

First Name:
Last Name:
Department:
Exam Date:

PART 1: LISTENING

A. Note taking

Answer the questions according to your notes.

1. Why were early damage theories incorrect?
A) because damage is not an important cause of aging
B) because damage occurs only temporarily
C) because aging is a natural process
D) because the human body has the capacity to repair itself
2. What is one interpretation of the Hayflick Limit theory?
A) DNA replicates indefinitely
B) Our DNA gradually becomes damaged.
C) A cellular clock exists in our DNA.
D) DNA can potentially divide for fifty years.
3. What directly affects the rate of cell division?
A) the amount of waste products in the cell
B) the amount of exercise a person gets
C) the amount of artificial substances a person consumes
D) the amount of food a person eats
4. By how much should a person reduce his calorie intake if he adopts a CR diet?
A) 20 percent **B) 30 percent**
C) 40 percent D) 50 percent
5. What is one environmental factor that causes free radicals to form?
A) strong sunlight B) water
C) oxygen **D) air pollution**
6. Which of the following is NOT damaged by free radicals?
A) cellular repair B) DNA
C) cell membranes **D) electrons**
7. What is xenotransplantation?
A) using drugs that reduce the metabolic rate
B) using animal tissues to treat human illnesses
C) using stem cells to repair human organs
D) using undamaged human tissues to repair organs
8. In the “natural approach” to slow aging what does the lecturer NOT recommend doing?
A) High nutrition low calorie diet
B) Don't over eat
C) Take nutritional supplements
D) Moderate exercise

B. While listening

Answer the questions as you listen.

9. What aspect of the nineteenth century is the lecture mainly about?
A) Differences between British and American Utopian ideals
B) The introduction of free public education
C) An attempt to develop a Utopian community
D) Economic reform movements in the United States

10. What reforms of the textile industry was Robert Owen NOT responsible for?
A) Higher pay for workers
B) Faster production
C) Shorter working hours
D) Schooling for workers' children
11. According to the professor, what did Owen believe about human behavior?
A) Society benefits from human beings' tendency to be competitive.
B) Childhood circumstances are the most significant influence on behavior.
C) Children learn better behavior when educated by their parents at home.
D) A life of hard work will improve an individual's character.
12. Why does the professor mention Owen's views on the use of technology?
A) To show a difference between Owen's beliefs and those of other reformers
B) To describe how Owen became successful managing textile mills
C) To illustrate Owen's unhappiness with industrialization in Great Britain
D) To explain how New Harmony was built in such a short period of time
13. According to the professor, why did some people join the New Harmony community?
A) They saw an opportunity to achieve greater social and economic equality.
B) They were unhappy with their lives in England.
C) They agreed with Owen's ideas on industrial production.
D) They were attracted by the promise of owning private property.
14. What does the professor imply about the name of the community?
A) It was originally the name of a similar community in England.
B) It was later used by other Utopian communities in the United States.
C) It was not an accurate reflection of the situation in the community.
D) It was not chosen by the people in the community.
15. What is the professor's opinion of the New Harmony experiment?
A) She agrees with those who view it as a complete failure.
B) She believes that it was more successful than other Utopian experiments of the period.
C) She wants to conduct more research before reaching any conclusions.
D) She thinks that the educational theories of the experiment had an effect on society as a whole.

PART 2: READING

A.

Utopians and Education

1 The Greek word Utopia has been used by those who envision a perfect world. The social reformers of the eighteenth and nineteenth centuries, like the British industrialist Robert Owen and the French theorist Charles Fourier, are considered Utopians because they believed in impossibly ideal conditions of social organization. Convinced that they possessed the truth, Utopians often exhibited a sense of mission by which they tried to persuade the unbeliever to accept the truth of their visions. Nonviolent but persuasive, Utopians relied heavily on providing unbelievers with information to convert them to the Utopian vision so that they joined the cause. Utopians relied on informal education to make their messages known to an ever-widening audience. Owen and Fourier, for example, were tireless writers who produced volumes of essays and other publications. In particular, Owen was a frequent lecturer and organizer of committees designed to advance his Utopian beliefs.

