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401D

عصر جمعه

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دفترچه شماره (۱)

اگر دانشگاه اصلاح شود مملکت اصلاح می‌شود.

امام خمینی (ره)

جمهوری اسلامی ایران  
وزارت علوم، تحقیقات و فناوری  
سازمان سنجش آموزش کشور

## آزمون ورودی دوره‌های دکتری (نیمه متمرکز) داخل در سال ۱۳۹۱

### زبان انگلیسی (عمومی)

(برای کلیه رشته‌های گروه‌های آزمایشی علوم انسانی، علوم پایه، فنی و مهندسی، کشاورزی و منابع طبیعی، هنر، علوم پزشکی، دامپزشکی، تربیت بدنی، زبان و ادبیات فارسی، فرهنگ و زبان‌های باستانی)

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فروردین سال ۱۳۹۱

این درس نمره منفی دارد.

حق چاپ و تکثیر سؤالات پس از برگزاری آزمون برای تمامی اشخاص حقیقی و حقوقی تنها با مجوز این سازمان مجاز می‌باشد و با متغلفین برابر مقررات رفتار می‌شود.

**PART A: Grammar 1**

- 1- The popularity of game theory has varied ----- economics.  
 1) to be introduced by 2) in order to introduce into  
 3) since its introduction into 4) from its introduction by
- 2- Although there are many definitions of epistemology, ----- is probably ----- Brian MacMahonetal.  
 1) most widely accepted one - by 2) the one most wide accepted - from  
 3) one mostly wide accepted - those by 4) the most widely accepted - that of
- 3- This debate, ----- on such values as equality and liberty, may never be finally resolvable.  
 1) it turns 2) turning as it does 3) which it turns 4) turning it does
- 4- Experiments involve introducing a planned intervention, ----- a "treatment" into a situation.  
 1) as usually referred to 2) as usually referring to 3) referring usually as 4) usually referred to as
- 5- Research in the history of the family has progressed from the narrow view of the family as a household unit ----- as a process over the entire lives of its members.  
 1) to consider itself 2) of considering it such  
 3) to considering it 4) for considering such
- 6- In every war, each side tends to regard its own goals as legitimate and ----- illegitimate.  
 1) those of the other as 2) one of the other as  
 3) ones for others being 4) that for others being
- 7- Inflation is generally taken to be the rise of prices, or, -----, the fall of the general purchasing power of the monetary unit.  
 1) to put other way round 2) to put it round other way  
 3) putting the way other round 4) put the other way round
- 8- ----- the human brain is a "language learning" organ is provided by neurological studies of language disorders.  
 1) Supporting further the view which 2) To support further the view which  
 3) Further supporting the view that 4) Further support for the view that
- 9- Mass media ----- a new social institution, concerned with the production of knowledge ----- sense of the word.  
 1) together comprising - in the widest 2) together comprise - in the widest  
 3) altogether comprised of - in most widely 4) is altogether comprised of - in most widely
- 10- Inbreeding is mating between closely related individuals, ----- self-fertilization, which occurs in many plants and some animals.  
 1) the extreme condition being 2) to be extreme condition as  
 3) of which extreme condition is 4) it is the extreme condition

**PART B: Grammar 2**

- 11- The biggest flight creatures ever seen on earth lived in the days of the dinosaurs and were called pterosaurs. No Error  
 1 2 3 4
- 12- An amazing experiment has been taking place in the desert where an enormous complex of greenhouses has been created to simulate the different environment of the earth. No Error  
 1 2 3 4
- 13- Technology has developed so fast in the 20th century that the world children are born into today are almost unrecognisable as the world their parents were born into. No Error  
 1 2 3 4
- 14- There is really little doubt the British are different from other members of the European Community which some recent statistics demonstrate. No Error  
 1 2 3 4
- 15- Researchers have found that skin cancer is increasing by 5 percent a year all over the world and cases have doubled in the last ten years. No Error  
 1 2 3 4
- 16- Happening the first Airbus crash, the Air France chief instructor was grounded because investigators did not believe his story that the computers on board did not respond quickly enough. No Error  
 1 2 3 4
- 17- The modern view runs counter to the principal assumption of the traditional view that all knowledge except for some simple principles of association is learned. No Error  
 1 2 3 4

