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Passage – 1

Once surrounded and protected by vast wilderness, many of the national parks are adversely affected by activities outside their boundaries. The National Park Organic Act established the national park system and empowered the Secretary of the Interior to manage activities within the parks. Conditions outside park boundaries are not subject to regulation by the Park Service unless they involve the direct use of park resources.

Several approaches to protecting the national parks from external degradation have been proposed, such as one focusing on enacting federal legislation granting the National Park Service broader powers over lands adjacent to the national parks. Legislation addressing external threats to the national parks twice passed the House of Representatives but died without action in the Senate. Also brought to the table as a possible remedy is giving the states bordering the parks a significant and meaningful role in developing federal park management policy. Because the livelihood of many citizens is linked to the management of national parks, local politicians often encourage state involvement in federal planning. But, state legislatures have not always addressed the fundamental policy issues of whether states should protect park wildlife.

Timber harvesting, ranching and energy exploration compete with wildlife within the local ecosystem. Priorities among different land uses are not generally established by current legislation. Additionally, often no mechanism exists to coordinate planning by the state environmental regulatory agencies. These factors limit the impact of legislation aimed at protecting park wildlife and the larger park ecosystem.

Even if these deficiencies can be overcome, state participation must be consistent with existing federal legislation. States lack jurisdiction within national parks themselves, and therefore state solutions cannot reach activities inside the parks, thus limiting state action to the land adjacent to the national parks. Under the supremacy clause, federal laws and regulations supersede state action if state law conflicts with federal legislation, if Congress precludes local regulation, or if federal regulation is so pervasive that no room remains for state control. Assuming that federal regulations leave open the possibility of state control, state participation in policy making must be harmonized with existing federal legislation.

The residents of states bordering national parks are affected by park management policies. They in turn affect the success of those policies. This interrelationship must be considered in responding to the external threats problem. Local participation is necessary in deciding how to protect park wildlife. Local interests should not, however, dictate

national policy, nor should they be used as a pretext to ignore the threats to park regions.

1. What is the main purpose of the author in writing the passage?

- A. argue that rampant timber harvesting is degrading national parks
- B. describe a plan of action to resolve an issue

C. discuss different approaches to dealing with a problem
D. suggest that local participation is necessary to solve the problem described

E. to assert that national parks are adversely affected by activities outside their boundaries

2. The passage provides support for which of the following assertions?

A. The National Park Organic Act gave the Secretary of the Interior the right to overrule state government policy in lands adjacent to national parks.

B. The federal government has been selling national park land to state governments in order to raise money for wildlife conservation.

C. The actions of state governments have often failed to promote the interests of national park wildlife.

D. Local politicians want the federal government to turn control of national parks over to state governments.

E. Timber harvesting and energy exploration have not had any impact on national parks

3. In the context of the passage, the phrase *external degradation* (line 0) refers to which of the following:

A. threats to national parks arising from the House of Representative's willingness to address environmental issues.

B. threats to national parks arising from state government environmental policies.

C. threats to national parks arising from local politicians' calls for greater state involvement in national park planning.

D. threats to national parks arising from the National Park Organic Act. E. threats to national parks arising from the lack of local support

4. According to the passage, which of the following developments is most likely if environmental cooperation between the federal government and state governments does not improve?

A. A further decline in the land area of national parks

B. A further increase in federal ownership of land adjacent to national parks

C. A further growth in the powers of the National Park Service

D. A further loss of species in national parks

E. A further increase in timber harvesting activities

Passage - 2

Henry Varnum Poor, editor of *American Railroad Journal*, drew the important elements of the image of the railroad together in 1801, —Look at the results of this material progress...the vigor, life, and executive energy that followed in its train, rapidly succeeded by wealth, the refinement and intellectual culture of a high civilization.

All this is typified, in a degree, by a locomotive. The combination in its construction of nice art and scientific application of power, its speed surpassing that of our proudest courser, and its immense strength, are all characteristic of our age and tendencies. To us, like the telegraph, it is essential, it constitutes a part of our nature, is a condition of our being what we are.

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In the third decade of the nineteenth century, Americans began to define their character in light of the new railroads. They liked the idea that it took special people to foresee and capitalize on the promise of science. Railroad promoters, using the steam engine as a metaphor for what they thought Americans were and what they thought Americans were becoming, frequently discussed parallels between the locomotive and national character, pointing out that both possessed youth, power, speed, single-mindedness, and bright prospects.

Poor was, of course, promoting acceptance of railroads and enticing his readers to open their pocketbooks. But his metaphors had their dark side. A locomotive was quite unlike anything Americans had ever seen. It was large,

mysterious and dangerous; many thought that it was a monster waiting to devour the unwary.

There was a suspicion that a country founded upon Jeffersonian agrarian principles had bought a ticket and boarded a train pulled by some iron monster into the dark recesses of an unknown future.

To ease such public apprehensions, promoters, poets, editors, and writers alike adopted the notion that locomotives were really only —iron horses, an early metaphor that lingered because it made steam technology ordinary and understandable. Iron horse metaphors assuaged fears about inherent defects in the national character, prompting images of a more secure future, and made an alien technology less frightening, and even comforting and congenial.

