily. An independent assessment of the long-term health of cloned animals worldwide would be a step in the direction towards greater understanding of the effects of the new technology.

14. Which of the following statements about Dolly is correct?
    (a) The cell taken from the ewe's mammary gland in Scotland created ripples, as the famous clone Dolly was born.
    (b) Dolly's body being prone to disease attests the unfeasibility of the cloning technique.
    (c) Premature aging could be the factor causing Dolly's abnormalities.
    (d) Dolly's arthritis is a proof of the fact that cloning is untenable.
    (e) All of these.
15. Which of the following sentences matches with the opinion of the scientist about the newly cloned sheep?
    (a) The cloning process is completely impeccable.
    (b) The cloning process has got many side effects.
    (c) Medical science failed to detail any clarification with respect to the abnormalities besetting Dolly.
    (d) The cloning process is still not impeccable.
    (e) None of these.
16. Which of these sentences relates to the opinion of Dr. Wilmut?
    (a) Dolly's premature ageing was revealed after a long time after its birth.
    (b) Cloning has to be first perfected in animals before being extended to human beings.
    (c) Dolly's premature ageing was due to short telomeres.
    (d) b & c both.
    (e) None of these.
17. With of which of these subjects is the passage related?
    (a) Science.
    (b) Zoology.
    (c) Genetics.
    (d) Medicine.
    (e) Social & Medical effects of cloning.

Passage 4

A new US study has warned that adolescents who take performance enhancing anabolic steroids are more likely to have adverse neural and behavioural consequences, like aggression and moodiness because of the steroids affect on the underdeveloped brain and the nervous system. The study, by Northeastern University in the US, centred around a brain chemical called serotonin, which is linked to mood. Lower levels of serotonin are associated with depression and aggression. For the study, experiments were carried out on a

strain of Syrian hamsters. This breed has similar neurological circuitry to humans, so experts felt it might be a good model for humans in this respect. The hamsters were given a high dose of anabolic steroids over the course of a month—which corresponded to five years, repeated dosage in humans. The researchers found that the hamsters were more aggressive than those not given steroids and these aggressive tendencies were mellowed if Prozac—a drug which boosts serotonin "uptake"—was given. However, subsequent analysis showed significantly lower than normal serotonin levels in the neural connections of the hamster's brains. This suggests there may be a longer-term effect of taking steroids while the brain is still developing. Professor Richard Melloni, who helped run the study, was quoted as saying by BBC: "We know testosterone or steroids affect the development of serotonin nerve cells, which, in turn, decreases serotonin availability in the brain. The serotonin neural system is developing during adolescence and the use of anabolic steroids during this critical period appears to have immediate neural and behavioural consequences."

18. Why do adolescents develop neural disorders?
    (a) The effect of steroids hampers the growth of the brain.
    (b) Prozac, if taken in excess by adolescents, makes them aggressive.
    (c) Due to a decrease in the level of serotinin in the blood.
    (d) Steroids effect the under developed brain more.
    (e) None of these.
19. Which of the following sentences is true, according to the passage?
    (a) Adolescents are more likely to have neural and behavioral disorders.
    (b) Depression and aggression are caused by a lower intake of serotinin.
    (c) Those taking steroids are likely to face long-term neural and behavioral implications.
    (d) Higher serotonin intake is good for brain function.
    (e) None of these.
20. The drug that boosts serotinin uptake is _____ .
    (a) Prozac.
    (b) Melanin.
    (c) Erythrocytes.
    (d) Penicillin.
    (e) None of these.
21. Upon which breed of mammals were the experiments carried out?
    (a) Sicilian gangsters.
    (b) Italian hamsters.
    (c) Syrian hamsters.
    (d) Adolescents.
    (e) None of these.
22. The thrust area of the research mentioned in the passage was _____.
    (a) The effect of serotinin on the human brain.
    (b) The effect of high doses of anabolic steroids.
    (c) The immediate neural & behavioral consequences of the use of anabolic steroids.
    (d) The development of the serotinin never cells.
    (e) All of the above.
23. Why were Syrian hamsters considered for the experiments?
    (a) They were similar to humans in their metabolic function.
    (b) They were easily available.
    (c) They have a similar neurological circuitry as Human beings.
    (d) The effect of steroids on them is similar as on human beings.
    (e) a, c & d.
24. The passage could be best described as
    (a) Curative.
    (b) Scientific.
    (c) Instructive
    (d) Suggestive.
    (e) Speculative.

TEST 3

Passage 1

No Less a person than Mr. N. Vittal, Central Vigilance Commissioner, has observed about this book as follows: "Mr. K. L. Malhotra who had worked in the Central Vigilance Commission has rendered an immense service to all those connected with the administration of vigilance in Government Organisations".

As observed by the author in his introduction "one of the main functions of the state is maintenance of law and order, right of equality before law and to prevent abuse of power given by law and ensuring correct application of law. This can be ensured by watchfulness, caution and vigilance. As such, the Central Government has enacted a number of laws dealing with corruption and has also constituted the central vigilance commission."

Quoting Kautilya, the author says: "Just as a fish moving deep under water cannot be possibly found out either as drinking or not drinking water, so, government servants employed in government work may not be found out while taking the money for themselves. It is possible to ascertain the movement of birds flying high up in the sky but it is not possible to ascertain the movement of government servants or their hidden purposes. Kautilya, in his *Arthashastra*, further says just as it is impossible not to taste a drop of honey or poison that is placed at the tip of the tongue, so it is rather impossible for the government servant not to eat up at least a bit of the king's revenue."

The introductory paragraph gives out not only the facets of corruption but also the facets of vigilance. It also deals with the functions and powers of the Central Vigilance Commission, constituted by a recent Ordinance passed by the Government of India. The author takes us through the Central Vigilance Commission Ordinance 1999, its constitution, working, function and other features. According to the author, vigilance means watchfulness or to bring awareness. It is an integral part of all government institutions.

The consultation with the commission, according to the author, ensures that a public servant who is guilty will not escape punishment and no innocent public servant will be punished. It provides independent and unbiased advice after making the proper assessment of the cases. Also, the functions of the commission are purely advisory. Final decision as to whether advice should be accepted or not rests with the competent authority. However, whenever there is any departure from the commission's advice, the reasons for doing so should be promptly intimated to the commission. The proceedings will be reflected in the annual report of the commission.

Cases will be referred to the commission at the level of the CVO, who is normally of the status of deputy secretary and above in respect of ministries and departments. The author, by giving out the full details of the functions of the commission, has helped the staff of the government commission attorneys and lay public.

Normally, according to the author, the commission's advice is required in all matters having a vigilance angle in which a public servant of the Central Government or the administration of a Union Territory or an employee of a public sector undertaking or a nationalised bank or an autonomous body or a registered society is involved. The author has categorised what is vigilance angle.

The role of the CVO has been succinctly explained. He is accountable to the secretary of the department and high-level officers of other institutions covered by the Act. As prevention is better than cure, the commission has the power to call for reports, returns and statements from all ministerial departments, institutions categorised in the ordinance and the commission advises the ministry, based upon exigencies and circumstances. Lot of paper work is involved in maintaining registers as listed by the author.

The second chapter and chapter 24 of the book deal with the institution that has become very famous, indispensable and much sought after. When and how the CBI was set up, its composition, its powers and jurisdiction, are explained threadbare. Discussions on the above aspects reveal the deep study and pains taken by the author in disclosing to the readers the importance of the CBI. The features of the Prevention of Corruption Act have been furnished in this chapter. The strength, functions, jurisdiction and achievements of the chief technical examiners' organisation and that of the chief vigilance officers, including their role and other aspects are given in chapter four. The chief vigilance officers are the eyes and ears of the Central Vigilance Commission. In fact, a CVO is an extended arm of the commission, says the author.

Supported by case laws, he gives a clear picture of as to what constitutes misconduct in chapter five. An exhaustive list is there. Further, in the chapter captioned "Conduct rules—a comparative study," he again deals with misconduct where cases of moral turpitude, sexual harassment, demonstration of strikes, criticisms of the government, gifts and acceptance of dowry are discussed in detail. Comparative study of misconduct by employees in government service, public sector institutions and banks, all about complaints, investigations, investigation techniques and disposals of complaints can be found in chapters six, seven and eight.

Delays in disposals of files are everywhere. How the delay occurs in this field and what dilatory tactics are adopted makes interesting reading. "Suspension" is an administrative action. It is not a recognised penalty but it leaves a deep stigma on the government servant's entire service career,

even though he may be exonerated afterwards. "No show cause notice is necessary to make a speaking order" so observed the Supreme Court in a case. A separate chapter has been assigned to explain how the CBI works to catch corrupt officials by laying traps. This chapter, apart from being interesting, is instructive to the staff of the persons involved in investigation of crimes. A separate chapter dealing with white-collar crimes discloses that it is the educated who commit more crimes in ingenuous manner. I will be failing in my duty if I do not refer to a case referred to by author. "Once a senior officer was approached by a contractor to show favour in the award of a particular contract, in his favour, on consideration. His P.A. had shown the file to the contractor where the officer had written 'approved'. The contractor was pleased that the work was got done with the fraction of the 'settled amount.' The officer did not release the file, as the settled amount had not been paid. He called back the file and recorded 'not approved'. The contractor again approached the officer with the plea that he had gone out of station, due to the death of his mother-in-law. When the amount was paid, he (the officer) added one 'e', 'Note approved'. When that note sheet was tested in CSFL it could be easily proved that 'Not' was added afterwards, and 'e' was entered subsequently, by ultra violet rays".