- 18- In the period immediately prior to the Second World War, the theoretical basis for sociology broadened and drawn particularly on the insights on bureaucracy. No Error
- 19- Bilingualism used to be seen as occurred in clearly-defined areas of the world, but now it is said that bilingualism is restricted to indigenous groups. No Error
- 20- The discovery that dreams take place primarily during a distinctive state of sleep, to identify by objective criteria, led to a rebirth of interest in dreams. No Error

## PART C: Vocabulary

- 21- The recent flood ----- memories of the great flood of 1972.  
1) evoked 2) designated 3) resembled 4) commemorated
- 22- I'll need to think carefully before deciding what short ----- to take to succeed in the entrance exam.  
1) quest 2) route 3) prompt 4) venture
- 23- Facing strong opposition from immigrants, the government ----- the anti-immigration law.  
1) deposed 2) decamped 3) repealed 4) dispatched
- 24- A(n) ----- is a short piece of writing or music that is taken from a longer piece.  
1) excerpt 2) faction 3) episode 4) constituent
- 25- The exhibition offers a fascinating ----- at life beneath the waves.  
1) enterprise 2) glimpse 3) multiplicity 4) scrutiny
- 26- Bad weather has continued to ----- the search for survivors.  
1) obliterate 2) discharge 3) mitigate 4) hinder
- 27- Being unemployed does not affect one's ----- to tax.  
1) contiguity 2) fragility 3) liability 4) exposure
- 28- This correlational research seems to be lacking in -----, so its findings are not reliable.  
1) proposition 2) presumption 3) entitlement 4) rigor
- 29- Blood tests ----- an infection as the cause of the symptoms.  
1) drew up 2) broke out 3) ended up 4) ruled out
- 30- We have closely ----- our research and development work with our business needs.  
1) commuted 2) interrogated 3) aligned 4) spanned
- 31- The clouds ----- as quickly as they had gathered.  
1) unfolded 2) dispersed 3) withdrew 4) relinquished
- 32- If you show trust to somebody, that trust will be ----- by him/her.  
1) reciprocated 2) stipulated 3) stretched 4) manifested
- 33- In some industrialized countries, there has been a ----- away from traditional ideas of family life.  
1) swing 2) dilemma 3) surge 4) dismissal
- 34- A ----- is a small change in the regular motion of an object.  
1) vortex 2) gravity 3) mishap 4) perturbation
- 35- Five years ago, the country carried out ----- reforms to modernize its economy and now it has a prosperous economy.  
1) overbearing 2) full-grown 3) far-reaching 4) long-established
- 36- Our planet cannot easily ----- more than 6 billion people.  
1) override 2) sustain 3) overcome 4) surpass
- 37- Descartes' famous -----: "I think; therefore, I am."  
1) dictum 2) standing 3) jargon 4) approximation
- 38- A language course should be ----- by a sound theoretical basis.  
1) defied 2) underpinned 3) meditated 4) refurbished
- 39- This paper is said to ----- our standard, so it will not get published.  
1) shy away from 2) have a grudge against 3) put up with 4) fall short of
- 40- The president said the country could not be ----- to observe the treaty signed by the previous regime.  
1) counteracted 2) contorted 3) overthrown 4) bound
- 41- The government's popularity has dropped alarmingly because it failed to ----- unemployment.  
1) pull over 2) grip with 3) turn out 4) throw up
- 42- These matters are significant because they ----- ethics in research.  
1) let up 2) fall through 3) pass on 4) bear on
- 43- If this part of the report is wrong, ----- it ----- and write it again.  
1) drop - off 2) dash - off 3) boil - down 4) cross - out
- 44- Many papers were presented at the conference, but one -----.  
1) stands out 2) stands by 3) sets out 4) sets up
- 45- This licence ----- next month—you must get it renewed.  
1) checks out 2) runs out 3) breaks down 4) settles down

**PART D: Cloze Test**

The history of the world is the story of man—from the first civilization to the space age. The story (46) ----- a period of about 5,000 years, beginning about 3000 B.C. At that time, or even (47) -----, men developed a way to write down their experiences. Those early writings began the record of man's (48) ----- that we study today as world history.

Before the development of writing, human beings had existed for about 2.5 million years—over 500 times (49) ----- the total span of recorded history. The long period before writing began is called *Prehistoric Times*. Scientists have (50) ----- together the story of that period.

World history shows that civilization today is the product of many cultures. For thousands of years, various peoples have borrowed ideas and inventions from each other. This (51) ----- is called *culture diffusion*.