Essayist Ralph Waldo Emerson saw the locomotive as an agent of domestic harmony. He observed that —the locomotive and the steamboat, like enormous shuttles, shoot every day across the thousand various threads of national descent and employment and bind them fast in one web, adding —an hourly assimilation goes forward, and there is no danger that local peculiarities and hostilities should be preserved. To us Americans, it seems to have fallen as a political aid. We could not else have held the vast North America together, which we now engage to do.

1. Which of the following claims would the author of the passage most agree with?

- A. The railroad undermined America's progressive tendencies.
- B. Railroad promoters like Poor denounced Jeffersonian agrarian principles.
- C. The Americans in general were against the railroad
- D. Ralph Waldo Emerson thought that the railroad would harm America.
- E. Americans generally supported the development of the railroad.

2. The passage is primarily concerned with which of the following?

- A. criticise one interpretation of the early American railroads
- B. discuss the early years of the railroad and its connection to the American character of the time.
- C. suggest that railroads were the most important development in the history of America
- D. describe the apprehension with which most of the Americans greeted the early railroads
- E. assert that Americans were tricked into believing that the railroads were beneficial for them

3. According to the passage, which of the following is most likely to be true about Ralph Waldo Emerson's beliefs?

- A. He felt that Americans should adhere strictly to Jeffersonian agrarian principles.
 - B. He thought that the railroad was as important as the telegraph.
 - C. He felt that technological progress would help to unify Americans.
 - D. He thought that railroad promoters were acting against America's best interests.
 - E. His metaphors had a dark side to them
4. Suppose that an early nineteenth-century American inventor had developed a device that made it easier to construct multi-story building. How would early nineteenth-century Americans be expected to react to this invention?
- A. They would not support society's use of such a device.
 - B. They would generally support society's use of such a device.
 - C. They would have no opinion about society's use of such a device.
 - D. They themselves would not use such a device.
 - E. They would initially view such a device with skepticism

Passage – 3

Suspicious as they are of American intentions, and bolstered by court rulings that seem to give them license to seek out and publish any and all government secrets, the media's distrust of our government, combined with their limited understanding of the world at large, damages our ability to design and conduct good policy in ways that the media rarely imagine.

The leak through which sensitive information flows from the government to the press is detrimental to policy in so far as it almost completely precludes the possibility of serious discussion. The fear that anything they say, even in what is construed as a private forum, may appear in print, makes many people, whether our own government officials or the leaders of foreign countries, unwilling to speak their minds.

Must we be content with the restriction of our leaders' policy discussions to a handful of people who trust each other, thus limiting the richness and variety of ideas that could be brought forward through a larger group because of the nearly endemic nature of this problem? It is vitally important for the leaders of the United States to know the real state of affairs internationally, and this can occur only if foreign leaders feel free to speak their minds to our diplomats.

Until recently, it looked as if the media had convinced the public that journalists were more reliable than the government; however, this may be changing. With the passage of time, the media have lost lustre. They—having grown large and powerful—provoke the same public skepticism that other large institutions in the society do. A series of media scandals has contributed to this. Many Americans have concluded that the media are no more credible than the government, and public opinion surveys reflect much ambivalence about the press.

While leaks are generally defended by media officials on the grounds of the public's —right to know, in reality they are part of the Washington political power game, as well as part of the policy process. The "leaker" may be currying favour with the media, or may be planting information to influence policy. In the first case, he is helping himself by enhancing the prestige of a journalist;

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in the second, he is using the media as a stage for his preferred policies. In either instance, it closes the circle: the leak begins with a political motive, is advanced by a politicized media, and continues because of politics. Although some of the journalists think *they* are doing the work, they are more often than not instruments of the process, not prime movers.

The media must be held accountable for their activities, just like every other significant institution in our society, and the media must be forced to earn the public's trust.

1. Based on the information in the passage, with which of the following statements would the author most likely agree?

A. Feeding the public misinformation is warranted in certain situations. B. The public has a right to know the real state of foreign affairs. C. The fewer the number of people involved in policy discussions, the better. D. Leaders give up their right to privacy when they are elected. E. The media is not accountable to the public

2. Implicit in the author's argument that leaks result in far more limited and unreliable policy discussions with foreign leaders is the idea that:

A. leaks should be considered breaches of trust and therefore immoral. B. leaks have occurred throughout the history of politics. C. foreign and U.S. leaders discussed policy without inhibition before the rise of the mass media.

D. leaders fear the public would react negatively if it knew the real state of affairs. E. it is best to keep the media in the dark

3. What is the main idea of the passage?

A. to argue that the media is acting against the national interests.

B. to convince that journalists are attempting to enhance their own prestige.

C. to discuss the negative effects that media-leaks have on foreign policy and the media's credibility.

D. to criticize politicians for being dishonest in public.

E. to suggest that the media needs to be regulated more strongly and effectively.

4. Based on the passage, when the media now challenge the actions of a public official, the public assumes that:

A. the official is always wrong. B. the media is always wrong. C. the media may be wrong.

D. the official and the media may both be wrong.

E. the public ignores this piece of news completely

Passage – 4

In the decades following World War II, American business had undisputed control of the world economy, producing goods of such high quality and low cost that foreign corporations were unable to compete. But in the mid-1960s the United States began to lose its advantage and by the 1980s American corporations lagged behind the competition in many industries. In the computer chip industry, for example, American corporations had lost most of both domestic and foreign markets by the early 1980s.