2 Education was designed to create a popular movement for joining the Utopian cause. In this journalist or lecture stage, Utopian education consisted of two elements. First, it mentioned the ills of society and suggested how they might be remedied. Second, it presented a picture of life, often minutely detailed, in the new society.

3 Utopians believed that modern industrialism had caused individuals to lose interest in the values of both family and the larger society, resulting in personal and social disorganization. To overcome this sense of alienation, Utopians sought to create perfectly *integrated* communities. Like *the ancient Greek city-state*, the new community would be a totally instructive environment. Work, leisure, art, and social and economic relationships would reinforce the sense of community and cultivate communitarian values. Fourier's form of communal organization, the phalanstery, consisted of 2,000 members and was organized into flexible groups that provided for production, education, and

recreation. In addition to communal workshops, kitchens, and laundries, the phalanstery would also provide libraries, concert halls, and study rooms for its members.

4 Utopian theorists, especially Owen, emphasized the education of the young in institutes and schools. The child, they reasoned, held the key to continuing the new society. Rejecting older concepts of child depravity and inherited human weakness, Utopians believed that human nature can be *molded*. Owen and other Utopians advocated beginning children's education as early as possible. Young children, they reasoned, were free of the prejudices and biases of the previously established social order. If they were educated in community nurseries, they would be free from the contaminating ideas or those who had not yet been cured of the vices of the established society. They could be shaped into the desired type of communitarian human being. Community nurseries and infant schools performed a second function: freeing women from the burdens of child rearing and allowing them to have full equality with the male residents of Utopia.

5 According to Fourier, the family and the school in the previously established social order were agencies used to criticize and correct children. Fourier intended to replace them with associative or group-centered education in which peer friends would correct negative behavior in the spirit of open friendship. Fourier's associative form of education involved mutual criticism and group correction, which was a form of character molding that brought about community social control and conformity. Fourier believed that children, like adults, had instincts and interests that should be encouraged rather than repressed. He envisioned a system of miniature workshops in which children could develop their industrious instincts.

6 His associative education was also intended to further the children's complete development. First, the body and its senses were exercised and developed. Second, cooking, gardening, and other productive activities would *cultivate* the skills of making and managing products. Third, mental, moral, and spiritual development would incline the child to truth and justice.

7 Schooling in the Utopian designs of Owen, Fourier, and others rejected learning that was highly verbal, rigidly systematic, and dominated by classical languages. Because of its concern for forming character, it often led to pioneering insights in early childhood education. *It* was intended, however, to bring about a sense of conformity to group norms and rules. While *immersion* in the group diminished the personal alienation caused by industrial society, it also restricted the opportunity to develop individual difference and creativity.

Answer the questions according to the reading.

16. Which of the sentences below best expresses the essential information in the following sentence from paragraph 1? *Incorrect choices change the meaning in important ways or leave out essential information.*

Convinced that they possessed the truth, Utopians often exhibited a sense of mission by which they tried to persuade the unbeliever to accept the truth of their visions.

- A) Because they felt they were right, Utopians convinced unbelievers to accept their point of view.
- B) Utopians had a sense of purpose and truth that unbelievers did not accept
- C) The belief that they were right gave Utopians a strong sense of purpose in persuading others.**
- D) Unbelievers often changed their minds once they realized that the Utopians thought that they possessed the truth.

17. According to paragraphs 1 and 2, what was the main method that Utopians used to spread their beliefs?

- A) They formally educated students in schools.
- B) They expressed their ideas to audiences in writing and speaking.**
- C) They challenged non-Utopians to public debates.
- D) They organized groups of Utopians to meet in people's homes.