(52) ----- most of world history, the most important regions for new ideas and inventions were the Middle East, Egypt, India, and China. But during Modern Times—the period of the last 500 years—Western civilization has made rapid progress, while other civilizations (53) ----- . As a result, the course of culture diffusion changed. During Modern Times, the flow of ideas and inventions has (54) ----- from West to East. The development of worldwide systems of communication and transportation conquered (55) ----- of time and distance.

Mankind's progress through the centuries has been (56) ----- many changes, and every generation has faced the challenge of serious problems. Great civilizations have developed, (57) ----- for a time, and then collapsed. International disputes have brought on terrible wars. In every age, millions of persons have suffered hunger and hardship, (58) ----- enjoyed prosperity. Today, we live in the greatest civilization of all times. But war and widespread poverty (59) ----- the most important problems of mankind. Man has greater knowledge and more technological power than (60) ----- . As a result, he probably has a better chance to meet the challenge of today than any generation of the past.

- |                          |                   |                      |                    |
|--------------------------|-------------------|----------------------|--------------------|
| 46- 1) narrates          | 2) covers         | 3) ranges            | 4) spreads         |
| 47- 1) a little earlier  | 2) early a little | 3) too much sooner   | 4) sooner or later |
| 48- 1) movement          | 2) progress       | 3) direction         | 4) proceeding      |
| 49- 1) much larger than  | 2) as large as    | 3) so long as        | 4) longer than     |
| 50- 1) announced         | 2) combined       | 3) pieced            | 4) cooperated      |
| 51- 1) transformation    | 2) exchange       | 3) culture           | 4) record          |
| 52- 1) Throughout        | 2) Altogether     | 3) In spite of       | 4) Across          |
| 53- 1) lagged            | 2) impaired       | 3) detained          | 4) preceded        |
| 54- 1) transferred       | 2) swept          | 3) erupted           | 4) carried         |
| 55- 1) domains           | 2) contexts       | 3) periods           | 4) barriers        |
| 56- 1) marked by         | 2) dated back to  | 3) emerged by        | 4) referred to     |
| 57- 1) shifted           | 2) inspired       | 3) flourished        | 4) created         |
| 58- 1) even if the other | 2) whereas other  | 3) unlike the others | 4) while others    |
| 59- 1) are then          | 2) still are      | 3) are so far        | 4) are yet         |
| 60- 1) ever before       | 2) ever since     | 3) since then        | 4) ever then       |

**PART E: Reading Comprehension**

The forest from which Man takes his timber is the tallest and most impressive plant community on Earth. In terms of Man's brief life it appears permanent and unchanging, save for the seasonal growth and fall of the leaves, but to the forester it represents the climax of a long succession of events.

- 5 No wooded landscape we see today has been forest for all time. Plants have minimum requirements of temperature and moisture and, in ages past, virtually every part of Earth's surface has at some time been either too dry or too cold for plants to survive. However, as soon as climatic conditions change in favour of plant life, a fascinating sequence of changes occurs, called a primary succession.

- 10 First to colonize the barren land are the lowly lichens, surviving on bare rock. Slowly, the acids produced by these organisms crack the rock surface, plant debris accumulates, and mosses establish a shallow root-hold. Ferns may follow and, with short grasses and shrubs, gradually form a covering of plant life. Roots probe even deeper into the developing soil and eventually large shrubs give way to the first trees. These grow rapidly, cutting off sun light from the smaller plants, and soon establish complete domination—closing their ranks and forming a climax community which may endure for thousands of years.

- 15 Yet even this community is not everlasting. Fire may destroy it outright and settlers may cut it down to gain land for pasture or cultivation. If the land is then abandoned, a secondary succession will take over, developing much faster on the more hospitable soil. Shrubs and trees are among the early invaders, their seeds carried by the wind, by birds and lodged in the coats of mammals.

For as long as it stands and thrives, the forest is a vast machine storing energy and the many elements essential for life.