The first analysts to examine the decline of American business blamed the U.S. government. They argued that stringent governmental restrictions on the behaviour

of American corporations, combined with the wholehearted support given to foreign firms by their governments, created an environment in which American products could not compete. Later analysts blamed predatory corporate raiders who bought corporations, not to make them more competitive in the face of foreign competition, but rather to sell off the most lucrative divisions for huge profits.

Still later analysts blamed the American workforce, citing labour demands and poor productivity as the reasons American corporations have been unable to compete with Japanese and European firms.

Finally, a few analysts even censured American consumers for their unpatriotic purchases of foreign goods. The blame actually lies with corporate management, which has made serious errors based on misconceptions about what it takes to be successful in the marketplace.

These missteps involve labour costs, production choices, and growth strategies. Even though labour costs typically account for less than 0% of a product's total cost, management has been quick to blame the costs of workers' wages for driving up prices, making American goods uncompetitive. As a result of attempts to minimize the cost of wages, American corporations have had trouble recruiting and retaining skilled workers.

The emphasis on cost minimization has also led to another blunder: an over-concentration on high technology products. Many foreign firms began by specializing in the mass production and sale of low technology products, gaining valuable experience and earning tremendous profits.

Later, these corporations were able to break into high technology markets without much trouble; they simply applied their previous manufacturing experience and ample financial resources to the production of higher quality goods. American business has consistently ignored this very sensible approach.

The recent rash of corporate mergers and acquisitions in the U.S. has not helped the situation either. While American firms have neglected long-range planning and production, preferring instead to reap fast profits through mergers and acquisitions, foreign firms have been quick to exploit opportunities to ensure their domination over future markets by investing in the streamlining and modernization of their facilities.

1. The passage suggests that compared to Japanese workers, American workers are often considered:

A. more content and more efficient. B. more content but less efficient. C. less content and less efficient. D. less content but more efficient. E. lazy and less hard working

2. With which of the following general statements would the author most likely NOT agree?

A. American business has been hurt by the inability to plan for the long-term.

B. Cutting production costs always leads to increased competitiveness.

C. American consumers are not the prime cause of the decline of American business.

D. Initial analysis of the decline of American business yielded only partially accurate conclusions.

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E. Mergers and Acquisitions have not helped improve the situation

3. Which of the following would most *weaken* the author's argument about the over-concentration on high technology products?

- A. Producing low tech products is not as profitable as producing high tech products.
- B. Manufacturing high tech products is a completely different process than manufacturing low tech goods.
- C. Most of the low tech products purchased by Americans are made by foreign firms.
- D. Most of the high tech products purchased by Americans are made by foreign firms.
- E. Most of the high tech products purchased by Americans are made by American firms.

4. The author of this passage would probably give his greatest support to which of the following actions by the corporate management of an American company?

- A. Acquiring a smaller company in order to gain financial resources
- B. Considering the option of paying the most highly skilled workers a higher wage
- C. Trying to learn from the general management strategy of foreign firms
- D. Paying for television advertisements that will win back American consumers
- E. Flooding foreign markets with cheap goods

Passage – 5

Every four years voters across the United States elect a president. Various factors such as choices in campaign locations, the candidates' adherence to polling data and use of the Internet by candidates to reach potential voters all influence the preference of those voters, but perhaps none of these is so persuasive as a candidate's performance on nationally televised debates just prior to the election. Newspapers and television news programs generally attempt to provide thorough coverage of the debates, further augmenting the effect of good or bad candidate performances.

In this way, the news media fulfil the traditional role of educating the public and enabling voters to make better informed decisions about elected officials. However, the same technology which brings live debates into millions of living rooms across the nation also limits the availability of debate coverage by use of —pool coverage, the sharing of news coverage with other news organizations. The alternative is unilateral coverage, in which each news organization covers the event independently. Most events subject to pool coverage are so planned by the sponsors because of space limitations or safety concerns for prominent people attending or participating in the events. Since the television media require more people and equipment than their print counterparts, television usually is affected more frequently. The pool system, when employed to cover debates between presidential nominees of the major political parties, violates the first amendment. The Constitution's mandate for a free press allows restrictions on press coverage only when there is a compelling governmental interest at stake. Presidential debates involve no interest sufficient to justify the admission of one news organization to the exclusion of all others.

Pool coverage of a presidential debate means that individual broadcasters are unable to cover the event in their own way and, consequently, to convey a unique account to their viewers; they must purchase and use coverage provided by the pool representative or have no coverage at all. The networks participate reluctantly. Pool coverage denies an opportunity to gain maximum insight from the debate. Indeed, the first amendment freedoms afforded the press exist largely to ensure that the public benefits from the free flow of information. The Supreme Court has noted that —it is the right of viewers and listeners, not the right of the broadcasters, which is paramount.

To overcome the problem of restricted access, television news media could be divided into four categories: domestic networks, foreign news services, domestic news services, and independent broadcasters. Some broadcasters would be denied access, but the critical point is that in the end, the viewers will benefit, for they will have seen different debate coverage and, ultimately, will be better informed.