18. Why does the author mention "*the ancient Greek city-state*" in paragraph 3?

- A) To contrast ancient Greek culture with Fourier's vision of Utopian culture.
- B) To suggest that both Greek and Utopian communities were organized for educational purposes.**
- C) To emphasize that both Greek and Utopian communities encouraged individual expression.
- D) To illustrate the superiority of Greek moral values to those of Utopians.

19. Paragraph 3 suggests that according to Utopian belief, modern industrialism harmed people by_____

- A) causing personal and social disorganization.**
- B) increasing their desire for social activity.
- C) restricting their economic relationships.
- D) encouraging too much leisure activity.

20. The word *integrated* in paragraph 3 is closest in meaning to_____
- A) managed B) instructed C) informed **D) unified**
21. The word *molded* in paragraph 4 is closest in meaning to_____
- A) understood **B) shaped**
C) confused D) grouped
22. According to paragraph 5, how did Fourier believe that children should be educated?
- A) They should learn from their interactions with other children.**
B) Their behavior should be supervised by older adults.
C) They should be instructed primarily by the individual family unit.
D) They should receive criticism from both adults and children.
23. According to paragraphs 5 and 6, what was one purpose of associative learning?
- A) It taught children how to develop strong critical abilities.
B) It taught children how to criticize to the societal system which they lived.
C) It taught children to control their natural instincts.
D) It demonstrated the superiority of spiritual over physical development.
24. The word *cultivate* in paragraph 6 is closest in meaning to_____
- A) separate B) require **C) develop** D) organize
25. The word *It* in paragraph 7 refers to_____
- A) utopian schooling**
B) verbal, rigidly systematic learning
C) concern for forming character
D) early childhood education
26. The word *immersion* in paragraph 7 is closest in meaning to_____
- A) expansion B) variation
C) involvement D) imagination
27. According to the passage, all of the following are advantages of a Utopian education EXCEPT:
- A) Children are not affected by the prejudiced beliefs of adults.
B) Women are freed from the obligations of raising children.
C) Children learn to work hard naturally in groups.
D) Personal creativity is emphasized.

B. Brown Dwarf

1 A brown dwarf is a celestial body that has never quite become a star. A typical brown dwarf has a mass that is 8 percent or less than that of the Sun. The mass of a brown dwarf is too small to generate the internal temperatures capable of igniting the nuclear burning of hydrogen to release energy and light.

2 A brown dwarf contracts at a steady rate, and after it has contracted as much as possible, a process that takes about 1 million years, it begins to cool off. Its emission of light diminishes with the decrease in its internal temperature, and after a period of 2 to 3 billion years, its emission of light is so weak that it can be difficult to observe from Earth.

3 Because of these characteristics of a brown dwarf, it can be easily distinguished from stars in different stages of formation. A brown dwarf is quite distinctive because its surface temperature is relatively cool and because its internal composition—approximately 75 percent hydrogen—has remained essentially the same as it was when first formed. A white dwarf, in contrast, has gone through a long period when it burns hydrogen, followed by another long period in which it burns the helium created by the burning of hydrogen and ends up with a core that consists mostly of oxygen and carbon with a thin layer of hydrogen surrounding the core.

4 It is not always as easy, however, to distinguish brown dwarfs from large planets. Though planets are not formed in the same way as brown dwarfs, they may in their current state have some of the same characteristics as a brown dwarf. The planet Jupiter, for example, is the largest planet in our solar system with a mass 317 times that of our planet and resembles a brown dwarf in that it radiates energy based on its internal energy. It is the mechanism by which they were formed that distinguishes a high-mass planet such as Jupiter from a low-mass brown dwarf.