**61- Why does the forest strike mankind as permanent?**

- |  |                               |
|--|-------------------------------|
| 1) It is an essential part of our lives. | 2) It is renewed each season. |
| 3) Our lives are short in comparison.    | 4) The trees are so tall.     |

**62- What has sometimes caused plants to die out in the past?**

- |  |                                |
|--|--------------------------------|
| 1) The introduction of new types of plants | 2) Variations in climate       |
| 3) The absence of wooded land              | 4) Interference from foresters |

**63- In a "primary succession" (line 7), what makes it possible for mosses to take root?**

- |                           |                          |
|---------------------------|--------------------------|
| 1) The amount of moisture | 2) The type of rock      |
| 3) The amount of sunlight | 4) The effect of lichens |

- 64- What conditions are needed for shrubs to become established?  
 1) The ground must be covered with grass. 2) Smaller plants must die out.  
 3) Ferns must take root. 4) More soil must accumulate.
- 65- Why is a "secondary succession" (line 15) quicker?  
 1) There is more space for new plants. 2) The ground is more suitable.  
 3) Birds and animals bring new seeds. 4) It is supported by the forest.
- 66- The word "virtually" (line 5) can best be replaced by -----.  
 1) actually 2) hastily 3) abundantly 4) ultimately
- 67- By "community" (line 14), the author means -----.  
 1) a group of people 2) shrubs 3) smaller plants 4) trees
- 68- The word "thrives" (line 18) is closest in meaning to -----.  
 1) needs water 2) grows 3) gets older 4) values
- Naturally the young are more inclined to novelty than their elders and it is in their speech, as it always was, that most of the verbal changes originate. But listening critically to their talk I hear hardly any new words. It is all a matter of using old words in a new way and then copying each other, for much as they wish to speak differently from their parents, they want even more to speak like people of their own age. A new usage once took time to spread, but now a pop star can flash it across the world in hours. Of course it is not only the young who like to use the latest in-word. While they are describing their idols as *smashing*, *great*, *fab* or *cosmic*, their parents and the more discriminating of the younger set are also groping for words of praise that are at once apt and fashionable. However, their choice of *splendid*, *brilliant*, *fantastic* and so on will in turn be slightly dimmed by over-use and need replacement.
- 10 Magic is a theme that has regularly supplied words of praise (and the choice must betray something in our nature). *Charming*, *entrancing* and *enchanted* are all based on it. So also is *marvellous*, which has been used so much that some of its magic has faded while among teenagers *wizard* had a great run. Another of this group, though you might not think it, is *glamorous*, which was all the rage in the great days of Hollywood. *Glamour* was a Scottish dialect form of "grammar" or "grammery", which itself was an old word for *enchantment*. (*Grammar* means the study of words, and words have always been at the heart of magic.) The change from "r" to "l" may have come about through the association with words like *gleaming* and *glittering*.
- 15 On the whole, when a new word takes over the old ones remain, weakened but still in use, so that the total stock increases all the time. But some that start only as slang and never rise above that class can disappear completely. "Did you really say *ripping* when you were young?" my granddaughter asked me, rather like asking if I ever wore a suit of armour. Of course I did and it was no sillier than *smashing*, which some of her contemporaries are still saying.
- 20
- 69- What do young people like to do in their speech?  
 1) Give words new meanings to mislead their parents  
 2) Invent words that older people cannot understand  
 3) Use words invented by pop stars  
 4) Copy the speech of their contemporaries
- 70- Words of praise keep changing because -----.  
 1) older people try to avoid the in-words of the young  
 2) young people are becoming more discriminating  
 3) they lose their freshness  
 4) there are more words available in this area
- 71- The fact that magic is a frequent source of words of praise suggests that people -----.  
 1) have always been interested in magic 2) are interested in magic when young  
 3) lack linguistic originality 4) are becoming more superstitious
- 72- Which of these words does NOT have an association with magic?  
 1) Gleaming 2) Grammar 3) Marvelous 4) Wizard
- 73- To the author's granddaughter, the word *ripping* -----.  
 1) seems strange and old-fashioned 2) is unacceptable because it is slang  
 3) has a clearer meaning than it does for the author 4) means much the same as *smashing*
- 74- The word "some" (line 19) refers to -----.  
 1) use 2) stock 3) time 4) word
- 75- The word "groping" in (line 8) is closest in meaning to -----.  
 1) searching 2) inventing 3) using 4) preferring

Cardiologists divide us into two types, according to how our personality affects our heart. Type A individuals are highly competitive, innately hostile, fast eating and rapid talking, whilst B types drown in the milk of human kindness and are sublimely indifferent to the passage of time. It is an uncomfortable fact that A's die twice as frequently from heart disease as B's, even when the risks of cigarettes, alcohol and cream buns are taken into account.

5 Personality is to a large extent genetically endowed – A-type parents usually beget A-type offspring. But the environment must also have a profound effect, since if competition is important to the parents, it is likely to become a major factor in the lives of their children.