Chapters 27 to 33 are additions to this edition of this book. Features of the Information Technology Act are given in chapter 28, which gives full details of cyber fraud and abuse. He says "Cyber space is regarded as lawless Wild West for investment swindlers." Instances of certain crimes are given.

The next chapter, "Computer fraud prevention and detection and Internet fraud—how to avoid Internet scam" is very important which no reader can miss. Days are not far off as cyber crime will be the prime crime in our country. There are 103 appendices as against 65 in the previous edition. Though the author has captioned the book as "Facets of vigilance — prevention to prosecution", it is an exhaustive study of the subject.

1. According to the passage, government servants are
   I. fishes and birds.
   II. fish and poison.
   III. birds and poison.
   (a) Only I is correct.
   (b) Only II is correct.
   (c) Only III is correct.
   (d) None is correct.
   (e) I & III are correct.
2. According to the author, vigilance is the duty of _____ .
   (a) the Central Vigilance Commission.
   (b) the central government.
   (c) the central government and all state governments.
   (d) all government institutions.
   (e) All government institutions & the public at large.
3. It can be inferred from the passage that
   (a) it is not impossible to predict the true character of government servants.
   (b) the author doesn't believe that government servants are not corrupt.
   (c) government servants eat up a large share of government revenues.
   (d) the behaviour of government servants are similar to the behaviour of birds.
   (e) Corruption is an integral part of governance.
4. According to the passage, all of the following are not true, except:
   (a) CVC can punish public servants who are guilty.
   (b) The discretion of accepting or rejecting the recommendations of the CVC lies with the government.
   (c) In certain circumstances, CVC's advice is binding for the government.
   (d) The government cannot take action on its own, against a government servant who is guilty.
   (e) None of these.
5. According to the passage, the term "the institution" refers to
   I. CVC
   II. CVO
   III. CBI
   (a) Both (I) and (II).
   (b) Only (I).
   (c) Only (III).
   (d) Only (II).
   (e) (I), (II) and (III).

Passage 2

AMONG the several citrus fruits, acid lime is one of the most prolific yielder, and this crop can be profitably grown in the tropical plains and hillslopes with scant water resources. It

comes up well in sandy loam rich in organic residues and endowed with adequate drainage. Good quality grafts are ideal for raising a healthy and productive lime garden. The grafts yield true-to-parent plants of high yielding potential, and are early bearers. They also bear big fruits all through the year. However, the longevity of the grafts is less as compared with the trees developed from the seeds, according to experts. Seeds extracted from healthy fruits from proven mother plants will develop into robust plants with longer life. The main field should be thoroughly tilled, and ripe farmyard manure should be incorporated well with the final ploughing and land levelling. Green manuring will also help in increasing the soil's organic matter content, and in improving the soil structure.

A spacing of 6 m by 6 m is recommended for raising acid lime plantation. Pits of 90 cm by 90 cm are to be dug, and filled up with adequate quantities of vermi-compost, coir-pith compost and small amounts of powdered neem cake and bio fertilizers. About 250 plants can be accommodated in a hectare. Regular irrigation is essential in the early stages of crop establishment. Drip irrigation, pitcher irrigation and micro-sprinklers have been found to give good results, besides saving considerable quantities of water and energy.

In the initial months after planting, sufficient shade should be provided to protect the tender seedlings and grafts from harsh sun. Planting Sesbania (agathi) around the young plants will be effective in ensuring the required shade, besides enriching the soil. Several annual crops such as pulses and vegetables, can be raised as intercrops in the initial years. The plants should be trained to grow vertically by discouraging the lateral shoots and other growths. Regular pruning to get the desired dome-shape should be done when the plants are still young.

The field should be kept free of weed and other unwanted vegetation. Regular manuring should be done twice annually. The nutrients mostly organic in nature, should be incorporated at the base of the plants, and watered immediately.

The plants particularly respond well to liberal application of organic amendments. The micro-nutrient deficiencies will not be noticed in acid lime plantations raised with rich organic nutrients. Plant protection is an important aspect in acid lime cultivation. The plants should be sprayed with cow's urine, vermi-wash and other botanical insecticides to ward off leaf-munching caterpillars and other sucking and chewing pests.

Need-based application after monitoring the field for pest incidence will be rewarding. Spraying should be taken up at an interval of ten days, and it will also improve the fruit setting and fruit development. The plants will establish well and start yielding from the second year of planting. Though the fruits can be had all round the year, some major flushes can be harvested in December–January and July–August seasons.

A well nurtured grown-up tree can yield as high as 3000 fruits a year. The profit for the growers depends on the season and the prevailing market rate. With an average price of Rs. 0.35 a fruit, a farmer can realize about Rs. 2.5 lakhs from a hectare of a healthy and well-tended acid lime garden.

6. It can be inferred from the passage that
   I. The quality and size of fruits depend upon the longevity of the plants.
   II. The yield of grafts is less as compared to the trees developed from the seeds.
   III. There is not much of a difference between grafts and the trees developed from the seeds, except in life.

   (a) (I) and (II)
   (b) Only (II)
   (c) Only (III)
   (d) Only (I)
   (e) (I), (II) and (III).
7. For a good growth of acid-lime crop, all of the following are essential except,
   (a) rich residues of organic nutrients;
   (b) good irrigation with adequate drainage;
   (c) water-logged tropical plains;
   (d) hill slopes with poor water resources.
   (e) None of these.
8. The author of the passage could be
   (a) a farmer.
   (b) an agricultural expert.
   (c) an agricultural activist.
   (d) an analyst.
   (e) An environmentalist.
9. Which of the following is necessary for the nascent crop?
   (a) sufficient shade.
   (b) regular irrigation.
   (c) regular manuring and application of organic nutrients.
   (d) Sufficient sunlight.
   (e) Both (a) and (b).

10. The most appropriate insecticide for acid-lime crop is
    (a) vermi-compost.
    (b) powdered neem.
    (c) cow's urine.
    (d) organic residue.
    (e) Cow dung.

Passage 3

Mohammed Akber Ali and Shrikanth Sriram, the London duo known as Badmarsh & Shri, don't do scenes. They figured that out soon after the release of their first CD, Dancing Drums, in 1998. The duo was waiting to play at a London night spot packed with would-be hipsters desperate to get a hit of a new music genre—dubbed "Asian underground" but often consisting of little more than DJs sampling Indian folk music over drum-'n'-bass beats—that was then the rage in U.K. clubs. "There was a band on before us," Sriram remembers. "And a couple of Asian guys came on with sitars. They didn't even know how to hold them. They twanged one note, and the crowd goes, 'Yeah, this is Asian underground.'

After two notes, they put down the sitars and out came the rock guitars." To Sriram, a 32-year-old Bombay native who grew up surrounded by classical Indian music, it was too much to bear. "I thought, this doesn't make any sense," he says. "I'm not a part of this movement. The further we stay away from it the better."

They made the right choice. Since distancing themselves from the manufactured sounds and styles of London's Asian club scene, the duo has created its own, highly original kind of music. It's a sonic masala of traditional tablas, sitars, flutes and strings stirred together with just about every spice in the Western pop pantry, including drum 'n' bass, garage, funk and reggae. All the elements are on display on Signs (Outcaste), their thrilling second CD. "This music works as well in Norway as it does in London or New York," Sriram says. "People like to get their heads blown apart." Says Ali: "We're not making music in a particular genre for a particular group."

In that sense, Badmarsh & Shri belongs to a generation of young British-Asian acts, from Nitin Sawhney to Cornershop, who have emerged from the ethnic underground to make music that bends—and transcends—traditional pop categories. South Asian culture suffuses almost every facet of modern British life: Bollywood movies outdraw West End musicals, and curry is the national cuisine. Now, with the novelty of the "Asian underground" fading, Asian musicians are demanding recognition as mainstream British artists with global appeal. Talvin Singh, the critically acclaimed London-based DJ and tabla virtuoso, says British-Asian pop "is the music of today. Whether it's underground or overground, it's creating a new spirit and science of making music."

Badmarsh & Shri are an unlikely team: the Yemeni-Indian Ali, 34, grew up in East London listening to black dance music before becoming a DJ; Sriram, who moved to London from India in 1997, plays bass and has tastes that range from Rush to Herbie Hancock. After meeting in 1998, they decided to record together—Ali spinning and mixing, Sriram laying down bass lines and melodies—and within a month they had finished Dancing Drums. "Shri became my human sampler," Ali says. "Instead of sampling from vinyl, I sampled from him."

Signs closes with Badmarsh & Shri's sparest song to date: Appa, which features Sriram's father, T.S. Sriram, playing a delicate sitar raga, backed by the Strings of Bombay. Sriram included the song on the album not only as a homage to his father but also as a retort to those pretenders—the guys who couldn't hold their sitars properly—who once populated the so-called Asian underground. "I thought I'd show people what real sitar can sound like," he says. "Even my father says he never knew he could sound that good."