1. What is the author of the passage primarily concerned with?

- A. Arguing in favour of giving more rights to individual broadcasters
- B. Describing the pool system of coverage of events
- C. Asserting that the first Amendment needs to be amended
- D. Describing a problem with media coverage of certain events and suggesting a solution
- E. Criticising the American Presidential election system

2. Which of the following claims does the passage provide some support for?

- A. News organizations tend not to cooperate with each other unless they are forced to do so.
- B. Most presidential candidates fare poorly in televised debates because they are not good public speakers.
- C. Current news coverage of presidential debates limits the information available to the public.
- D. Foreign news organizations have generally been uninterested in American presidential debates.
- E. The pool system also has its positive points

3. The author of this passage would probably give his *greatest* support to which of the following actions?

- A. A decision to allow more news services to cover presidential debates
- B. A decision to allow fewer news services to cover presidential debates
- C. A decision to ban presidential debates until more news services are allowed to cover them
- D. A decision to ban presidential debates until fewer news services are allowed to cover them
- E. A decision to change the first amendment

4. What role does the last paragraph play in the passage?

- A. It provides a general conclusion to the passage
- B. It suggests a solution to a problem discussed in the passage
- C. It provides specific guidelines that need to be followed in future
- D. It describes an action that the author opposes
- E. It provides support for the main conclusion of the passage

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Passage – 6

Psychology has reflected and contributed to the cultural bias of exalting motherhood at the expense of fatherhood. Sigmund Freud considered the mother, but not the father, to have a prominent role in infant development. Gadpaille argues that maternalism is instinctual to females, not only in the species but in mammals generally. He warns that anyone advocating —male mothering may bring harm to everyone concerned. Strongly influenced by such psychological theory, our culture has been taken in by the —superiority of mother theory.

Benjamin Spock, in a six-hundred-page book on child care, devotes just three pages to the role of fathers. While he admits that a man does not sacrifice his masculinity, Spock thinks child care is something the father should do only occasionally—just to help the mother out. Fathers who win custody of children in divorce proceedings are often advised that they should immediately hire full-time housekeepers to function as surrogate mothers.

But, alas, mothers who win custody are not told to provide surrogate fathers for them. Margaret Mead, the famous anthropologist, once remarked that —fathers are a biological necessity but a social accident. Throughout the nineteenth and much of the twentieth century, our culture has been quite comfortable with this stereotypical view of fathers. —Less than ten percent of the scientific studies of parents have taken the father’s role into account, in spite of the fact that half of all parents are fathers. Society has not yet changed in any major ways with regard to fathers as nonparents. However, researchers have finally realized that —the motherhood role is not an inherited behaviour pattern, but a learned set of social skills.

Female children begin learning these social skills at a very early age; society makes no effort to see that boys learn these same social skills. Theories of —maternal instinct and attachment or bonding as being exclusively maternal are now being called into question. Infants bond with both the mother and the father. A growing body of literature now reveals that fathers do have potential nurturance just as mothers do. Men are increasingly demanding to be accepted as nurturant parents rather than just the provider and protector.

Young men are beginning to reject the models of parenting provided by their fathers and are searching for ways to become parents as well as fathers. A radical restructuring of maleness and fatherhood is currently under way. Fathering and mothering are two distinct parental roles. When a male is nurturant, he is fathering, not mothering. Both mothering and fathering are valid roles, but they are by no means identical.

1. Fathers who exhibit which of the following actions could count on the author of this passage to give them his *greatest* support?

- A. Buying educational toys for their children
- B. Reading bedtime stories to their children
- C. Leaving their children with female babysitters

- D. Working in order to pay for family expenses
- E. Being nice to their wives

2. What is the primary aim of the passage?

- A. To argue that women are more important than men
- B. To assert that men lack in maternal instinct
- C. To criticise men for neglecting their children
- D. To describe the changing role of men in modern examples of parenthood
- E. To decry the concept of motherhood

3. The existence of which of these findings would most strongly *challenge*

Sigmund Freud’s opinion as it is presented in the passage?

- A. The personality of infants is strongly influenced by their mothers
- B. The personality of infants is strongly influenced by their fathers
- C. The personality of infants is weakly influenced by their siblings
- D. The personality of infants is weakly influenced by their grandparents
- E. The personality of infants is affected by many factors

4. Based on information provided by the author in the passage, which of the following statements is NOT true?

- A. The author contends that both males and females should participate in raising children.
- B. Gadpaille asserts that females do not have to learn about raising children.
- C. Benjamin Spock argues that males should not be heavily involved in raising children.
- D. Margaret Mead believed that males have a major role to play in raising children.
- E. Freud argues that women are more important than men when it comes to raising a child

Passage – 7

From time to time history and myth come peculiarly close to one another, casting a new light on old, and often largely dismissed tales. In various Eastern cultures the notion of the winged serpent and the dragon have come down from the ages, only to be cast aside by modern society as fantastic, mythological creations of someone’s overactive ancient imagination. Now, it seems, this supernatural beast might have some historical antecedents.

Archaeopteryx lithographica lived during the latter part of the Jurassic period, approximately 150 million years ago, just south of what today is central Germany. This ancient creature combined a reptilian body and tail with bird-like wings and feathers. This strange amalgamation of traits seems like something out of ancient mysticism of the Far East.

