I. Vocabulary: (20%)

1. Voice over Internet Protocol (VoIP) allows the Internet to be used for telephone communication. Data is _____ by the caller's computer, and sent in tiny units (called packets).
   (A) depressed   (B) compressed   (C) suppressed   (D) oppressed

2. Portable generators are made up of two main parts: an engine, which powers the equipment, and an alternator, which _____ motion into electricity.
   (A) converts   (B) shrinks   (C) modifies   (D) distorts

3. In everyday personal computing, computers are attached to a range of _____, some of which are input devices such as scanners and some of which are output devices such as laser printers.
   (A) interface   (B) communications   (C) peripherals   (D) qualifications

4. The original product _____ for the EZ-Kleen vacuum cleaner do not reflect the correct quality requirements. Kay factors like reliability, maintainability, and safety have been neglected and so sales have fallen.
   (A) ingredients   (B) dimensions   (C) parameters   (D) specifications

5. An LED is a device that _____ visible light when en electric current passes through it. To manufacture LEDs, semiconductors are combined with phosphors.
   (A) simulates   (B) emits   (C) pumps   (D) sprays

6. Industrial engineers can work almost anywhere. Some work in places like car manufacturing plants or food processing plants while others work in health care _____.
   (A) appliances   (B) logistics   (C) modules   (D) facilities

7. Advanced Safety Vehicles (ASVs) use sensors to provide information to an onboard computer on all possible dangers. The sensors can detect _____ near the car, such as other cars, pedestrians, or walls.
   (A) rockets   (B) dynamics   (C) obstacles   (D) elements

8. In the distant future, road vehicles may come under computer control on main roads to ensure safe speeds are maintained and there is no danger of _____ with other vehicles.
   (A) collision   (B) navigation   (C) precision   (D) corrosion

9. I have a very _____ arrangement with my employer so I can work whatever hours suit me.
   (A) durable   (B) flexible   (C) inevitable   (D) profitable

10. The stockholders were _____ to vote a pay increase for the company executives because the company was losing money.
    (A) reliable   (B) lubricant   (C) moderate   (D) reluctant

II. Cloze Test: 從四個選項中，挑出最適合文章內容的答案 (80%)

Passage A: **Phones Into Plowshares**

      Turkish Farmer Mustafa Bacak used to slog through muddy fields, occasionally in pouring rain, to determine the temperature inside his greenhouse. Today he simply checks his cell phone for text messages __(11)___ him that the greenhouse's climate needs __(12)___. He can __(13)___ the humidity or temperature using his phone or computer, all from the comfort of his home.

11.   (A) inform   (B) informs   (C) informed   (D) informing
12.   (A) adjust   (B) adjusts   (C) adjusted   (D) adjusting

13.   (A) impose   (B) eliminate   (C) tweak   (D) apply

Bacak is one of more than 100 farmers using wireless operator Turkcell's network and software to remotely tend their crops. After __(14)___ on to Turkcell's Web site, the farmer can __(15)___ alert conditions. Sensors in the greenhouse __(16)___ the climate and transmit data over the cellular network to the vegetable grower's device of choice. The farmer can text a query for data, or if the soil is too dry, he receives an alert and can text a __(17)___ to start irrigation.

14.   (A) surfing   (B) logging   (C) checking   (D) signing
15.   (A) make   (B) get   (C) set   (D) catch
16.   (A) monitor   (B) supervise   (C) manage   (D) assemble
17.   (A) demand   (B) command   (C) reduction   (D) production

__(18)___ the convenience, the system can also translate to better profits. In the past, farmer Kemalettic Aksoy lost around 30% of his 400-ton tomato crop __(19)___ frost. By the time he got to the greenhouse to __(20)___ the heat, it was too late for many plants. Now when a text warns him of a frost risk, he can respond right away. He estimates having saved 80,000 Turkish lira (about $51,000) by preventing the spread of viruses __(21)___ frost, thanks to Turkcell.

18.   (A) To sum up   (B) Far from   (C) In terms of   (D) In addition to
19.   (A) because   (B) due to   (C) speaking of   (D) in spite of
20.   (A) spice up   (B) look up   (C) catch up   (D) turn up
21.   (A) to   (B) in   (C) from   (D) with

Passage B: **RFID Inside**

Then, in 2004, the U.S. Food and Drug Administration, which __(22)___ medical devices in the United States, approved an RFID tag for implantation in humans as a means of accessing a person's health records.

22.   (A) resists   (B) regulates   (C) refines   (D) attaches

This tag, called VeriChip, is a short-range transponder that relies on the signal from a reader unit for its power supply. When __(23)___ a varying magnetic field from the reader, the chip powers itself up and repeatedly __(24)___ a 16-digit code that is unique __(25)___ the tag. According to the company, 2000 people have already had tags implanted.

23.   (A) exposing to   (B) expose to   (C) exposed to   (D) exposes to
24.   (A) transmits   (B) adapts   (C) inspects   (D) inserts
25.   (A) to   (B) in   (C) from   (D) with

The VeriChip tag is part of a health information system called VeriMed. The code __(26)___ in the implanted chip points to a record in a database __(27)___ the patient and containing that patient's health records. By scanning a person's chip, caregivers can __(28)___ an identification code that enables them to __(29)___ the medical history of people who cannot otherwise communicate their identities—speeding up their treatment and possibly saving their lives.