11. According to the passage, what does "Asian Underground" stand for?
    (a) Indian folk music.
    (b) A music group formed by Asians.
    (c) A band.
    (d) A type of music.
    (e) An Indian curry.
12. According to the passage, the appeal of Sriram's music seems
    (a) universal.
    (b) limited.
    (c) selective.
    (d) localized.
    (e) limited to the Asian British.
13. According to the passage, which of the following is true?
    (a) The duo has created a totally original kind of music.
    (b) The duo has totally abandoned the manufactured sounds.

(c) The new music is totally devoid of any traces of Indian folk music.
(d) The current trend in music is a mixture of two kinds of music.
(e) The new music is liked only by Asians.

14. According to the passage, the duo Badmarsh and Shri can be said to be
(a) totally compatible to each other.
(b) totally incompatible to each other.
(c) a totally unlikely combination.
(d) a successful pair.
(e) An eccentric couple.

15. It can be inferred from the passage that
(a) British culture no more influences the modern British life.
(b) British culture is now less influential than the Asian culture.
(c) South Asian culture has now defeated British culture on its own soil.
(d) South Asian culture is becoming more and more a part of the British society.
(e) Both b & d.

Passage 4

Room 46 in the West Bengal legislative assembly complex is called the 'Bejoy Kumar Banerjee Hall.' Few would recognise his name today but for 38 years he made the headlines in every Indian newspaper. What he said and did in 1967 are relevant to the events of today.

The West Bengal of 1967 presented as confused a picture as the Goa, Jharkhand, and Bihar of today, no party having won a clear majority in the assembly election. Ajoy Kumar Mukherjee, leader of a group of Congress defectors, joined hands with the Marxists to form the United Front. The coalition ministry was involved in a running battle with Governor Dharam Vira from the first. It did not last very long, the exasperated governor kicking out the United Front to install the Progressive Democratic Alliance that was led by Dr P C Ghosh.

It was at this point that Speaker Bejoy Kumar Banerjee entered the picture. The Speaker refused to recognise the new regime, ruling it was the exclusive power of the House to make and unmake ministries. Efforts to do so behind the back of the assembly were, he declared, unconstitutional and invalid. The P C Ghosh ministry threw in the towel, there was a bout of President's Rule, and the Ajoy Mukherjee-led United Front returned in 1969.

Many think that politicians should be barred from becoming governors. It may interest them to know that Dharam Vira was no politician, he had been one of India's most distinguished civil servants, efficient and incorruptible. He was genuinely concerned about the deteriorating situation in West Bengal; the Ajoy Mukherjee ministry was so spectacularly incompetent that the chief minister once sat on a *dharna* outside Writers Building against his own government! But the Speaker was equally correct in upholding the authority of the assembly.

Both Dharam Vira and Bejoy Kumar Banerjee could legitimately claim that they were working in West Bengal's best interests. Nobody would buy that excuse from Governor S C Jamir, the former Speaker Vishwas Satarkar, and Speaker Pro-tem Francisco Sardinha. Does anyone think S C Jamir had no role to play in the fall of the BJP-led Manohar Parikkar ministry? Speaker Satarkar sought to counter this by disqualifying an MLA just before a crucial vote in the assembly.

Finally, Speaker Pro-tem Sardinha stretched the powers of his post to the limit by ordering the ouster of an MLA from the BJP side.

The sad part is that it was actually politics as usual up to the point where Francisco Sardinha entered. S C Jamir is scarcely the first governor to be partial to one party. There are even precedents of a Speaker playing fast and loose with the rules. (The governor would have been justified in recommending President's Rule after Satarkar's timely disqualification of the pro- Congress Philip Neri Rodrigues.) But what the Speaker Pro-tem did was in a class of its own. It opened the door to manipulation on a different scale.

Every assembly—even the Lok Sabha come to that—starts proceedings with a Speaker Pro-tem being nominated. That nomination is the gift of the executive wing, not of the legislature. Imagine what might happen if other Speakers Pro-tem follow Sardinha to disqualify 'inconvenient' members. You could face a situation where an electoral verdict is overthrown before all the legislators have time to read the oath.

A governor serves at the pleasure of the President. A Speaker is elected by the legislature over which he presides, and he may be removed by its members. But who is to check abuse of power by a Speaker Pro-tem? Sitaram Yechury says

the Left disapproves of all legislative problems being dumped into the judiciary's lap. In principle he is correct, but who else can lay down the law to prevent the disgusting antics we saw in Goa?

The Supreme Court stepped in to tell Governor Syed Sibtey Razi that it was setting a date for the vote of confidence in the Jharkhand assembly. It told 'Chief Minister' Soren that he could not have one of his pets sitting there as a nominated Anglo-Indian member. I pray that it also lays down broad guidelines on the powers of a Speaker Pro-tem.

But what of those Speakers, properly elected and not serving pro-tem, who act as tools of the executive wing? The position of a Speaker was spelt out on January 4, 1642 when King Charles I came in person to arrest five MPs from the House of Commons. Not finding them, he asked the Speaker where they were. William Lenthall, famously replied, 'I have neither eyes to see nor tongue to speak in this place but as this House is pleased to direct me, whose servant I am here.' Speaker Bejoy Kumar Banerjee was a man cast in the same iron mould; others, I am afraid, have been far more accommodating to the executive branch.

I recall something Dr Ambedkar said long ago. After pointing several perceived flaws in the Constitution, his interlocutor asked Babasaheb how long such a body of laws could last. He replied soberly, 'Good men can make even bad laws work to the common benefit, but bad men will abuse even the best Constitution.' In the ultimate analysis, it is for us voters to see that only the best people get elected. If we are swayed by prejudice, then let us resign ourselves to more Satarkars and Sardinhas.

16. Governor Dharmavira was_____
    (a) prejudiced with the existing government.
    (b) trying to save the interest of West Bengal.
    (c) against the then speaker Bijoy Kumar Banerjee.
    (d) trying to gain political favours.
    (e) a shrewd politician.
17. Who had to sit on a Dharna outside Writer's Building against his own goverment?
    (a) Bijoy Kumar Banerjee
    (b) Dr. P.C. Ghosh
    (c) Ajoy Kumar Mukherjee
    (d) Vishwas Satarkar
    (e) None of these.
18. According to the passage which of the following is correct?
    (a) The P.C. Ghosh ministry was inefficient right from the start.
    (b) The left approves of all powers being held by the judiciary.
    (c) Dharam Vira had worked for the interest of his political bosses.
    (d) The Supreme Court has given directives about all speakers Pro-tem.
    (e) S.C. Jamir is not the first governor to be partial towards a particular political party.
19. The ultimate fate of Indian Democracy is in the hands of_____
    (a) the speaker of Lok Sabha.
    (b) the president of India.
    (c) we, the people of India.
    (d) the Supreme Court of India.
    (e) The politicians & the bureaucrats.
20. The style of working of William Lanthall of the house of Commons was similar to the style of which of the following Indian politicians?
    (a) Sitaram Yechury.
    (b) Ajoy Kumar Mukherjee.
    (c) Vishwas Satarkar.
    (d) Francisco Sardinha.
    (e) None of these.
21. Who holds the exclusive power to make and unmake ministries?
    (a) The Executive.
    (b) The Legislature.
    (c) The Judiciary.
    (d) All of the above.

TEST 4

Passage 1

Samar Elhamalawy didn't know what was wrong with her little son. But when Mahmood was nine months old, he suddenly lost interest in walking. He reverted back to crawling, from standing and cruising along the couch. "He just started to deteriorate," the Hamilton mother of two recalls. A few months later, she worriedly asked her family doctor why he had so few teeth. Then, at 14 months old, the little boy took two steps, fell down and broke his arm.

Within a month, Hamilton bone specialists diagnosed Mahmood with rickets, a bone-weakening disease caused by vitamin D deficiency.

Looking back a century, the slums of New York and London teemed with children whose weak, spindly limbs and bowed legs testified to their D deficiency. (Tiny Tim, the character in Charles Dickens's *A Christmas Carol,* was a likely case.) The disease all but disappeared after the 1920s, when doctors realized it could be cured by sun exposure and fanners began fortifying milk with vitamin D.

But lately, the malady has been making a comeback. That's bad news, and not just for kids: Nowadays scientists are linking low levels of D to cancer, hypertension, diabetes, multiple sclerosis, osteoporosis and inflammatory bowel disease.

"More and more evidence is mounting that vitamin D plays an absolutely pivotal role in all aspects of human health," says Michael Holick, a Boston University medical-school professor who has spent the past 30 years researching the subject. He believes we're living amid an unrecognized epidemic of vitamin D deficiency. One of Canada's leading vitamin D researchers, Reinhold Vieth, a clinical biochemist at Mount Sinai Hospital in Toronto, speculates, "In the next ten years, vitamin D will knock C and E off the shelves."

Researchers used to think D's main value was in building strong bones. But new research shows that this humble nutrient is far more versatile. Unlike other vitamins, D isn't found in much we eat—aside from fortified milk and cold-water fish such as cod. Instead, most of it is supplied by the sun. The process begins when a molecule in the skin called 7-Dehydrocholesterol reacts to ultraviolet light and turns into vitamin D. It then travels to the liver, where it picks up extra molecules of oxygen and hydrogen. This process transforms the skin molecule into a potent prehormone called calcidiol.

