PART A: VOCABULARY: Choose the best word to complete each sentence. (24%)

1. A good personal trainer will consider a client's fitness level, age, and goals before planning a _____ workout.
   (A) diversified    (B) customized    (C) memorized    (D) generalized

2. Getting into shape through dancing is much more fun than _____ on a treadmill.
   (A) sitting     (B) beating      (C) hitting     (D) running

3. A college degree no longer _____ a well-paying job, because the number of graduates in China has quadrupled in the last decade.
   (A) ensures    (B) promotes     (C) accumulates (D) follows

4. Parents are advised not to rebuke children in anger or _____ them in wrath because kids can be terrified by your fury.
   (A) determine (B) dismantle     (C) discipline (D) deliver

5. The ferocious _____ of Hurricane Andrew shredded roofs in Miami-Dade County. Fortunately, there were only two test roofs involved.
   (A) account (B) assault         (C) pursuit  (D) result

6. Filmmakers have tried to _____ the on-screen action with in-theater odors.
   (A) facilitate (B) generate      (C) support  (D) heighten

7. Raphael’s interest in skydiving reflects his _____ nature.
   (A) fearful    (B) daunting      (C) daring    (D) diligent

8. Impartial judges tend to remain _____ in the case brought before them.
   (A) disinherited (B) disinterested  (C) uninterested (D) uninitiated

9. As we now know from instrumental exploration of Mars itself, the idea that “Martians” could invade the Earth is _____.
   (A) preposterous (B) predominant (C) precautionary (D) preliminary

10. A pilot whose plane crashed in a cushion of snow atop a 5,500-foot peak _____ 16 hours in sub-zero weather by stuffing newspapers and air charts into his clothing to keep warm, rescuers said.
    (A) submitted  (B) calculated   (C) provided  (D) survived

11. Although an increasing number of studies have been found to be fraud, little is actually known about the general nature and _____ of scientific dishonesty.
    (A) substitution (B) advance     (C) prevalence (D) absence
12. Early in September each year, the population of Ann Arbor, Michigan, suddenly increases by about 20,000 as students arrive for the new academic year. This _____ changes the character of the town in a number of ways.
(A) development (B) influx (C) flexibility (D) surplus

Part B: Grammar (20%)
13. To save the Hawaiian condor _____ extinction, a group of federal, local, and private organizations initiated a rescue program.
(A) from (B) to (C) for (D) of
14. Carrie Chapman Catt organized the League of Women Voters after successfully ____ for the constitutional amendment that gave women the right to vote.
(A) campaigned (B) campaign (C) campaigning (D) being campaigned
15. The Mississippi, the longest river in the United States, begins as _____ stream in northwestern Minnesota.
(A) a small, clear (B) small, clear (C) any small, clear (D) the small, clear
16. The Year of the Snake isn’t a good one for those____ with the zodiac sign of the Snake.
(A) who born (B) born (C) whom born (D) were born
17. Caregivers face ____ over two babies’ deaths.
(A) charging (B) charges (C) charge (D) is charging
18. Taipei _____ the 11th most expensive location in Asia for high-end three-bedroom apartment rentals.
(A) was named (B) is named (C) named (D) will be named
19. If you are a good speaker, listeners should be psychologically primed ____ hear your remarks by the end of your delivery.
(A) in (B) to (C) for (D) from
20. In his acceptance speech, Oscar Best Director Ang Lee thanked Taiwan and the city of Taichung where much the movie _____.
(A) was filmed (B) is filmed (C) had filmed (D) filmed
21. Hot-air ballooning _____ around for centuries, but many travelers still consider it as exciting as parasailing or bungee jumping.
(A) is (B) was (C) has been going (D) has been
22. Even though the Lantern Festival, _____ on the 15th day of the first month on the lunar calendar, had passed, the Lantern Festival celebrations continued until March 10.
(A) being celebrating (B) was celebrated (C) celebrated (D) celebrating
PART C: CLOZE (14%)

Passage 1

A group of scientists have found evidence that coffee beans can help reduce physical pain. However, they cautioned that since the study was not designed to test coffee’s influence on pain, the ___23___ come with many uncertainties. For starters, the researchers don’t know ___24___ coffee the coffee drinkers consumed before taking the tests. They also ___25___ that the coffee drinkers and abstainers were similar in all respects except for their consumption. Problems like these tend to undermine the importance of the findings. But those reservations are ___26___ to trouble the legions of coffee drinkers looking for any reason not to cut back on their daily caffeine habit. Coffee, after all, is the apple of their eye.

23. (A) reserves (B) results (C) reductions (D) recoveries
24. (A) how much (B) what brand (C) why certain (D) which strength
25. (A) doubt (B) demand (C) remind (D) regard
26. (A) uncommon (B) unlikely (C) unusual (D) unrelated

Passage 2

Who we are, and how we see ourselves, is very much linked with how we interact with other people. We all have our own personal likes, dislikes, talents and personalities. But we also exist in a ___27___ of social interaction, and have done so since we were very small babies. Other people’s reactions and ideas matter to us, and they influence ___28___ we go about acting in life. Our cultural background also shapes the way we see ourselves, and so do our social identities. ___29___ of us is totally patterned by these social influences—after all, everyone is different—but we are not totally independent of them either.