• **Answer the questions according to the reading.**

28. It is stated in the passage that the mass of an average brown dwarf_____
- A) **is smaller than the mass of the Sun**
B) generates an extremely high internal temperature
C) is capable of igniting nuclear burning
D) causes the release of considerable energy and light
29. According to paragraph 2, a brown dwarf cools off_____
- A) within the first million years of its existence
B) **after its contraction is complete**
C) at the same time that it contracts
D) in order to begin contracting
30. What is stated in paragraph 2 about a brown dwarf that has cooled off for 2 to 3 billion years?
- A) **Its weak light makes it difficult to see from Earth.**
B) It no longer emits light.
C) Its weak light has begun the process of re-strengthening.
D) Scientists are unable to study it.
31. According to paragraph 3, a white dwarf_____
- A) is approximately 75 percent hydrogen
B) still burns a considerable amount of hydrogen
C) creates hydrogen from helium
D) **no longer has a predominantly hydrogen core**
32. It is indicated in paragraph 3 that_____
- A) the amount of hydrogen in a brown dwarf has increased dramatically
B) a brown dwarf had far more hydrogen when it first formed
C) **three-quarters of the core of a brown dwarf is hydrogen**
D) the internal composition of a brown dwarf is always changing
33. What is mentioned in paragraph 4 about brown dwarfs?
- A) They are quite different from large planets.
B) They are formed in the same way as large planets.
C) **They can share some similarities with large planets.**
D) They have nothing in common with large planets.
34. It is indicated in paragraph 4 that Jupiter_____
- A) radiates far less energy than a brown dwarf
B) is a brown dwarf
C) formed in the same way as a brown dwarf
D) **is in at least one respect similar to a brown dwarf**

C. Animal Congregation

Many types of animals combine the advantages of family association with those conferred by membership in still larger groups. Bees congregate in hives; some fish move in schools; ants gather in mounds; wolves live in packs; deer associate in herds. The main advantage of membership in a mass community is the safety that *it* provides. A large group of prey may be easier for a predator to find at any given point than is a small *one*, and a predator may think twice before taking on such a group; if a predator does decide to challenge a large group, *it* may merely encounter a confusing mass of moving bodies and possibly may not succeed in its primary goal.

Answer the questions according to the reading.

35. The word "*one*" in the passage refers to_____
- A) group
B) **prey**
C) predator
D) point

36. The word "*it*" in line 3 refers to_____
- A) advantage B) **membership** C) community D) safety
37. The word "*it*" in line 5 refers to
- A) **predator** B) group C) mass D) goal

D. *New World Epidemics*

A huge loss of life resulted from the introduction of Old World diseases into the Americas in the early sixteenth century. The inhabitants of the Americas were separated from Asia, Africa, and Europe by rising oceans following the Ice Ages, and, as a result, *they* were isolated by means of *this watery barrier* from numerous virulent epidemic diseases that had developed across the ocean, such as measles, smallpox, pneumonia, and malaria. Pre-Columbian Americans had a relatively disease-free environment but also lacked the antibodies needed to protect *them* from bacteria and viruses brought to America by European explorers and colonists. A devastating outbreak of disease that strikes for the first time against a completely unprotected population is known as a virgin soil epidemic. Virgin soil epidemics contributed to an unbelievable decline in the population of native inhabitants of the Americas, *one* that has been estimated at as much as an 80 percent decrease of the native population in the centuries following the arrival of Europeans in the Americas.

Answer the questions according to the reading.

38. The word "*they*" in the passage refers to_____
- A) **the inhabitants** B) epidemic diseases
C) rising oceans D) the Ice Ages
39. The phrase "*this watery barrier*" in the passage refers to_____
- A) a disease-free environment
B) the Ice Age
C) virulent epidemic diseases
D) **the ocean**
40. The word "*them*" in the passage refers to_____
- A) **pre-Columbian Americans**
B) the antibodies
C) bacteria and viruses
D) European explorers and colonists
41. The word "*one*" in the passage refers to
- A) a virgin soil epidemic
B) **an unbelievable decline**
C) the population of native inhabitants
D) the arrival of Europeans

E. *Demographic change*

1 By the end of the 1920s, American society had undergone a long and historic demographic change. Since the 1870s, the country had been moving from a more rural mode that was based on high birthrates—*as high as fifty births annually per thousand people in the early nineteenth century*—to a more metropolitan mode. Prior to the 1870s, the population of the country was increasing by about a third every decade; *however*, by the end of the 1920s, a radical about-face had taken place.