Scientists now think many tissues in the body—not just the liver—can convert the calcidiol to make their own calcitriol, the active disease-fighting compound of vitamin D.

Let the sun bake your unprotected arms and face for a few minutes a day and you'll make all the D you need—it sounds simple. But combine Canada's short summers, indoor lifestyle, sun-blocking pollution and the fact that even sunscreen with an SPF of 8 reduces D absorption to virtually nil, and many of us end up falling short. A study conducted by Vieth of 435 young women found that one third of them had low enough levels of vitamin D in their blood over the winter to reduce the amount of calcium in their bones. While you can get some D in the spring and fall, summer in Canada is the best time to stock up (your body can store D for several months). Forget about winter. "From early October until late March, the ultraviolet light you get in a city such as Edmonton is not enough to generate vitamin D," says Vieth.

People who live in the northern reaches of Canada, where the sun barely makes an appearance all winter, run the highest risk of vitamin D deficiency because they have short, cool summers. (You'll absorb more D wearing a swimsuit than you will sporting long pants and long sleeves.) Native people living at high latitudes are even worse off. The vitamin is absorbed through the skin, and people with darker skin types tend to be more deficient. Dr. Leanne Ward, an Ottawa pediatrician with an interest in rickets, is surveying pediatricians across Canada to find out how prevalent the condition is. Her preliminary results suggest it's more common in dark-skinned babies. Meanwhile, the elderly tend to be at higher risk for D deficiency because they tend to avoid sunshine.

One result of the growing D deficiency is more and more rickets cases each year. Doting parents are doing exactly what they should: breast-feeding their infants and keeping them out of the sun. But experts recommend that breast-feeding mothers should consult their pediatricians about D supplements. "Mahmood was born in January and wasn't exposed to a lot of sunlight," says his mother, Samar. His dark skin probably didn't help. But after a month on vitamin therapy, the little boy bounced back and started walking. By 22 months of age, seven months after starting treatment, tests showed no trace of bone problems.

What really worries D experts, though, is what Mahmood's deficiency may represent: huge chunks of the world's population living with a chronic lack of D, which boosts the risk of serious illnesses. At the top of the list?

Cancer. The cancer theory got its legs in 1980 after Frank and Cedric Garland, epidemiologists and brothers, were struck by maps showing that the rate of colon cancer was about twice as high in the cloudy northeast United States as in the south. The pattern could not have been clearer, recalls Cedric Garland, now a professor at the University of California, San Diego. The Garlands and their colleague Edward Gorham were the first to suggest that differing D levels might account for the phenomenon. Later studies supported their hunch: People who consumed the most

vitamin D or had the highest levels of D in their blood had a lower risk of colon cancer.

Researchers are also probing links between prostate, breast and ovarian cancer and a lack of sunshine and vitamin D. Julia Knight, an epidemiologist at Mount Sinai Hospital in Toronto, is currently working on a survey asking women with breast cancer about their diet and sun-exposure history. "We know sunnier places have lower breast-cancer rates compared with more northern countries," she says. "But we want to see if dietary sources, particularly vitamin D supplements, have a protective effect."

The idea that cancer and D are linked makes sense biologically, explains Gary Schwartz, an epidemiologist at Wake Forest University School of Medicine in North Carolina who has studied the role of D in prostate cancer. Prostate cells, he has shown, produce the hormone calcitriol, which can act as a brake on cell growth. When the cells can't get enough calcidiol to make calcitriol, it's as if the brake lines are cut, he reasons. The cells can multiply uncontrollably, and cancer results.

Other experts are not convinced. "If there's a mechanism that retards cell division, you could see that might stop the division of some early cancer cells," says Michael Archer, chair of the Department of Nutritional Sciences at the University of Toronto. "But I believe we need more studies to verify the link between cancer and vitamin D."

Still, Schwartz is convinced enough by the data that he is not only administering but also participating in a study in which healthy men are taking high doses of vitamin D to see if it prevents prostate cancer.

Next, Diabetes. People in Finland, where the sun shows its face for only a few hours a day during winter, have the world's highest incidence of Type 1 diabetes. But Scandinavian researchers there have found that giving infants, or even pregnant women, vitamin D reduces their risk for the disease. In one study tracking 10,000 children, researchers found that those who got regular doses of vitamin D as infants were about 80 percent less likely to later develop Type 1 diabetes than those who did not get enough.

Animal studies offer support: Mice bred to develop diabetes are far less likely to get it if they are given vitamin D from birth. It's not clear how D does the job. But Type 1 diabetes is an autoimmune disease, and in research, D can suppress certain immune cells. So the vitamin may help by preventing destruction of the cells that produce insulin.

Next, Hypertension. It's long been known that a population's average blood pressure rises the farther the country is from the equator. That's not just a matter of the laid-back tropics versus the urban grind, according to Boston University's Holick. He recruited 18 volunteers with mild hypertension and put them under ultraviolet lights for at least six minutes, three times a week. After six weeks, the amount of D in their systems had more than doubled and their blood pressure had dropped significantly—to normal for some. The lights may work, says Holick, because they boost calcitriol production by the kidneys, and calcitriol clamps down enzymes that cause blood vessels to constrict, a major cause of high blood pressure.

Next on the list, Osteoporosis. In the intricate ballet of calcium regulation that goes on in our bodies, when D goes missing, another hormone, parathyroid hormone, builds up and starts pulling calcium out of the skeleton.One result is the bone-brittling disease osteoporosis. If people don't get the right balance of both calcium and D throughout their lives to help build up bone strength, their bones can weaken and easily fracture in their senior years.

"Something that's probable, but not proven, is that there's an inverse relationship between your need for calcium and your need for D," says Mount Sinai's Vieth. "We need calcium because we're really deprived of vitamin D. If we had enough D, we wouldn't need so much calcium." Eventually, prevention of osteoporosis—which should start in childhood—may involve people taking vitamin D supplements and basking in the sun."

Next on the list, Multiple Sclerosis.

Getting lots of vitamin D from sun exposure might also reduce your risk of developing multiple sclerosis, a degenerative neurological disease. One Australian study found that people who had more sun exposure as children were much less likely to develop the disease. It's been suggested that taking high doses of D might both prevent the disease and aid in its treatment.

Next, Inflammatory Bowel Disease. Experts have already noted that Crohn's disease and ulcerative colitis—both of which fall under the category inflammatory bowel disease (IBD)—are both more common in northern nations and are associated with vitamin D deficiency.

However, a recent study at Pennsylvania State University suggests that low D could be a contributing factor to IBD. Margherita Cantoma, associate professor of nutrition and immunology at Penn State, recently studied vitamin-D-deficient mice with IBD. Those she left alone started to die in a few weeks, while those she treated with calcitriol had dramatically fewer symptoms and didn't die.

"Of course, it's not clear what would happen in humans," says Cantorna. "But our results were pretty striking." Anyone with IBD, she adds, should get their D levels checked and consider a supplement for their overall health.

The dangers of not getting enough vitamin D are so great that experts say people should take a blood test for D levels once a year—just as they check their cholesterol regularly. Your doctor can order this test for you at any time. Current Health Canada recommendations for vitamin D suggest people under 50 get 200 international units (IU) a day; people aged 51 to 70 should get 400 IU a day; and those over 70 should aim for 600 IU. But

Vieth doesn't think that's enough. In his study of young Canadian women, he found that those who took 400 IU a day had the same deficiency rate as those who didn't. "These women were taking double what the government said they should and it had zero consequence on their blood-vitamin-D levels."

Studies suggest it takes about 800 IU daily to impact bones, but Vieth and other top experts recommend buying a 1,000 IU supplement to get real health benefits. (It is possible to get a toxic buildup of calcium in the bloodstream, but only if you take megadoses of vitamin D. Some recommendations suggest that 4,000 IU a day could be toxic. However, the new data Vieth has collected suggest you'd have to take 40,000 IU a day for long stretches, for the vitamin to be dangerous.)

You can also combine a supplement with getting D elsewhere. A 250-millilitre cup of milk contains almost 100 IU. For those who are lactose intolerant or who don't like dairy products, look for D-fortified brands of soy beverages. Better still, soak up the rays on warm, sunny days or when you're on a winter vacation. "Fill up your vitamin D bank with ten minutes a day," says Vieth, "without sunscreen."

1. Tiny Tim would have been a good example to illustrate which of the following options?
   (a) That children with spindly limbs and bowed legs are deficient in Vitamin D.
   (b) That children affected with cancer would benefit from doses of Vitamin D.
   (c) That children living in slums were more prone to getting deficient in Vitamin D.
   (d) That children living in cold climate are more deficient in Vitamin D than children living in warm climates.
   (e) That children getting lesser sun had greater Vitamin D deficiency.
2. In which of the following diseases do the bones get brittle?
   (a) Hypertension
   (b) Diabetes
   (c) Cancer
   (d) Osteoporosis.
   (e) Multiple Sclerosis.
3. Which of the following is the active disease fighting compound of Vitamin D?
   (a) 7–Dehydro cholestrol
   (b) Calcitriol
   (c) Calcidiol
   (d) 10–Dehydrocholestrol.
   (e) Both b & c.
4. Which of the following is true according to the passage?
   (a) Using a sunscreen hampers proper absorption of Vitamin D from sunlight.
   (b) Sunnier places have lower breast-cancer rates.
   (c) We are living amid an unrecognized epidemic of Vitamin D deficiency.
   (d) Deficiency of Vitamin D is likely to lead to a lot of diseases.
   (e) All of the above.
5. Which of the following is a disease in which the brain starts perishing slowly?
   (a) IBD
   (b) Multiple Sclerosis
   (c) Rickets
   (d) Prostrate cancer.
   (e) Hypertension.
6. When Vitamin D is less or deficient in our system, then which hormone starts pulling out calcium from our bones?
   (a) Parathyroid hormone
   (b) Thymus Hormone
   (c) Insulin
   (d) Glucagon.
   (e) Calcidiol.