This beast has provided a wealth of information about the evolution of flight in birds. However, fossil and skeletal studies indicate that it was not capable of flight. None of the *Archaeopteryx* fossils discovered to date, including the most mature specimens, exhibit an ossified or bony sternum, the wide bone that extends from the chest to the pelvic area in most modern birds. The main purposes of this structure are to protect internal organs during flight and to act as a sturdy anchoring point for the enormous pectoral muscles necessary for flight. There is no indication that *Archaeopteryx* ever developed strong pectoral muscles, and perhaps this is one reason why it never developed a sternum. Instead, it retained reptilian

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gastral ribs, thin braces in the abdominal region, which were not attached to the skeleton and which served only to support and protect internal organs. Researchers believe that flight would have been highly unlikely in an animal with such skeletal characteristics.

Furthermore, the bones in the manus of *Archaeopteryx* do not seem to have been fused. In modern birds, these bones are fused in order to support the wing. In addition, the ulna of modern birds is marked with small knobs where feathers are anchored firmly to the bone by ligaments. The ulna in *Archaeopteryx*, however, is smooth, indicating that its feathers were not firmly anchored into the skeleton.

Finally, the skeletal characteristics of *Archaeopteryx* seem to indicate that this animal was most adapted to terrestrial movement. Its hind legs and pelvis closely resemble those of bipedal theropods and dinosaurs, suggesting that, like these other bipeds, it was adept at running along the ground. In contrast to the posture of modern birds, whose bodies are suspended at the pelvis like a seesaw with the thighbones horizontal, it stood up on its hind legs with its long reptilian tail serving to balance it as well as enhance its ability to coordinate abrupt changes of direction while running. In modern birds all that remains of the tail is a shrunken, fused structure called a pygostyle.

Although the foot of *Archaeopteryx* was bird-like, with fused metatarsals, it was also adapted to running. By way of its peculiar mix of features, it seems to represent a kind of transitional phase, illustrating an evolutionary leap from reptile to bird and providing insight into the development of flight.

1. Suppose that scientists have recently found the skeleton of a bird capable of flight embedded in pre-Jurassic period rock. What effect would this discovery most likely have on their thinking about *Archaeopteryx lithographica*?

- A. It would support the view that *Archaeopteryx lithographica* represented a transitional species between reptiles and birds.
- B. It would undermine the view that *Archaeopteryx lithographica* represented a transitional species between reptiles and birds.
- C. It would neither support nor undermine the view that *Archaeopteryx lithographica* represented a transitional species between reptiles and birds.
- D. It would support the view that *Archaeopteryx lithographica* failed to develop the pectoral muscles necessary for flight.
- E. It would prove beyond doubt that *Archaeopteryx lithographica* was actually a bird.

2. Based on information in the passage, which of the following statements is NOT true?

- A. *Archaeopteryx lithographica*'s skeleton is similar to the skeleton of a modern bird.
- B. *Archaeopteryx lithographica*'s tail played a larger role in its daily life than the tail of a modern bird plays in its daily life.
- C. Scientists have studied *Archaeopteryx lithographica* in order to learn about the development of flight.
- D. *Archaeopteryx lithographica* shared some characteristics in common with dinosaurs.

E. *Archaeopteryx lithographica* lived in what is now Germany

3. Researchers believe that *Archaeopteryx* differs from modern birds for all of the following reasons EXCEPT:

- A. a lack of feathers.
 - B. pectoral muscle development.
 - C. ossification of the sternum.
 - D. knobs found on the ulna.
 - E. Fused bones in the manus
4. The passage is primarily concerned with
- A. analysing the factors that led to the extinction of dinosaurs
 - B. describing the similarities between *Archaeopteryx lithographica* and modern birds
 - C. explaining how birds are able to fly
 - D. discussing how *Archaeopteryx lithographica* could be an evolutionary link between reptiles and birds
 - E. state that bones in the manus of *Archaeopteryx lithographica* were different from those of modern birds

Passage – 8

Far from being fixed on Earth, scientists now know that Australia has wandered over the face of the planet for billions of years, sometimes lying in the northern hemisphere, sometimes in the south. For 40 million years, after finally cutting the umbilicus with Antarctica, it slowly drifted northwards, in isolation, at about half the rate at which a human hair grows.

Now that the sheep has faltered, Australians ride more and more upon the marsupial's back. To a large extent, but more difficult to quantify, Australia's fauna and flora are being used as a unique resource. In scientific disciplines from reproductive physiology and evolutionary biology to medicine, Australia's native species are hailed as a unique and priceless heritage. They are providing insights into the way the world, and humans themselves, work.

Australia's rainforests—those unimportant appendages—are now widely acknowledged as being the most ancient of humanity's land-based ecosystems, which gave rise to most others. Botanical discoveries of worldwide importance are being made in them every year. Australian botanists have recently completed a catalogue of Australian plants, in which they list 18,000 species. Their taxonomic work over recent years has resulted in a 00 percent increase in the number of species in the groups examined. Yet they estimate that about 7,000 undiscovered plant species still exist in Australia. Many surely inhabit Australian rainforests and are members of ancient and bizarre families, like the southern pine (*Podocarpus* species) recently found growing in a steep valley in Arnhem Land, thousands of kilometres distant from its nearest relatives.