2 One major factor to affect the demographics of the country during this period was a dramatic decrease in birthrates. The trend during this era was more pronounced in urban areas but also had an effect in rural areas. As a result of the trend toward smaller families, particularly in cities, the birthrate was down to 27.7 births annually per thousand women by 1920 and had dropped even further—to 21.3 births annually per thousand women—by 1930.

3 At the same time, the death rate, *too*, was falling. Urban living led to better sanitation, refrigeration, and water purification; it also resulted in *better medical care* as doctors and hospitals were more readily available. *Most likely* as a result of these factors, there were only eleven deaths per thousand annually by the early 1920s, which was half the rate of the 1880s.

Answer the questions according to the reading.

42. Why does the author include the phrase "*as high as fifty births annually per thousand people in the early nineteenth century*" in paragraph 1?

- A) To show that metropolitan areas of the country had higher birthrates than rural areas
- B) To provide statistical evidence of the elevated birthrate prior to the 1870s
- C) To quantify what had happened with the American population in the previous century**
- D) To argue against the belief that the demographics of the country had changed

43. The author uses the word "*however*" in paragraph 1 in order _____

- A) to make it clear that an extreme change had taken place**
- B) to emphasize how tremendously the population was increasing
- C) to point out an alternate explanation for the change
- D) to indicate a difference of opinion with other demographers

44. The author includes the word "*too*" in paragraph 3 _____

- A) to indicate that both the birthrate and the death rate were holding steady
- B) to show that the rural mode was similar to the metropolitan mode
- C) to clarify the explanation that population trends before and after 1870 were similar
- D) to emphasize that paragraph 3 discusses a second factor in the demographic change**

45. Why does the author mention "*better medical care*" in paragraph 3?

- A) It helps to explain why the birthrate is increasing.
- B) It is an example of a factor that contributed to the improved birthrate.
- C) It helps to explain why the death rate is increasing.
- D) It is an example of a factor that contributed to the declining death rate.**

PART 3: USE OF ENGLISH

Sentence Completion

Choose the correct option to complete the sentence

46. If Alex _____ with his girlfriend, he _____ now.

- A) hadn't broken up / wouldn't be suffering**
- B) hadn't broken up / wouldn't suffer
- C) didn't break up / wouldn't be suffering
- D) weren't to break up / wouldn't suffer

47. He was dealt such a harsh blow _____stunned for several minutes.

- A) which caused him to be
- B) that he was**
- C) because of which he was
- D) owing to surprising him

48. Sergeant Rickman _____ two small white amphetamine tablets with his vitamins so as _____ in the morning.

- A) swallows / to wake up**
- B) swallowed / woke up
- C) has swallowed / woken up
- D) has been swallowed / to wake up

49. Recent outbreaks of food poisoning in Japan _____ been_____ severe that the government authorities asked the researchers to take time out from developing new audio and video gadgets to come up with a quick and simple test _____ detect the presence of deadly bacteria in food.

- A) had / so / for
- B) have / such / since
- C) have/ very / for
- D) have / so / to**