Passage 2

Predict where fire will start—then strike first. That's the new strategy in protecting forests—and humans—from one of nature's most powerful forces.

"Grab a helicopter with a helitorch," says the voice on the phone. "Head north. Fast!" That's all the instruction Kelly Sawchuk needs. He hangs up, hails a pilot and runs to a chopper at the fire base in Weyakwin, in central Saskatchewan. Moments later they are lifting above a sea of spruce and pine.

A veteran firefighter, Sawchuk knows that a lightning strike on a windy day in a dry boreal forest is like dropping a match into a streak of gas. The trick is to nail the blaze while it's still small.

"We saw the fire as soon as we got above the trees," says Sawchuk. Catapulted by the furious south winds into the parched tree crowns three kilometres from Weyakwin, the fire is growing in mass and momentum. "It had to be doing 20 metres a minute. We could hardly catch up to it."

Slung beneath the chopper on five-metre-long cables is a 205-litre drum packed with gelled fuel and linked by hose to a burner nozzle. The helitorch is used to fight fires with fire, to set backfires that can slow or redirect a speeding forest blaze away from buildings or timber tracts in its path.

The Dragon, as this recent fire was dubbed by firefighters for its sudden, furious character, is rushing at a cluster of cottages on Weyakwin Lake. It threatens to leap the only road into the subdivision, burn out the power lines and spread into a large forest.

Sawchuk is well trained in the science of predicting fire behaviour, in the flammability of different tree species and in the telltale colors of foliage at different moisture levels.

He scans the forest for a target, a tactician looking for an opening.

What he needs is a natural barrier to work with, a stream or swamp. He spots a small piece of muskeg. It'll have to do. Quick words are exchanged, and the pilot dips the chopper beneath the smoke, flying directly ahead of the onrushing fire.

Northern Saskatchewan's forests were tinder dry that June, with 95 blazes burning in the province, nine out of control. How well equipped are we today to deal with such blazes?

Broad tendencies in forest fires have long been known. Blazes accelerate amid evergreens, but sputter in leafy stands. They speed naturally downwind and uphill, and grow fiercer and faster in the late afternoon than at night. Such truths have traditionally dictated fire-fighting tactics.

In the past, however, gaps in the knowledge were huge. Who knew where lightning would touch off a fire or how dry a forest was?

Where exactly are the coniferous and deciduous stands in Canada? These unknowns limited firefighting strategy.

But over the past two decades, there has been a revolution in Canadian fire fighting. Mere response is now obsolete, replaced by a new model of predicting fires and putting people and gear in place *before* the fire breaks out. Helicopters, water bombers and ground crews are shifted daily, if necessary, to stay ahead of the changing threat. It was no accident that Sawchuk's helicopter was near the Dragon outbreak. It had been pre-positioned because of that day's fire risk.

The revolution in fighting forest fires includes weather satellites that show the approach of lightning storms. Fire weather stations report moisture, temperature, humidity and wind speed by satellite, radio or telephone. Computer memories are stockpiled with maps documenting forest types, communities and other areas of value across the province. And 30 years of research into fire behaviour tells duty officers whether a particular fire is likely to flare or fizzle, to threaten a town or burn itself out harmlessly.

Canada's forest-fire-fighting agencies are now world leaders in predicting fire outbreaks and behaviour. And Saskatchewan's system is no exception. Its nerve centre is an island of buildings and helipads at the northern outskirts of Prince Albert. Here, Lyle Prokopetz, a regional duty officer, keeps watch on a bank of computers that are the guts of the early-warning system, working alongside specialists in geographic-information systems, fire science and logistics. A full-time summer staff of 1,000 and a part-time emergency crew of more than 5,000 stands ready.

Prokopetz opens a window on his computer monitor and a colourful sunburst of concentric rings around a red core appears. If the computer could talk, it would say "If a fire breaks out here, a ground crew must attack it within four minutes to keep it from spreading beyond ten hectares." The computer gathers information from provincial and federal weather stations, overlays it on geographic-information-system maps of the forest, and links the data to the burn behaviour established by forest-fire research.

Prokopetz opens another window that says in effect "If your fire spreads into this region, its intensity will hit 10,000 kilowatts per metre—the amount of energy being given off by a section of a flame front one metre wide." In this case, the fire would be too hot for crews to approach. Other windows show lightning storms approaching from Alberta, digital photographs of live fires e-mailed in over the past 24 hours from patrol planes and dollar values of specific forests.

"The first thing I do when I get in every morning is see if any lightning struck during the night," says Prokopetz. "That tells us where to concentrate initial helicopter patrols. We had some lightning last night, and now I'm waiting for the patrols to call in if they spot smoke." Sensors on the forest floor detect strikes as disturbances in the planet's magnetic field and relay the information—an instant after it happens—to the Prince Albert Fire Centre, where it pops up on Prokopetz's monitor.

On any summer day, the dry forests in northern Saskatchewan may be hit by thousands of lightning strikes, sparking upto 100 new fires. Duty officers like Prokopetz must anticipate this, and move water bombers and truckloads of ground crews and equipment, like chess pieces, to head off danger.

Sawchuk's helicopter is being buffeted by wind and enveloped in smoke from the Dragon as it speeds towards the patch of muskeg. Lighting a backfire with a helitorch is an art: It must be set in the path of a moving fire, near enough to be sucked in by the powerful draw of the main fire, but distant enough to prevent damage to the chopper. When the two fires collide, the larger fire's momentum is slowed by the lack of fuel in its path. As well as slowing the advance of a fire, a helitorch can "steer" the blaze into a lake or river, or clear smoke away to give water bombers a clear view of the target.

Sawchuk spots his target: a stand of evergreens on the southern edge of the muskeg patch. The muskeg would create a wider firebreak, stalling the fire for as long as possible. If the water bombers arrive in time, they would have a nearly stationary target. He grips the trigger, and the helitorch starts streaming flaming fuel.

As the helicopter completes its pass, Sawchuk looks up at a welcome sight: Two water bombers are preparing to take a run at the Dragon as soon as the backfire does its work. The timing is almost unbelievable.

Unless forest fires threaten a community or a site of notable value, they are allowed to burn naturally in the northern third of the province, the "modified-response zone." Here, wildfire is as natural as sunshine or rain, and while fire is destructive, it rejuvenates forests, cleaning up disease and old wood.

Most of Saskatchewan's forestry and tourism industries are in a belt of boreal forest that girds the centre of the province. In this "full-response zone," all fires are attacked. Here, the initial-attack teams prevent all but six to eight percent of fires from spreading over an area larger than ten hectares.

When fires do escape, they are fought by teams of several hundred men and women on the ground, labouring with hand tools. In late May 2002, initial-attack teams didn't have a chance at what would become a 19,000-hectare fire near Tobin Lake, east of Prince Albert. Winds up to 50 kilometres an hour had seized a lightning-caused blaze and driven it into highly flammable spruce and parched aspen.

By June 4, the fire had slowed to a creep, largely within the containment lines scoured by bulldozers down to mineral soil and pieces of bedrock. During the night of June 5, a light rain fell, but fire-behaviour analyst Bill Droog was far from relaxed. His own rain gauges; set around the fire, showed only a fraction of the predicted rain had fallen.

Concern mounted on June 6, when a satellite-based weather program showed a fast-approaching system with a tornado warning and a threat of two rapid wind shifts. They seemed likely to push the fire around the end of the bulldozer line and into a 40-kilometre stretch of mature white spruce worth millions of dollars.

Droog sat down with suppression boss Dave Brown and worked out the implications of the imminent wind shift. "Bill predicted that the fire would move at 14 metres a minute into this zone of spruce by about 2 p.m.," Brown recalls. "That's the peak time of day for burning conditions."

Brown knew he had to create a new firebreak quickly. But there was no time to send in bulldozers, and the fire was too intense for ground crews to get near. So he called in water bombers to drop fire retardant, a rusty-red water-and-chemical mixture deposited in a line that can impede a fire if the winds aren't too strong. It was a gamble. In the end, they got lucky.

A thunderstorm generated powerful winds and rain that kept the fire away from the retardant lines. It was a close call, just one of many aided by forest-fire science.

The near future in technological firefighting promises a model of fire growth so realistic that fire managers can ask "What if" questions such as: Would water bombers be effective on this fire? Would containment lines hold along this ridge? The computer system called Prometheus—recently brought to fire centres across the country—combines fire-growth equations, daily weather modelling and the fire-behaviour conditions outlined by the Canadian Forest Fire Danger Rating System.

Tinkering with the design of the forest itself will probably be one of the next steps in the smart revolution in fire fighting. "Adjusting the composition of the forest will be an important facet in the future of fire suppression," says Prokopetz. "That

future also includes fuel breaks around communities and resources at risk."