One place where children soak up A traits is school, which is, by its very nature, a highly competitive

- 10 institution. Too many schools adopt the 'win at all costs' ethic and measure their success by sporting achievements. The current mania for making children compete against their peers or against the clock produces a two-tier system, in which competitive A types seem in some way better than their B type fellows. Addiction to winning can have dangerous consequences: remember that Pheidippides, the first marathon runner, dropped dead seconds after croaking: 'Rejoice, we conquer!'
- 15 By far the worst form of competition in schools is the disproportionate emphasis on examinations. It is a rare school that allows pupils to concentrate on those things they do well. The merits of competition by examination are dubious enough, but competition in the certain knowledge of failure is positively harmful.
- 20 Obviously, it is neither practical nor desirable that all A youngsters change into B's. The world needs both types, and schools have an important duty to try to fit a child's personality to his possible future employment. It is a fallacy, for instance, that people successful in business are full of competitive zeal; there are many B types in top management.
- If the preoccupation of schools with academic work was lessened, more time might be spent teaching children surer values. Perhaps selection for the caring professions, especially medicine, could be made less by good grades in chemistry and more by such considerations as sensitivity, altruism and compassion.
- 25 It is surely a mistake to choose our doctors exclusively from A type stock. B's are important and should be encouraged.
- 76- According to cardiologists, Type A individuals are usually -----.
- 1) greedy                      2) aggressive                      3) affectionate                      4) carefree
- 77- Children develop into Type A rather than Type B individuals because of -----.
- 1) hereditary defects                      2) pressure from their friends  
3) differences in social class                      4) parental attitudes
- 78- What feature of schools does the author criticize?
- 1) Sport is rated below academic achievement.                      2) Intelligent students become discouraged.  
3) Some individuals are undervalued.                      4) There is a limited choice of subjects.
- 79- What is particularly harmful about examinations?
- 1) Failure rates are high.                      2) Some students are bound to fail.  
3) Unsuitable subjects are set.                      4) The wrong students succeed.
- 80- Entrants to the medical profession at present are selected on the basis of their -----.
- 1) competitive spirit                      2) academic achievements  
3) interest in society                      4) personal qualities
- 81- The word "mania" in (line 11) means -----.
- 1) mentality                      2) decision                      3) desire                      4) manner

The 32,000-word novella The Time Machine by H.G. Wells, published in 1895, is generally credited with popularizing the idea of time travel by means of a time machine, a vehicle which takes the occupant backward or forward in time. Dozens of sequels and adaptations over the years have further promoted the notion. Indeed, Albert Einstein's Theory of Special Relativity lays the foundation for the possibility of time travel. So far, no one has demonstrated the ability to travel in time. However, time machines have been constructed, and they do allow glimpses into the past.

The most efficacious time machine currently in existence is the Hubble Telescope, named after the American astronomer Edwin P. Hubble. Its capability to locate distant astronomical targets and lock in on them, permitting their faint light to aggregate on its detectors, allows it to peer far into the past. Light travels 186,000 miles per second. The Hubble Telescope has looked back in time at 10,000 galaxies whose light left them billions of years ago. Therefore, utilizing the telescope as time machine, astronomers are able to contemplate galaxies as they were eons ago.

Although the telescope was launched into space in 1990, its inception was almost a half-century earlier as astronomer Lyman Spitzer, Jr. mulled over the possibility of a large space telescope in a 1946 report, "Astronomical Advantages of an Extra-Terrestrial Observatory." Because the earth is bathed in its constantly churning atmosphere, earth-based telescopes cannot penetrate deep space; the atmosphere distorts the view. Telescopes were constructed on mountains, but there was still no way to wholly escape the effects of the layers of gases enveloping the earth.

During the 1960s, the Space Race between the then-Soviet Union and the United States was accelerating. The National Aeronautics and Space Administration (NASA) was established. Funds for space endeavors were abundant, and plans for a large space telescope, by then designated the LST, were underway. The designs called for a 2.4-meter primary telescope mirror which could be transported into space by one of NASA's rockets. According to National Geographic's Imaging Space and Time, the resolving power of the deep space telescope would be "equivalent to being able to distinguish the left and right headlights of a car in California seen from New York, or features less than 1/30,000th the size of the full moon. This was at least a tenfold increase over the atmospheric limit."