Research on newly discovered Australian dinosaur faunas is challenging previous conceptions of what dinosaurs were like. So important are these discoveries that an Australian dinosaur recently made it onto the cover of a major international magazine. It was discovered in one of only two deposits in the world which was laid down near the South Pole during the age of dinosaurs. The chicken-sized species survived three months of darkness each year in a refrigerated world.

Scientists are finally understanding that evolution in Australia, in contrast to evolution on some other continents,

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is not driven solely by nature —ed in tooth and claw. Here, a more gentle force—that of coadaptation—is important. This is because harsh conditions force individuals to cooperate to minimize the loss of nutrients, and to keep them cycling through the ecosystem as rapidly as possible.

1. Based on information in the passage, which of the following is NOT true?

A. Australia has moved from one hemisphere to the other over time. B. Most Australian plant species remain undiscovered. C. Important information is being gathered by studying Australian plants. D. Australian rainforests are different from other rainforests.

E. Dinosaurs had once existed in what is now Australia
2. Suppose that a previously unknown species of plant that is capable of producing medicine is found in an Australian rainforest. How would this information affect the author's opinion of Australian rainforests?

A. It would support the author's opinion.
B. It would contradict the author's opinion.
C. It would neither support nor contradict the author's opinion.

D. It would contradict the author's opinion only if this species of plant cannot be found anywhere else.

E. It would weaken the argument that Australian ecosystem is unique

3. According to the passage, all of the following are considered benefits of studying Australian ecosystems EXCEPT:

A. increasing knowledge of reproductive physiology and medicine. B. gaining information concerning evolutionary trends.

C. furthering the understanding of the uses of hydroelectric power and solar energy.

D. providing insight into ancient ecosystems

E. providing an insight into the way humans work

4. What is the main purpose of the author in writing the passage?

A. to state that dinosaurs originated in what is now Australia

B. to criticise modern scientists for not understanding the unique importance of Australia

C. to discuss some unique ecological features of Australia

D. to assert that Australian rainforests are the oldest of them all

E. Australian flora and fauna are not found anywhere else in the world

Passage – 9

No one is eager to touch off the kind of hysteria that preceded the government's decision to move against Alar, the growth regulator once used by apple growers. When celebrities like Meryl Streep spoke out against Alar and the press fanned public fears, some schools and parents rushed to pluck apples out of the mouths of children. Yet all this happened before scientists had reached any consensus about Alar's dangers. Rhetoric about dioxin may push the same kind of emotional buttons. The chemical becomes relatively concentrated in fat-rich foods—

including human breast milk. Scientists estimate that a substantial fraction of an individual's lifetime burden of dioxin—as much as 12%—is accumulated during the first year of life. Nonetheless, the benefits of breast-feeding infants, the EPA and most everyone else would agree, far outweigh the hazards. Now environmentalists say dioxin and scores of other chemicals pose a threat to human fertility—as scary an issue as any policymakers have faced.

But in the absence of conclusive evidence, what are policymakers to do? What measure can they take to handle a problem whose magnitude is unknown? Predictably, attempts to whipsaw public opinion have already begun. Corporate lobbyists urge that action be put on hold until science resolves the unanswered questions. Environmentalists argue that evidence for harm is too strong to permit delay. This issue is especially tough because the chemicals under scrutiny are found almost everywhere. Since many of them contain chlorine or are by-products of processes involving chlorine compounds, the environmental group Greenpeace has demanded a ban on all industrial uses of chlorine. The proposal seems appealingly simple, but it would be economically wrenching for companies and consumers alike. With the escalating rhetoric, many professionals in the risk-assessment business are worried that once again emotion rather than common sense will drive the political process.

—There is no free lunch, observes Tammy Tengs, a public-health specialist at Duke University. —When someone spends money in one place, that money is not available to spend on other things. She and her colleagues have calculated that tuberculosis treatment can extend a person's life by a year for less than \$0,000—surely a reasonable price tag. By contrast, extending a life by a year through asbestos removal costs nearly \$2 million, since relatively few people would die if the asbestos were left in place. That kind of benefit-risk analysis all too rarely informs the decisions made by government regulators. As the EPA raises anew the dangers of dioxin, the agency needs to communicate its findings to the public in a calm and clear fashion. John Graham, director of the Harvard Centre for Risk Analysis, suggests that people should strive to keep the perils posed by dioxin in perspective and remember other threats that are more easily averted. —Phantom risks and real risks compete not only for our resources but also for our attention, Graham observes. —It's a shame when a mother worries about toxic chemicals, and yet her kids are running around unvaccinated and without bicycle helmets.

1. If it appeared in an article that the author read, he would most strongly agree with which of the following statements?

A. Asbestos and radon have caused serious health problems in the past that many government officials chose to ignore.

B. Dioxin is the foremost threat to human fertility and needs to be addressed in order to prevent serious health problems in the future.

C. Environmental groups and corporate lobbyists often take polarized

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stances which eventually are modified by governmental agencies.

D. Thorough research and investigation of environmental problems should be performed by the government before any unnecessary hysteria spreads throughout the public.