Essentially, this approach is to equip the forest with barriers, like fire doors in a building. After harvests and fires, replanted stands of fast-burning pine and spruce would be broken up with aspen, poplar and other species that burn slowly in normal conditions. Fires that hit such slow-burning fuels lose their intensity and can be fought with traditional tools, such as shovels, pumps and axes, whose usefulness will be given sharper focus, but never eclipsed, by the new technology.

Sawchuk's respite is brief. The Dragon pauses after the first helitorch burn and a dousing from the water bombers. But the wind quickly stirs the blaze again, laying the smoke down and obscuring the flames. Sawchuk's new assignment is to channel the smoke up in a column from the fire, giving the water bombers a clear target.

He picks a patch of spruce about 400 metres southwest of the blaze. "It looked as if it would light up hotter than the head of the fire," he says. "That's important—it must be hotter, more intense, to draw the smoke away."

The aerial teamwork—helitorch dropping fire, bombers dropping water—lasts almost two hours. When the fire is finally brought under control, it is only about five kilometres from the cottages. As the air operation finishes up, bulldozers reach the smouldering woods and loop them with a containment line.

The Dragon was a helitorch operation blessed with perfect timing and an able tactician. The fire-prediction system had shifted helicopters and water bombers to that day's danger zone, and Sawchuk's training in fire science and helitorch technique was up to the task. Yet, he still marvels at how it all worked out.

"I've never seen another fire like it," says Sawchuk.

"The way that patch of muskeg appeared, and then the tankers showing up just in time. Timing was everything."

7. What does a sea of spruce and pine signify?
   (a) A forest of spruce and pine.
   (b) A sea levied by spruce and pine.
   (c) A sea made of spruce and pine.
   (d) An inflammable forest of spruce & pine.
   (e) None of these.
8. Which characteristics does the skilled fire fighter look for in the forest to predict or thwart fires?
   (a) The prediction of fire behaviour.
   (b) The flammable quality in the various trees.
   (c) The colour of the leaves which are indicative of the dryness levels.
   (d) Wind speeds & lightning strikes.
   (e) All of the above.
9. Which of the following are true according to the passage?
   (a) Fires are stronger in the sun than during the dark.
   (b) Lofty trees are not conducive to fires.
   (c) Fires have a natural tendency to rush uphill.
   (d) Fires have a natural tendency to rush downhill.
   (e) All of the above.
10. What could be the possible functions of a helitorch?
   (a) To clear smoke away.
   (b) To light a back fire.
   (c) To alter the path of the fire.
   (d) To slow a fire.
   (e) All of the above.
11. Which of the following is not likely to be true with reference to the passage?
   (a) The dry forest can be hit by thousands of lightning strikes which can start up to a hundred new fires.
   (b) The fires re-energies the forests.
   (c) Wild fire is not a natural phenomena.
   (d) Fires that escape are fought on the ground.
   (e) Fire can be predicted.
12. Which according to the passage is not a false statement?
   (a) Traditional tools are not needed now due to the new technology in fire fighting.
   (b) Prometheus is a skilled fire predicting computer scientist.
   (c) Aspen and poplar are slow burning variety of trees.
   (d) A fire-retardant can reduce the speed of fire when the winds are strong.
   (e) Uphill fires more slowly.
13. What is the tone of the passage?
   (a) Critical.
   (b) Narrative.
   (c) Hilarious.

(d) Speculative.
(e) Descriptive.

14. The Dragon according to the passage, was_____
(a) A mythical creature giving out fire.
(b) A very big fire.
(c) A technique which started the fire.
(d) A story that was conceptualised into a famous novel.
(e) Cannot be inferred.

Passage 3

It was a blustery fall day when John D'Rosa, a mobster in his late 40s, walked into a downtown Toronto welfare office and told the clerk that he had come from Montreal for a job, but it had fallen through. "Don't worry," said the clerk, instructing D'Rosa to return in the morning. "We'll take care of you."

The next day, a young woman was behind the counter. D'Rosa signed for the cheque he was given, having provided a fake address, and headed out the door. "Wait a minute,"she called after him. D'Rosa froze, then fumed around gingerly. "You have to sign again," she said and handed him another envelope.

Out on the street, he opened the first envelope. It contained a cheque for $700. He opened the second: It contained the same amount. *Canada's a beautiful country,* he thought. *And Toronto's a beautiful city.*

A man of modest stature, with a roundish face and a warm smile, D'Rosa had worked for two decades in New York's criminal underworld but had said goodbye to all that in the early 1990s after the murder of his good friend and mobster associate, Tommy DeBrizzi, the man who ran Connecticut for the Gambino family.

D'Rosa arrived in Toronto knowing no one and took up residence at a hotel on Gerrard Street. He intended to stay only a few months (he thought the city was too small and too slow) but soon changed his mind. "I found out how easy it was to make money up here."

I met John D'Rosa in 1995 when I interviewed him for a story on organized crime. He loved to talk, and we kept in touch. Over the course of many conversations, he told me the story of his life—the life of a professional con man.

He was born in New Haven, Conn. His parents and younger brother are dead, and he's estranged from his only sister. For the past 20 years, he has operated under many identities. "If you lived to be 104," he once told me, "you wouldn't meet anybody who's used more aliases than me."

D'Rosa once had five driver's licences, issued by New York, Connecticut, Massachusetts and Florida, none in his real name. He also got rid of everything that might identify him—his real driver's licence, birth certificate, social-security card and credit cards.

He went a step further: He tried to wipe out his public record by paying an employee of Rikers Island jail in New York, where he was once incarcerated, to destroy his file. A few years later, he had lunch with a clerk in the New Haven Office of Vital Statistics—a man who had racked up gambling debts. He slipped the clerk a wad of bills and said, "Make me disappear."

D'Rosa first earned easy money while serving with the U.S. Marine Corps. He enlisted in 1961 after turning 17 and for four years was a member of a guard detachment that controlled access to and from U.S. naval bases in the Pacific. He and several like-minded soldiers earned their military salaries many times over by collecting commissions on goods smuggled in and out of the facilities.

Back in New York, he began hanging out with boyhood friends in organized crime who found him a place with a gang that hijacked trucks leaving JFK International Airport—if necessary, at gunpoint. His next racket was at Yonkers Raceway, where he teamed up with a bunch of Genovese-connected guys who fixed harness races.

They would pay four or five drivers in a seven-sulky race to hold their horses, and then bet on the others—an activity that yielded quick cash, gobs of it at times. One day he'd take home $27,000; another just under $30,000. Two or three weeks later, the money would be gone—spent on high living. All that ended when D'Rosa got involved in an extortion racket, was arrested, convicted and sentenced to four to eight years in prison.

After his release in 1980, he met a pilot named Joe who flew marijuana from Colombia to the eastern seaboard. Joe advanced D'Rosa 3,000 capsules of Dilaudid, an opiate, and D'Rosa found a buyer in Detroit, where it fetched up to $30 a cap. In return, he helped Joe buy a $180,000 aircraft, and together they travelled to Colombia. There Joe became embroiled in a dispute over a missing drug shipment. "He met his demise over the Caribbean," D'Rosa says. "The Colombians threw him out of an aircraft."

D'Rosa, meanwhile, became friends with the Colombians and, with the help of his old mob associate DeBrizzi, established a cocaine-trafficking network, moving hundreds

of kilos from Nicaragua to Seattle via Vancouver. He estimates that he and DeBrizzi earned $500,000 from cocaine, though it may have cost DeBrizzi his life. He was shot: four bullets in his back and chest.

D'Rosa thinks John Gotti of the Gambino family must have ordered the hit because he suspected DeBrizzi was holding back money. Fearing he might be next, D'Rosa fled north to Toronto.

D'rosa had about $15,000 when he got here, the last of his cocaine money. He avoided Canadian mobsters for fear they might make inquiries about him in New York. Instead, he connected with a variety of petty crooks and eventually met up with a Quebecer named Yves.

"Yves dealt in counterfeit money and fake IDs, and D'Rosa was in the market for the latter. Yves brought along blank baptismal certificates and an official seal of the Province of Quebec. He filled out four or five of these documents by hand, supplying Quebecois names, places, dates of birth, as well as baptismal parishes and priests, and stamped them with the provincial seal. They could be used to apply for social-insurance numbers, driver's licences or medicare cards. For a few extra dollars, he threw in the baptismal certificate and social-insurance card of a Montrealer named Joseph. Taking on Joseph's identity, D'Rosa was ready to go to work. But he needed an address. He acquired one through an acquaintance named Roman, who managed several Toronto rental properties for a Serbian immigrant. For a small fee, he provided D'Rosa with a fake receipt for a deposit on a bachelor apartment in a building Roman managed. This was the address he provided the Toronto welfare office with the day he received his first two cheques.

Over the next couple of years, D'Rosa sold addresses in Roman's buildings to 40 or 50 others, collecting fees of $100 to $150 for each one. He also put his baptismal certificates to work, collecting welfare under as many as seven different names and filing for unemployment insurance.

The Ontario Student Assistance Program provided another source of easy money. On consecutive days one spring, D'Rosa filled out two applications for admission to George Brown College's human resources program as a mature student. He used different aliases and fabricated employment histories.