50. Overexposure to the sun can produce _____ can some toxic chemicals.
A) the most damage to the skin
B) more damage than the skin
C) damage to the skin
D) more damage to the skin than
51. Some students _____ all this week for the examination , while others _____yet.
A) studied / didn't begin
B) studied / have not begun
C) have been studying / haven't begun
D) are studying / began
52. I'm sure that he _____ with us after he _____ down a little.
A) will agree/has calmed
B) had agreed/is going to calm
C) agrees/calmed
D) agreed/would have calmed
53. Astronomers stated that if the comet that hit Jupiter in July 1994 _____ with the Earth, it _____ life on the planet.
A) collides / is going to end
B) was colliding/had ended
C) could have collided / ended
D) had collided/would have ended
54. _____ so she wasn't very pleased when it was cancelled.
A) My uncle had bought us all tickets to the play
B) Mary wasn't planning on seeing the film anyway
C) Elizabeth was not very excited about her birthday
D) Ann had been looking forward to the party
55. Although the temperature was below freezing, _____.
A) it had been snowing heavily for days
B) the old beggar was only wearing a thin jacket
C) everybody at home had gone down with flu
D) the ice on the pond was a foot thick
56. Despite the fact that the price was reasonable, _____.
A) there were long lines outside the shop
B) it shouldn't be reduced by 50% in the sale
C) we managed to buy a new car last month
D) no one was interested in buying the house
57. During the hot summer of 1976, _____.
A) it was, fortunately, followed by a mild winter
B) many regions in the country experienced a terrible drought
C) there's never been a summer as hot as that
D) we have been finding it difficult to sleep
58. _____ in case we couldn't find an open shop.
A) We weren't able to buy any butter
B) We took everything we needed with us
C) Our house was in a very remote area
D) We drove along the road for a long time

59. _____ had he found the job he had always wanted _____ the economic crisis forced the company out of business.
A) **No sooner/than**
B) Whether/or
C) Not only/but also
D) Both/and
60. We were enjoying our hike in the mountains until the sudden storm hit and _____ we found ourselves lost, cold and wet.
A) on the whole
B) rather than
C) **all at once**
D) in progress

PART 4: VOCABULARY

Choose the correct option to complete the sentence

61. Jamie is completely _____ with One Direction. His bedroom wall is covered with pictures of them, and he's bought every record they've ever made.
A) mad
B) **obsessed**
C) persistent
D) addictive
62. Some fans think that the referee was biased against our team and wanted Manchester United to win, but I think he was quite _____ — Manchester just played better.
A) **impartial**
B) agreeable
C) unfair
D) distant
63. Wendy didn't want to buy the carpet at first, but the salesman was so _____ that she changed her mind and bought it.
A) fashionable
B) available
C) inexpensive
D) **persuasive**
64. When the police caught one of the bank robbers, he decided to make a full _____ and tell them everything that had happened.
A) contradiction
B) outburst
C) **confession**
D) suspicion
65. If you don't properly tie your boat up, it will _____ out to sea when the tide turns
A) sink
B) **drift**
C) escape
D) reckon
66. According to the comics, Superman's mission is to _____ evil from the world and fight for the forces of justice and good.
A) comprehend
B) hasten
C) **eradicate**
D) declare
67. Bob heard the shouts and saw people gesturing _____ at him, but he didn't understand their panic until he saw the large snake uncoiling itself from the tree above his head.
A) obediently
B) **frantically**
C) fearlessly
D) dangerously
68. Everyone who wishes to live and work in a foreign country must be willing to _____ by local laws and customs.
A) dictate
B) judge
C) **abide**
D) behave
69. They had told us that it was a wonderful restaurant, but we thought it was rather _____. The food was nothing special and the waiters were rude.
A) **mediocre**
B) tasteless
C) inedible
D) blunt
70. If I don't get up _____ when the alarm clock rings, I fall asleep again, and I'm late for work.
A) lazily
B) **promptly**
C) lately
D) eventually

PART 5: WRITING (20 points)

Instructions: Choose one of the following topics and write a well-organized **ESSAY** (Introduction, body paragraphs, and conclusion) of at least 250 words. Please pay attention to the types of the essays.

1. Parents should limit their children's access to media? Discuss this idea in your essay by giving specific reasons and examples.
2. Explain how to succeed at a job interview. Describe the process step by step with giving examples.
3. Classify university students according to their study habits. Explain your ideas with specific reasons and examples.