27. (A) mixture (B) cobweb (C) network (D) bottleneck
28. (A) where (B) how (C) when (D) what
29. (A) One (B) All (C) Each (D) None

PART D: Each of the two passages in this part contains some missing sentences. Choose the most suitable sentence to make the passage a coherent paragraph. (12%)

Passage 1

The word “Famine” in Ireland usually refers to the Great Famine of 1845-49, which killed about a million people and drove millions more into exile over the following two decades. Those who perished, as usual with famines, died more of disease than starvation. In
fact,  30  In most famines, there is enough food around the place. The problem lies in bringing the food and the hungry people together. In other words, famines are usually caused by people’s inability to buy food, not by its total absence.  31  The bug which blighted the potato crop year after year seems to have caused an absolute food shortage in the country. Some nationalists point angrily to the fact that food nevertheless went on being exported to Britain during the Famine.  32  But some historians claim that keeping this food in the country might not have made that much difference.  33  After all, Ireland at the time was supposed to be part of the United Kingdom and there was more than enough food in the UK as a whole.

30. (A) Ireland at that time was desperately overpopulated.
   (B) the Famine was a natural, perhaps unavoidable disaster.
   (C) famines are not generally caused by food shortages.
   (D) the Irish people were far too dependent on a single crop.

31. (A) Whether you call this genocide or not depends on how you define the word.
   (B) Whether this was so of the Great Famine depends on one’s point of view.
   (C) Would they have done something similar if a famine had broken out in Kent?
   (D) What makes that event unique is that it lasted longer than most other famines.

32. (A) There are poignant accounts of desperate men and women attacking food convoys and being beaten off by British soldiers.
   (B) Even some high-placed Irish officials did not think so, although the event did stir up a hatred of the Irish at that time.
   (C) You may come across the odd Famine graveyard in your travels, pits where people were buried together without coffins.
   (D) It is hard to argue that the British relief operation was anything like adequate, even by standards of the time.

33. (A) They consider the Famine the death of many things besides a million people.
   (B) They glimpse in the Famine a golden opportunity for a long-term restructuring of Ireland.
   (C) They see it as a blessing in disguise—God’s own way of modernizing the Irish.
   (D) They also say that more food was imported than exported during the Famine years.

Passage 2

For much of the year, Bernd Heinrich spends his time at a cabin he built in a remote forest in western Maine.  34  , he says, “just a tree growing inside it.” An emeritus biology
professor at the University of Vermont, Dr. Heinrich, 72, sees the New England forest as a living laboratory to study nature’s changes. Over the years he has translated his observations into 17 popular books on nature and the animal world, including ones on bumblebees, dung beetles and geese. According to Dr. Heinrich, human death is becoming more and more divorced from nature.

34. (A) “The cabin is located near a muddy swamp frozen in winter,”
(B) “The cabin was built with timber I gathered in the forest,”
(C) “The cabin has no indoor plumbing and no electricity,”
(D) “The cabin is equipped with all kinds of modern facilities,”

35. (A) Lately he has been studying how creatures die.
(B) Currently he has been thinking about the dying nature.
(C) Unfortunately, he has just divorced his wife.
(D) Recently human nature has preoccupied his study.

Part E: Reading Comprehension (30%)
Passage 1

Laser

The word laser was coined as an acronym for Light Amplification by the Stimulated Emission of Radiation. Ordinary light, from the Sun or a light bulb, is emitted spontaneously, when atoms or molecules get rid of excess energy by themselves, without any outside intervention. Simulated emission is different because it occurs when an atom or molecule holding onto excess energy has been stimulated to emit it as light.

Albert Einstein was the first to suggest the existence of stimulated emission in a paper published in 1917. However, for many years, physicists thought that atoms and molecules always were much more likely to emit light spontaneously and that stimulated emission thus always would be much weaker. It was not until after the Second World War that physicists began trying to make stimulated emission dominate. They sought ways by which one atom or molecule could stimulate many others to emit light, amplifying it to much higher powers.

The first to succeed was Charles H. Townes, then at Columbia University in New York. Instead of working with light, however, he worked with microwaves, which have a much longer wavelength, and built a device he called a “master,” for Microwave Amplification by the
Stimulated Emission of Radiation. Although he thought of the key idea in 1951, the first master was not completed until a couple of years later. Before long, many other physicists were building masters and trying to discover how to produce stimulated emission at even shorter wavelengths.