After completing the admission papers, he applied for student loans, and in late August he was informed that the loans had been approved. In September, he turned up at a gymnasium full of noisy, backpack-toting students. That day he collected two loan certificates, each for $4,500. The certificates were distributed from three different tables marked A to F, G to L, and M to Z. The two last names he was using landed at different tables, so he could collect his certificates without being noticed.

With his loans safely deposited at the bank, a teller asked him if he needed overdraft protection. "I said, 'Good idea. I might need some text books.' She makes it for $500. Then in early January, to and behold, a loan certificate for $1,500 arrives in the mail. I didn't even know I had more loan money coming. Happy New Year!"

D'Rosa is a little embarrassed by his Toronto scams but not because of any ethical qualms. "Ham and eggs stuff," he calls them-low-yield, low-risk activities, not up to his usual standards. In 1996, he did something even more uncharacteristic. He took his first legitimate job since leaving the marines-fund-raising for a major hospital foundation.

To get the job, he used a birth certificate and social-insurance number he had acquired from Georgie, an IRA man "over here illegally, raising money or buying guns for them."

D'Rosa found he liked the job and reeled in so many large donations that he earned the praise of the president of the foundation. He stayed at it for four years. Then, he says, "I got complacent." He returned from a break one day and a colleague told him someone from Revenue Canada had phoned. D'Rosa had recently filed a return after a friend said he could get a refund. He suspected the government had questions about it. He finished his shift and never went back. He left his live-in girlfriend at the same time, moved to Scarborough and adopted a new identity.

Later, he received correspondence from Revenue Canada indicating that someone was filing returns under the same name. "Georgie told me the ID was clean, the guy was dead," D'Rosa says. "It turns out he's still kicking."

Even without his job, though, he had reason to stay: He had developed a need for Canada's health-care system. He awoke one night with heartburn so severe that he had a friend drive him to Scarborough General Hospital. Eventually, he was referred to a cardiologist, who found a blocked artery and sent him to St. Michael's for an angioplasty. "When I found out the government pays for everything up here, I was shocked," he says. "The Canadian health-care system is truly amazing."

D'Rosa suffered a second attack in 2000 and was hospitalized for ten days, undergoing angioplasty, courtesy of Canadian taxpayers. Two years later, in November 2002, he

experienced the same symptoms. Doctors detected another blocked artery, installed a stent and kept him in hospital for a week.

Without the fund-raising job, D'Rosa resorted to what had been a lucrative sideline when he was younger—taking falls and filing personal injury claims. He'd first filed a claim in the early 1970s after he took what he claims was a legitimate spill at a bowling alley and came up with a sore back. When he learned that the alley had no mob connections, he sued and got an $11,000 settlement.

There is an art to the business of taking a fall. The first step is to look for opportunities. D'Rosa has tripped over bricks left on a sidewalk by City of Toronto employees. He has "slipped" on ice cubes from a soft-drink machine, on rice spilled on the floor of a Loblaws and on plastic wrappers in the lampshade section of Zellers.

The second rule of thumb is to look for an audience and react properly after the fall. "You just make sure somebody's around to serve as a witness and—boom—you go down," he explains. "You don't come up screaming. You act surprised. 'What the hell? Did someone hit me?' The witness says, 'There's something here on the floor. Yes, it's water or whatever. Then you get the manager.

"I'll say to the witness, 'Listen, it was my own stupidity. I should have been looking down. But just in case, would you mind if I had your name and number?' They usually say, 'No, of course not. That stuff shouldn't have been on the floor.'"

Several days later, he visits a doctor and complains about back pain. "A doctor in the States told me that nobody could ever prove or disprove a back injury," he says.

With a witness and a physician in his comer, he approaches the insurance company, which usually settles within days, sometimes for as much as $3,000.

Last summer, D'Rosa began making plans to return to the States. He had a yearning for a warmer climate, even though his future south of the border was uncertain at best. Before his departure, he felt the time had come to tell his story. Had always wanted to talk about his life, he said, and at last felt safe in doing so. He was gone by the time this article appeared.

Why would a career criminal spill his guts? D'Rosa's a vain man who thinks his life would make an entertaining movie, a cross between *GoodFellas* and *Catch Me If You Can,* but he says he had another, more important reason for talking to me. He believes that Torontonians, and Canadians in general, are far too lax about the security of their borders and institutions.

"If I can come up here and do what I have done, imagine what a well-organized group could do."

15. What for D'Rosa, was a lucrative sideline to earn money?
    (a) Hijacking people at gun point if necessary.
    (b) Getting fake identities and social grants.
    (c) Falling over things and claiming insurance settlements.
    (d) Selling drugs and illegal things.
    (e) All of these.
16. What did Yves deal in?
    (a) Selling fake identities.
    (b) Selling arms and ammunitions.
    (c) Fund-raising.
    (d) Setting insurance claims.
    (e) None of these.
17. Why was D'Rosa embarrassed by his Toronto scams?
    (a) Because he got caught for one of them.
    (b) Because he thought they were unethical.
    (c) Because he got publicly humiliated.
    (d) Because he thought they were below his usual standard.
    (e) Both (a) & (c).
18. Why did D'Rosa think of Canada and Toronto beautiful?
    (a) Because he liked to visit places with scenic beauty.
    (b) Because it was easy to fool the government and make money.
    (c) Because the place had a lot of good looking people.
    (d) Because actually the place was not beautiful at all.
    (e) None of these.
19. On what things did D'Rosa "slip"?
    (a) Banana Peels and lampshades.
    (b) Dirty laundry bags.
    (c) Lentils and soup from a vending machine.
    (d) Ice cubes from a soft drink machine.
    (e) None of these.
20. Which according to the passage is a true statement?
    (a) D'Rosa confessed to his crime since he thought it would make a good script for a movie.

(b) He was a vain man and wanted his escapades to be known.
(c) He wanted to expose the lax security system of Canada.
(d) D'Rose thought Canada and Toronto were beautiful.
(e) All of these

Passage 4

One day in 1987, Malcolm Jefferson, a 37-year-old Ottawa carpenter, put his one-year-old son, Devon, into the child's bike seat secured over his rear wheel and pedalled off for a ride. They didn't get far. Devon was soon screaming his head off, calming down only when Jefferson took him out of the bike seat. The two ended up walking home.

Jefferson didn't blame Devon; he blamed the bike seat. Not only could Devon not see where he was going, "he couldn't communicate with his father".

That night Jefferson went into his workshop, made a small wooden platform with handlebars, and bolted it onto the bike's crossbar behind the handlebars. The next day, father and son headed out again. This time Devon was all smiles. He could see ahead, connect with his dad and even put his head down on a special platform for a nap.

Everywhere they rode, bike riders bombarded Jefferson with questions. "One day, I was even pulled over by an RCMP officer who wanted to know all about the seat," he says.

Jefferson raised $30,000 from friends and family and, over the next nine months, handcrafted 100 seats. He soon signed a deal with a manufacturer eager to license his design, but that quickly turned into a legal battle. The company balked on paying Jefferson the agreed sum, threatened to slash his royalty rate and tried to sue him for $80,000. "They knew I didn't have the money to fight them," he recalls.

A lawyer advised Jefferson not to let himself be scared off, and the company backed down. But it wasn't a complete victory. While Jefferson got everything back, he received no money.

He decided to make and market the seat himself. It took another five years just to engineer a seat that could be manufactured. Along the way, he had to raise some $3 million—the molds alone cost about $500,000.

Jefferson gave a big chunk of the company to his backers, leaving himself as the third-largest shareholder.

His stick-to-it determination served him well. The bike seat made by his company, Centric-Safe Haven, was put in the 2001 Sears catalogue, and in 2002, was stocked by some Home Hardware and Toys "R" Us stores. In 2003, Zellers came on board, and Jefferson began selling over the Internet, targeting markets in the United States and Europe.

It has always been an uphill climb, and Jefferson never earned more than a meagre salary for his efforts. What kept him going is his faith in himself and his invention, and the support from backers, friends, family and satisfied customers. "If it wasn't for their positive feedback," he says, "I would have given up long ago."

In the inventing world, getting there is what it's all about. Good ideas are a dime a dozen: What is rare are people with the drive to bring them to life and build a business around them.

Inventing is no quick way to riches, because the world won't beat a path to your door. Typically, inventors spend far more time, money and energy than planned. But they thrive on solving the endless problems that arise and are sustained by the thrill of seeing their ideas turned into products that find approval with the public.

Here are four more success stories.

1. Helping the home renovator

As long as he can remember, Andrew Dewberry has been dreaming up new and better ways to do things. He recalls lying in bed one night and, unable to fall asleep, contemplating the car industry and how it would be more efficient if the steelmaker was located next door to the car plant.

Not your normal way of counting sheep—especially since Dewberry was just 11 at the time. "I've always been a lateral thinker," says the 43-year-old native of England. "I just can't stay still mentally."

In 1991, Dewberry, an architect, immigrated to Vancouver with his wife, Jayne, a criminologist. While renovating the bathroom in their new home—the third he'd done in his life—Dewberry decided there had to be a better way to apply the caulking that seals and waterproofs the edges around a tub. He'd also noticed workers on job sites he'd visited, smoothing silicone caulking with their fingertips—even though the caulking comes with a warning against contact with skin.