E. The mayor of a city has decided to ban the use of dioxins by industries in that city

2. According to the passage, it is dangerous to react drastically to recently posed health hazards for all of the following reasons EXCEPT:

A. proven precautions are overlooked. B. public fear leads to irrational action. C. insurance premiums will increase.

D. economic burdens can occur.

E. emotion should not be allowed to overtake common sense

3. In the context of the passage, the author uses the term —whipsaw public opinion‖ (line 23) to refer to:

A. changing the needs of the community.

B. convincing citizens to accept a polarized viewpoint on health hazards. C. offering a variety of alternatives for health hazards.

D. acting irrationally in response to government policy.

E. convincing citizens to take decisions lacking in common sense

4. The primary aim of the passage is

A. to strongly discourage the use of dioxins by industries

B. to carry out a cost-benefit analysis of the continued use of dioxins

C. to argue that the problems associated with dioxins may have been overestimated

D. to assert that the opponents of the use of dioxins are exaggerating the problem for their own benefit

E. to call for a ban on the use of all dioxins

Passage – 10

The tsetse fly, belonging to any of approximately twenty species composing the genus *Glossina*, is indigenous to Africa and is found primarily in forests and savannahs south of the Tropic of Cancer. Dependent on vertebrate blood for nourishment, the tsetse fly is equipped with a long proboscis which is sharp enough to penetrate most animal skins and powerful enough to enable the tsetse to drink quantities of blood up to three times its own body weight.

At the same time that the tsetse drains blood, it can also transmit a variety of dangerous diseases. A bite from a tsetse fly can induce African sleeping sickness in human beings and nagana, a similar ailment, in domestic livestock. The agent of these diseases is the *trypanosome*, a unicellular, flagellated parasite which feeds primarily on the blood of vertebrates and is generally transmitted by an intermediary leech or insect host, such as the tsetse fly. In humans the *trypanosome* causes

damage to the brain and spinal cord, leading to extreme lethargy and, ultimately, death; in livestock, *trypanosomes* destroy red blood cells, causing fatal anaemia.

The immune system is ill-equipped to counter *trypanosomes*. As the immune system attempts to counter disease, antibodies are produced to attack microbes whose antigens, surface proteins, are foreign to the body.

However, the *trypanosome* is capable of disguising itself by altering its genetic code, thereby changing its antigen coating in resistance to each new antibody that

evolves. This —quick changell has confounded pathologists and made the development of effective vaccines elusive. A controversy has been sparked between proponents of the elimination of the tsetse fly and African environmentalists. Those in favour of eradication feel that in addition to reducing disease, the removal of the tsetse fly will open immense tracts of land to cattle breeding. This, however, is precisely what the opposition fears. Environmentalists and conservationists dread the day when cattle and livestock, permitted to roam and graze freely, will uncontrollably devour lush African grasslands, converting them into barren desert. They argue that the tsetse fly must remain for the sake of the land. With efforts to eradicate the tsetse fly largely unsuccessful, control

may offer the only available option for the interests of both health and environment. Since the protozoan cannot be conquered through antibodies or vaccines, scientists have begun efforts to prevent the transmission of the *trypanosome* parasite by eliminating the tsetse. Attempts to eradicate the tsetse fly, however, have met with little success. Rhodesia used to combat tsetse by extensive brush cleaning, game shooting, and chemical attack, yet the fly persisted. Aerial pesticide treatments have produced inconclusive results.

The reproductive cycle of the tsetse fly is such that a larva pupates underground for several weeks before it emerges as an adult fly. This

makes repetitive chemical sweeping at intermittent periods an inconvenient necessity. All of these methods, however, share the weakness of dependence on harmful chemicals, such as DDT, which threaten both the health of the humans who handle them and the environment in which their toxic residues amass.

1. All of the following statements correctly describe the relationship between the tsetse fly, the *trypanosome*, and vertebrates EXCEPT:

A. vertebrate blood provides the nourishment for the transport of *trypanosomes*. B. the —bite of a tsetse fly can kill vertebrates since it often injects a deadly chemical.

C. both the tsetse fly and the *trypanosome* utilize vertebrate blood for nourishment.

D. vertebrates may die after *trypanosome* contamination via a tsetse proboscis.

E. the tsetse fly transfers the *trypanosome* into the vertebrates' bodies

2. In the passage, the author does NOT identify which of the following as a characteristic of the tsetse fly?

A. dependence upon vertebrate blood

B. ability to transmit a fatal parasite to livestock and humans

C. ability to alter its genetic code

D. ability to influence the African cattle population

E. its larva pupates for several weeks beneath the ground

3. According to African environmentalists, which of the following accurately describes the effect the tsetse fly has on the African grasslands?