One of the primary challenges involved in successfully transporting the telescope into space was protecting the mirror from the jarring vibrations that occur during launch. It was crucial that the mirror be able to withstand the shuttle's vicissitudes as well as the volatile atmospheric conditions found in space. If not, the precise shape of the mirror could be compromised, and its imaging capability significantly weakened.

After the telescope had been launched, astronomers subsequently realized that the primary mirror had not been ground correctly. A lens in the test instrument was about one millimeter askew, which is large by optical standards. In 1993, space-walking astronauts installed corrective lenses which improved the eyesight of the Hubble. In 2009, the corrective lenses themselves were replaced with a supersensitive spectrograph with built-in corrective lenses. The new spectrograph is expected to provide insight into the origins of stars and galaxies.

The successor to Hubble, the James Webb Space Telescope, is expected to be launched in 2014. It will observe only in infrared, so it will complement the Hubble Telescope, which observes in the visible and ultraviolet light ranges.

Hubble currently has the capability to view galaxies that were formed 13.7 billion years ago, long before humans existed, in an area called the Hubble Ultra Deep Field. Astronomers aspire to see beyond the Hubble Ultra Deep Field to a time that is devoid of galaxies, a time before galaxies had formed. If H.G. Wells was onto something in his novella, that time may be close at hand. As one of the characters in the popular work asked, "If Time is really only a fourth dimension of Space, why is it, and why has it always been, regarded as something different? And why cannot we move in Time as we move about in the other dimensions of Space?"

Less than a decade after Wells' novella, Einstein's Special Theory Relativity seemed to concur with Wells' character by proposing that traveling through space at the speed of light would alter time by causing it to dilate, raising the possibility of not merely glimpsing the past, but perhaps traveling to it.

50 **82- According to the passage, which of the following statements is/are true of the Hubble Telescope?**

- I) It is unable to observe light on the infrared part of the spectrum.  
 II) It will be replaced by the James Webb Space Telescope in 2014.  
 III) It was initially constructed in 1946, but not launched until 1990.

- 1) I only                      2) II only                      3) I and II only                      4) III only

**83- According to the passage, who had the idea for the Hubble Telescope?**

- 1) H.G. Wells                      2) Albert Einstein                      3) Edwin P. Hubble                      4) Lyman Spitzer, Jr.

**84- In (line 29), "vicissitudes" most closely means -----.**

- 1) long delays which may compromise the shuttle launch  
 2) atmospheric conditions which may compromise the mirror  
 3) shaking and quivering which may cause changes in the mirror  
 4) toxic emissions which may cause corrosion around the mirror

**85- In the context of the passage, which of the following best articulates the author's opinion of the inception of the Hubble?**

- 1) It was a pipedream with little imminent chance of success.  
 2) It was based on a scientific proposition which was not proven.  
 3) It was an emergency response to the quickening Space Race.  
 4) It was a waste of time and money which were needed elsewhere.

**86- The primary purpose of the passage is to -----.**

- 1) discuss the construction of the Hubble Space Telescope as a tool for exploring deep space  
 2) dispute the argument that the Hubble Telescope functions as a modern-day time machine  
 3) describe the circumstances which underlay the mid-century national drive toward a large space-based observatory  
 4) draw a comparison between H.G. Wells' notion of time travel with Albert Einstein's Special Theory of Relativity

**87- It can be inferred that the author regards time travel as -----.**

- 1) an interesting literary notion, but proven to be impossible by Einstein's Special Theory  
 2) a ridiculous idea whose time has come and gone, as well as an astronomical improbability  
 3) a persuasive topic in fiction, as well as a hypothetical possibility in light of Einstein's Special Theory  
 4) the incoherent literary construction of a fictional author, with little relevance to today's scientific community

**88- It can be inferred from the passage that scientists believe that time is -----.**

- 1) an impenetrable mystery                      2) a spatial dimension  
 3) a constant                      4) unidirectional

**89- The word "it" (line 49) refers to -----.**

- 1) light                      2) speed                      3) space                      4) time

**90- The word "inception" in (line 13) can best be replaced by -----.**

- 1) idea                      2) travel                      3) beginning                      4) construction

**91- An example of using a telescope to travel in time is given in paragraph -----.**

- 1) one                      2) three                      3) eight                      4) six

The terms "intelligence augmentation" and "intelligence amplification" evoke images of human beings with computer chips embedded in their skulls or bizarre accoutrements attached to their heads. However, according to an article entitled *Get Smart* by Jamais Cascio, human beings' ability to augment their intelligence is precisely the prowess which has empowered us to survive "a series of convulsive glacial events" evinced by the last ice age.