Dewberry started tinkering and soon came up with the Caulk-Rite—a short, plastic handle with an arrow-head-shaped end which holds a triangular piece of soft, rubber like material that does the smoothing. In 1996, the couple spent

$8,000 to have 3,000 units made and invited friends over for a pizza-and-beer bash and an evening of assembling and packaging the Caulk-Rite tools.

At first, they thought they would simply license the design, but there were no takers. And when they called hardware store buyers, "they wanted to know who we were, how many we had sold, what other products we had to sell, and what our track record was," recalls Jayne, "We were terribly naive."

Undeterred, they pushed ahead, and over the next two years, while Andrew kept his day job to pay the mortgage, Jayne made the rounds of Home Hardware stores, happy to sell a half dozen at each stop. "Every time I got a sale, I phoned up the head buyer for the company and said, 'Guess what? I've sold another six!'"

The strategy worked. At the Canadian Hardware and Building Materials Show in 1997, Home Hardware agreed to list their product.

Meanwhile, the couple had also landed accounts with Sears, Wal-Mart and Canadian Tire.

They also became a hit on an American home-shopping television channel, packaging a Caulk-Rite tool with a tube of silicone, gloves, instructions and their new tool—a caulking remover called Caulk-Away—for $20 U.S. The orders flooded in—at one point, 7,000 kits were sold in seven minutes.

Today, the couple are busy growing their business—which supports them both full-time and enjoying the challenges that continue to crop up. "We make mistakes," says Dewberry, "but we're somewhat pigheaded, and eventually, we get there."

2. A rink in every yard

Scott Byberg's regular job is running two construction companies in Toronto. But the energetic 43-year-old father of two is more than happy to be known as the inventor of The Rink Rake.

When Byberg was a teenager, his family spent winter weekends at their lakeside cottage. Although they had the postcard-perfect ice rink to skate on, it took a lot of effort to make and maintain it.

Then Byberg had an idea. He attached a big copper pipe drilled full of holes at a right angle to a hose, and dragged it back and forth. His invention remained a one-off cottage contraption until one night in 1996. Watching Hockey Night in Canada, Byberg went outside between periods to flood his backyard rink. Back inside, he began thinking how families in North America have so little time to build rinks anymore. "I thought if it was easier to make rinks and the ice was better, kids would have more ice time and learn new skills faster."

So he began producing The Rink Rake. He made 700 Rink Rakes out of PVC (polyvinyl chloride) in his basement, drilling the holes in the T-shaped tubes and assembling them by hand.

Over the past seven years, he has sold more than 11,000 of the rakes in Canada and the northern United States at $49.95 apiece. It has been a long, costly journey. Still it's the feel-good—not the financial—returns that drive Byberg. "I believe it's a right of every Canadian to build a rink. I just give people a way to do it better and faster."

3. A better way of walking

Born and raised on the same Ontario farm he now runs with his parents, Lance Matthews was fixing the barn roof one November day in 1997 when he slipped, fell two storeys and fractured his heel on the frozen ground. After hobbling around on crutches for a few days, he decided there had to be a better walking aid.

In his basement workshop, Matthews designed a hands-free crutch. The device featured a small shelf—on which to rest a flexed knee—supported on a stick attached to his upper leg with Velcro straps. With his weight supported on his knee, he had both hands free, could carry out daily tasks, and was spared the aches, pains, and falls that often accompany crutches.

He wore his invention at his next checkup at the Sunnybrook and Women's College Health Sciences Centre's trauma unit in Toronto. "You've got to develop this!" enthusiastic doctors and technologists told him.

With their help, Matthews refined the crutch, now made out of aluminum and plastic, raised nearly $1 million from family, friends and venture capitalists, and today, is busy marketing the iWALKFree.

"I did everything—made cold calls, drove everywhere, made tons of presentations," he says. "I don't have a business degree, so I had to wing the whole thing."

His big bet is paying off. At $599 U.S. ($349 in Canada), he's already sold almost 2,000 to happy customers around the world, and hopes to set up a charitable foundation to provide the iWALKFree to amputees in war-torn countries.

He admits that if he'd known just how much work it would take, he might never have begun. "But once I start something, I stick with it. And you have to stick with it if you want to succeed."

4. Helping Handles for the elderly

In the late 1990s, Alexandra Levy got a contract with the Quebec branch of a U.S. company that sells everything from carts to trays, for institutional meal delivery. Her mother, Sarah, worked at the same company.

The two soon discovered that many people—particularly seniors in nursing homes—had trouble using standard plates, cups and utensils. Arthritic patients often found cutlery handles too small to grasp, while those suffering the trembling of Parkinson's disease risked burning themselves when drinking hot beverages. The ill-suited supplies made eating so difficult that some patients became undernourished.

When Alexandra and Sarah approached their employer with the idea of making ergonomically friendly insulated dishes, cutlery and other meal-related items, the company wasn't interested, so they decided to develop a line of products themselves. If they could be made at a reasonable price, and be made aesthetically pleasing, the line could turn into a money saver. "Nursing home and hospital operators are always looking for cost-saving measures," reasoned Alexandra. "If patients can feed themselves, that frees up an attendant."

It was a great idea, but costly. It took 18 months to come up with the right designs, and then they had to raise $250,000 for molding and tooling, tapping two banks and two government funding programs.

But their faith in their new endeavour, Ergogrip, is paying off. By 2002, their annual sales had tripled to almost $1 million-in Quebec alone.

They are now busy expanding across Canada and into the United States, and adding to their line of products—which today stands at 17 items.

"Everybody is being paid, but we're not living lives of luxury," says Alexandra. Despite their debt, she and Sarah are happy. "We're building the company and doing what we want to do—and the way we want to do."

Andrew Dewberry, the Caulk-Rite inventor, would agree. "The whole process, from coming up with the idea to actually seeing it used, gives you a fantastic sense of self-worth."

21. Why did Devon not like his first bicycle ride with his father?
    (a) The seat was too high and very hard.
    (b) He was feeling sleepy and wanted to take a nap.
    (c) He could not talk to his father while riding and could not see where they were going.
    (d) He did not want to ride and wanted to walk instead.
    (e) He felt unsafe.
22. What is rare in the world of inventions?
    (a) Good ideas for inventions.
    (b) People with the drive and initiative to make the ideas work into sound businesses.
    (c) Inventors who are not successful.
    (d) Access to money.
    (e) All of the above.
23. Why was Dewberry not able to sleep?
    (a) He was having problems counting sheep.
    (b) His car industry was not doing a good business.
    (c) He was eleven years old and was very excited about a new idea.
    (d) He wanted to set up a new industry.
    (e) He wanted to set up a steel plant next to the car plant.
24. What prerequisites did the Hardware store ask Dewberry to furnish before they accepted his product?
    (a) They wanted to know who they were.
    (b) They wanted to know how many products they had sold.
    (c) They wanted to know what was their track record about this product and other products.
    (d) They wanted to know what other products he had to sell.
    (e) All of the above.
25. What was the method that the workers employed for caulking before Dewberry's invention?
    (a) They used a brush for the purpose.
    (b) They used their fingertips for the work.
    (c) They used a nozzle for caulking.
    (d) They used a felt pen like device to do the work.
    (e) None of these.
26. What problems were encountered by people who used the traditional crutches?
    (a) Their hands used to be occupied and they were unable to use their hands for anything else.
    (b) The side effects of the use of crutches was associated with aches and pains.
    (c) Some people also used to fall while using crutches.
    (d) The weight was supported on the hands.
    (e) All of the above.

Answer Key

Test I

Passage 1

1. (e) 2. (a) 3. (b) 4. (d) 5. (b)
6. (c)

Passage 2

7. (b) 8. (c) 9. (d) 10. (b) 11. (c)
12. (b)

Passage 3

13. (b) 14. (c) 15. (d) 16. (b) 17. (a)

Passage 4

18. (d) 19. (a) 20. (d) 21. (d) 22. (c)
23. (b)

Passage 5

24. (a) 25. (e) 26. (e) 27. (a) 28. (d)

Test II

Passage 1

1. (c) 2. (c) 3. (c) 4. (b) 5. (b)
6. (b) 7. (a)

Passage 2

8. (a) 9. (b) 10. (d) 11. (c) 12. (c)
13. (c)

Passage 3

14. (a) 15. (d) 16. (b) 17. (c)

Passage 4

18. (a) 19. (c) 20. (a) 21. (c) 22. (b)
23. (c) 24. (b)

Test III

Passage 1

1. (a) 2. (d) 3. (c) 4. (c) 5. (b)

Passage 2

6. (c) 7. (c) 8. (b) 9. (e) 10. (c)

Passage 3

11. (d) 12. (a) 13. (a) 14. (c) 15. (d)

Passage 4

16. (b) 17. (c) 18. (e) 19. (c) 20. (e)
21. (b)

Test IV

Passage 1

1. (a) 2. (d) 3. (b) 4. (e) 5. (b)
6. (a)

Passage 2

7. (a) 8. (e) 9. (e) 10. (d) 11. (c)
12. (c) 13. (b) 14. (b)

Passage 3

15. (c) 16. (a) 17. (d) 18. (b) 19. (d)
20. (e)

Passage 4

21. (c) 22. (b) 23. (c) 24. (d) 25. (b)
26. (e)