The key concepts for a laser emerged about 1957. Townes and Arthur Schawlow, then at Bell Telephone Laboratories, wrote a long paper outlining the conditions needed to amplify stimulated emission of visible light waves. At about the same time, similar ideas crystallized in the mind of Gordon Could, then a 37-year-old graduate student at Columbia, who wrote them down in a series of notebooks. Townes and Schawlow published their ideas in a scientific journal, Physical Review Letters, but Could filed a patent application. Three decades later, people still argue about who deserves the credit for the concept of the laser.

36. The word “coined” could be replaced by ______.
   (A) created   (B) mentioned   (C) understood   (D) discovered

37. The word “intervention” can best be replaced by ______.
   (A) need   (B) device   (C) influence   (D) source

38. The word “it” in line 5 refers to ______.
   (A) light bulb   (B) energy   (C) molecule   (D) atom

39. Which of the following statements best describes a laser?
   (A) A device for stimulating atoms and molecules to emit light
   (B) An atom in a high-energy state
   (C) A technique for destroying atoms or molecules
   (D) An instrument for measuring light waves

40. Why was Towne’s early work with stimulated emission done with microwaves?
   (A) He was not concerned with light amplification.
   (B) It was easier to work with longer wavelengths.
   (C) His partner Schawlow had already begun work on the laser.
   (D) The laser had already been developed.

41. In his research at Columbia University, Charles Townes worked with all of the following EXCEPT ______.
   (A) stimulated emission   (B) microwaves
   (C) light amplification   (D) a master
42. In approximately what year was the first master built?
   (A) 1917  (B) 1951  (C) 1953  (D) 1957

43. The word “emerged” is closest in meaning to ______.
   (A) increased  (B) concluded  (C) succeeded  (D) appeared

44. The word “outlining” is closest in meaning to ______.
   (A) assigning  (B) studying  (C) checking  (D) summarizing

45. Why do people still argue about who deserves the credit for the concept of the laser?
   (A) The researchers’ notebooks were lost.
   (B) Several people were developing the idea at the same time.
   (C) No one claimed credit for the development until recently.
   (D) The work is still incomplete.

Passage 2

Life

Life originated in the early seas less than a billion years after the Earth was formed. Yet another three billion years were to pass before the first plants and animals appeared on the continents. Life’s transition from the sea to the land was perhaps as much of an evolutionary challenge as was the genesis of life.

What forms of life were able to make such a drastic change in lifestyle? The traditional view of the first terrestrial organisms is based on megafossils—relatively large specimens of essentially whole plants and animals. Vascular plants, related to modern seed plants and ferns, left the first comprehensive megafossil record. Because of this, it has been commonly assumed that the sequence of terrestrialization reflected the evolution of modern terrestrial ecosystems. In this view, primitive vascular plants first colonized the margins of continental waters, followed by animals that fed on the plants, and lastly by animals that preyed on the plant-eaters. Moreover, the megafossils suggest that terrestrial life appeared and diversified explosively near the boundary between the Silurian and the Devonian periods, a little more than 400 million years ago.

Recently, however, paleontologists have been taking a closer look at the sediments below this Silurian Devonian geological boundary. It turns out that some fossils can be extracted from these sediments by putting the rocks in an acid bath. The technique has uncovered new evidence from sediments that were deposited near the shores of the ancient oceans—plant microfossils and

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microscopic pieces of small animals. In many instances the specimens are less than one-tenth of a millimeter in diameter. Although they were entombed in the rocks for hundreds of millions of years, many of the fossils consist of the organic remains of the organism.

These newly discovered fossils have not only revealed the existence of previously unknown organisms, but have also pushed back these dates for the invasion of land by multi-cellular organisms. Our views about the nature of the early plant and animal communities are now being revised. And with those revisions come new speculations about the first terrestrial life-forms.

46. According to the theory that the author calls “the traditional view,” what was the first form of life to appear on land?
   (A) Bacteria  (B) Meat-eating animals
   (C) Plant-eating animals  (D) Vascular plants

47. According to the passage, what happened about 400 million years ago?
   (A) Many terrestrial life-forms died out.
   (B) New life-forms on land developed at a rapid rate.
   (C) The megafossils were destroyed by floods.
   (D) Life began to develop in the ancient seas.

48. Which of the following resulted from the discovery of microscopic fossils?
   (A) The time estimate for the first appearance of terrestrial life-forms was revised.
   (B) Old techniques for analyzing fossils were found to have new uses.
   (C) The origins of primitive sea life were explained.
   (D) Assumptions about the locations of ancient seas were changed.

49. With which of the following conclusions would the author probably agree?
   (A) The evolution of terrestrial life was as complicated as the origin of life itself.
   (B) The discovery of microfossils supports the traditional view of how terrestrial life evolved.
   (C) New species have appeared at the same rate over the course of the last 400 million years.
   (D) The technology used by paleontologists is too primitive to make accurate determinations about ages of fossils.

50. The word “entombed” is closest in meaning to ______.
   (A) crushed  (B) trapped  (C) produced  (D) excavated