Neurophysiologist William Calvin asserts that the human species continues to evolve cognitively and to create its own cognitive evolution in two basic ways: external and internal.



Cascio states that humans have been externally augmenting their intelligence for millennia. By developing written language, we boosted our capacity to share information over space and time. Other advancements, such as agricultural and industrial technologies, reduced the exigencies of manual labor. Current external digital systems augment human intelligence by allowing us to perform tasks that would be unfeasible with recourse only to the rational skills of a singular human brain. Cascio cites as examples the "powerful simulations and massive data sets (which) allow physicists to visualize, understand, and debate models of an 11- dimension universe, real-time data from satellites, global environmental databases, and high-resolution models (which) allow geophysicists to recognize the subtle signs of long-term changes to the planet," and similar man-made interactions which have the functional effect of augmenting human intelligence. Conceivable potential software could incorporate individual "attention filters" or "focus assistants" which would discern and highlight your individual preferences in a computer display, permitting you to focus and direct your computer searches more efficiently than you do now. It could incorporate individualized planning and foresight systems which could allow people to play "what-if" with their life choices. Such systems could co-evolve with people to produce intimate technologies which would become "something akin to collaborative intuition," through web-based information systems with personalized components, according to Cascio.

Somewhat more problematic in social terms might be pharmacological intelligence augmentation, evoking Brave New World nightmares – pharmaceutically placated people tranquilized to zombie-like subservience to the collective and a central bureaucracy dedicated to its own continued survival. However, as with external cognitive augmentation, the future has arrived – in the form of, for example, ADD drugs, pharmaceutical agents which mitigate sleep disorders, and antidepressants, all of which enhance human problem – solving ability and cognitive efficiency. According to Cascio, "people who don't know about (such drugs) or don't want to use them will face stiffer competition from people who do. From the perspective of a culture immersed in athletic doping wars, the use of such drugs may seem like cheating. From the perspective of those who find they're much more productive using this form of enhancement it's no more cheating than getting a faster computer or a better education."

Cognitive amplification, whether by external or internal means, may constitute evolution, if Calvin's assertion is correct. Some societies may readily embrace it, while others may shy away. As science fiction writer William Gibson observes, "The future is already here; it's just unevenly distributed."

92- The author is mainly concerned about -----.

- 1) the differences between external and internal intelligence augmentation
- 2) some scientists who are working on intelligence augmentation
- 3) various dangers of intelligence augmentation
- 4) the basic methods of intelligence augmentation

93- The author's use of the phrase "somewhat more problematic in social terms" refers to -----.

- 1) the difficulty of making pharmacological enhancement socially acceptable
- 2) the relationship between external and internal intelligence augmentation
- 3) the difficulty of making cognitive enhancement widely available
- 4) equalizing cognitive competitive advantages among social groups

94- As it is used in (line 25), the word "placated" most closely means -----.

- 1) cured
- 2) quieted
- 3) deprived
- 4) assisted

95- In the context of the passage, which of the following best articulates the author's opinion?

- 1) Some people consider intelligence enhancement to be a form of cheating.
- 2) Personalized software could be misused by a bureaucracy intent on its own continued survival.
- 3) Intelligence amplification by external means might be more difficult to achieve than by internal means.
- 4) External and internal intelligence enhancement might constitute evolution in cultures that accept them.

96- The primary purpose of the passage is to -----.

- 1) dispel misgivings about humanity's attempts at creating its own evolution
- 2) discuss society's reactions to pharmacological cognitive augmentation
- 3) describe different kinds of intelligence enhancement
- 4) illustrate the limitations of external intelligence augmentation

97- The word "prowess" in line 4 is closest in meaning to -----.

- 1) skill
- 2) mind
- 3) feature
- 4) advantage

98- According to the passage, the last ice age -----.

- 1) was the beginning of intelligence amplification
- 2) led to great changes on the earth
- 3) made humans get smart
- 4) destroyed human intelligence

99- Brave New World seems to depict -----.

- 1) the dangers of ADD drugs
- 2) the nightmares of addicted people
- 3) the effect of medicine on cognitive development
- 4) people's control by a central government

100- The word "it" in (line 19) refers to -----.

- 1) computer
- 2) software
- 3) human intelligence
- 4) display