26.   (A) contains   (B) contained   (C) containing   (D) is contained
27.   (A) identifies   (B) identified   (C) identifying   (D) is identified
28.   (A) exhaust   (B) retrieve   (C) mold   (D) customize
29.   (A) hack   (B) guard   (C) access   (D) trigger

VeriChip Corp., a subsidiary of Applied Digital Solutions, headquartered in Delray, Fla., is also promoting its device as a security measure. It has six clients around the world, five of __(30)___ use the implant as a secondary source of __(31)___, says Keith Bolton, vice president of government and international affairs for VeriChip. The highest-profile example of this application came in 2004 when the attorney general of Mexico and 18 of his staff had chips __(32)___ to allow them to gain access to certain high-security areas.

30.   (A) them   (B) which   (C) whose   (D) they
31.   (A) configuration (B) authentication (C) application (D) contamination
32.   (A) implant   (B) implants   (C) implanted   (D) implanting

Passage C: **What Will Plug-In Hybrids Mean for America?**

You've probably heard a lot about plug-in vehicles lately. President Obama has called for one million plug-in hybrid electric vehicles (PHEVs) to be on U.S. roads by the year 2015, a move that would be supported by the *American Clean Energy and Security Act of 2009* (HR 2454), which passed in the House of Representatives last month. And the automotive industry is already getting into the act: General Motors announced it will __(33)___ the Chevy Volt, one of the first commercial PHEVs, next year, and Ford also has models on the drawing board.

33.   (A) evaluate   (B) collapse   (C) yield   (D) launch

But what you might not realize is that PHEVs are already on the road today, and that IEEE-USA has had a role in supporting this burgeoning technology.

A plug-in hybrid electric vehicle is similar to today's hybrid vehicles, in that it has both an electric motor and an internal __(34)___ engine. But unlike today's hybrids, a PHEV comes with something new: a plug. By plugging a car into the electric __(35)___, drivers can power their vehicles totally through electricity, cutting out all but a tiny amount of fossil fuel use, which would only be __(36)___ when battery levels are low.

34.   (A) combination   (B) construction   (C) combustion   (D) composition
35.   (A) clip   (B) grid   (C) grip   (D) trend
36.   (A) stretched   (B) fueled   (C) tapped   (D) buckled

As the country talks about the future of energy, two major challenges __(37)___: reducing our consumption of and __(38)___ upon oil, and protecting the environment. "PHEVs are a means of addressing both of those goals," says Gordon Day, 2009 IEEE-USA President.

37.   (A) rise   (B) raise   (C) arouse   (D) arise
38.   (A) reliance   (B) animation   (C) calculation (D) suspense

"If you want to reduce oil consumption, you look at the transportation __(39)___," says Day. "Two-thirds of all the petroleum we consume in this country comes from transportation."

39.   (A) section   (B) department   (C) sector   (D) committee

The goal, says Day, is to reduce oil consumption at the vehicle, where it is harder to capture dangerous emissions. "You're not going to capture all of the CO_2 from all of the vehicles in the country. You want to __(40)___ CO_2 emissions, if we must have them, to point sources like power plants, where we can __(41)___ the use of fossil fuels with __(42)___ or have the opportunity to try to capture CO_2 at point generators and power plants and then store it."

40.	(A) secure	(B) shift	(C) congest	(D) confirm
41.	(A) compare	(B) immerse	(C) manipulate	(D) substitute
42.	(A) renewables	(B) chemicals	(C) throwaways	(D) composites

Passage D: **A Breach in the Green Dam**

Iranian protesters have showed the world what a powerful tool the Internet can be against oppression. On the other side of the world we've seen the other end of this tug-of-war, as Chinese censors have had to admit the failures of their plan to __(43)___ Internet censorship by fiat.

| 43. | (A) expose | (B) impose | (C) export | (D) import |

We're referring to "Green Dam," spy software that Beijing was poised to __(44)___ for all personal computers in China. That order was supposed to go into effect today, but last night state media announced it was "delayed." We hope that's code for "will never be __(45)___," but it's too soon to say.

| 44. | (A) mandate | (B) dominate | (C) activate | (D) illustrate |
| 45. | (A) engaged | (B) insulated | (C) implemented | (D) drained |

Green Dam was billed as antipornography software, but it actually does much more. It censors political speech, stores screenshots of users' computers and has the ability to shut down non-Internet applications if a user is typing something it doesn't like. A California-based software company, Solid Oak, says the software copies portions of its __(46)___ code and has threatened to sue computer makers that install it. Green Dam is also poorly designed: The porn filter doesn't work well and it has programming flaws that make users of the program susceptible __(47)___ hacking.

| 46. | (A) static | (B) irrational | (C) convertible | (D) proprietary |
| 47. | (A) to | (B) in | (C) from | (D) with |

Beijing's change of heart follows intense diplomatic and industry lobbying: On June 24, U.S. Trade Representative Ron Kirk and Secretary of Commerce Gary Locke sent a letter of __(48)___ to their Chinese counterparts requesting the Green Dam order be __(49)___. They pointed out that the policy __(50)___ questions about China's compliance with World Trade Organization rules and put companies in an "untenable position" by requiring them to install flawed software on their machines. The European Union Chamber of Commerce also chimed in earlier this week.

48.	(A) appraisal	(B) complaint	(C) confidence	(D) suspicion
49.	(A) provoked	(B) revoked	(C) revolved	(D) solved
50.	(A) disposed	(B) exerted	(C) concerned	(D) raised