A. If the tsetse fly population continues to exist, the African grasslands will turn into barren wasteland.

B. If the tsetse fly population continues to exist, the African grasslands

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- will not be able to provide sufficient food supply for African cattle and livestock.
- C. Destruction of the tsetse fly population will lead to the conversion of grasslands into desert.
- D. Destruction of the tsetse fly population will cause overgrowth of the African grasslands.
- E. Tse tse fly has no impact on grasslands, it only impacts vertebrates
4. What is the primary purpose of the fourth paragraph in the passage
- A. to describe the harmful effects of the tse tse fly
- B. to argue that the proliferation of tse tse flies can lead to large scale deforestation of African grasslands
- C. to discuss a beneficial impact of tse tse flies
- D. to state that efforts to eradicate the tse tse flies have generally proved to be ineffective
- E. to discuss the reproductive cycle of a tse tse fly

Passage – 11

Thunderstorms generally develop in the late afternoon or evening hours, when moist, daytime air rises into the upper atmosphere as temperatures cool and denser, night-time air slides in underneath. Clouds of water droplets, generally supercooled (droplets whose temperature has fallen below 0 degrees Celsius but have not yet frozen), condense around dust particles in the air until a critical density is reached, at which point it begins to rain. Cloud-to-ground lightning occurs when a discrepancy in electric charge develops between a cloud and the earth. For reasons that are not widely agreed upon, a charge begins to build up in this mixed water and ice region. When this discrepancy reaches a certain "breakdown potential," the surge of electric charge known as lightning moves downward between the negative and positive charge centres in 00-yard sections called step leaders. Eventually, it encounters something on the ground that is a good connection, and, with the circuit complete, the charge is lowered from cloud to ground. This entire event usually takes less than half a second. It is by preventing the requisite charge polarization that scientists hope someday to discourage the creation of cloud-to-ground lightning, thereby making storms safer and easier to -weather.

Many authorities adhere to a hypothesis for cloud electrification theory which emphasizes that the charging process occurs when a supercooled droplet of water collides with an ice particle of precipitation size (a hailstone)—the precipitation model. At this moment a large portion of the droplet freezes—resulting in a negative charge on the forming hailstone— while a smaller portion, still lingering in its supercooled state, dissociates itself—taking on a positive charge. The relatively heavy hailstone, responding to gravity, then begins to fall, while the extremely light supercooled droplet is carried by updrafts to higher regions of the cloud. Assuming the veracity of this account of charge separation, scientists guess that they would be able to discourage polarization by reducing the quantity of supercooled water in a cloud. To this purpose they have conducted preliminary seeding experiments, in which they have attempted to initiate the freezing of excess water by dropping large

quantities of dry ice and silver iodide into potential thunderclouds, the results of which are, however, as yet inconclusive. A more recent convection model of the polarization process is offered by Bernard Vonnegut and Charles B. Moore, who contend that the primary cause of electrical charge formation in clouds is the capture of ionized (electrically charged) gas molecules by water droplets. The ions, so the theory goes, are absorbed by the droplets and transported by updrafts and downdrafts to various portions of the cloud. Vonnegut and Moore suggest that, in order to combat the effects of this transport of ions, it would be necessary to modify the properties of ions beneath accumulating clouds. In support of this explanation of cloud polarization they conducted a series of "space charge" experiments. Suspending a high-voltage wire above nine miles of Illinois countryside, Vonnegut and Moore released large quantities of ions into the atmosphere below, forming clouds. By means of airplanes specially equipped for electrical measurements, they determined that the ions were being distributed to differing regions of the clouds.

1. Which of the following options best summarizes the author's main point in the passage?
- A. Several recent breakthroughs have increased our understanding of the causes of lightning.
- B. Charge polarization in clouds can result both from the freezing of supercooled droplets and from the modification of ion properties.
- C. The standard explanation of the causes of lightning is inaccurate and should be modified.
- D. Scientists are not yet agreed on either the causes of cloud-to-ground lightning or the methods of controlling it.
- E. To argue in favour of one model of polarization process.
2. It can be inferred from the information in the passage that the term "breakdown potential" as used in line 13 of the passage refers to:
- A. a charge polarity sufficient to cause lightning. B. the intensity of the lightning bolt.
- C. the distance between the negatively charged earth and the positively charged cloud.
- D. the duration of the lightning event
- E. the point at which a cloud breaks down
3. According to points made in the passage by the author, scientists agree that lightning can occur when:
- A. ions are transported by updrafts to higher regions of a thundercloud. B. supercooled droplets collide with hailstones in clouds.
- C. a difference in charge exists between a cloud and the ground.
- D. dry ice is released into a potential thundercloud. E. there is high moisture content in the atmosphere
4. Which of the following statements would be LEAST consistent with the account of cloud polarization offered by Vonnegut and Moore?
- A. Charge is transported within clouds via updrafts and downdrafts.
- B. Lightning is caused by a discrepancy in electric charge between a cloud and the ground.

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- C. Water droplets are capable of carrying an electrical charge.
- D. Lightning occurs when positively and negatively charged droplets are absorbed by hailstones.
- E. The main cause of electrical charge formation is the capture of ionized gas molecules

Passage – 12

The Dutch cartographer, Abraham Ortelius, first suggested in 1596 that the Americas were "torn away from Europe and Africa"; but there was little evidence to support his hypothesis. In England in 1620, Francis Bacon also noted that the similarity of many of the edges of various continents suggested that they once might have fit together like puzzle pieces. Evidence mounted gradually over the course of the next few centuries that continents were once joined: fossils of similar plant and animal species found on widely separated continents, long and linear zones of deformed rocks occurring at the edges of continents, and certain geologic and glacial features shared across different continents. German meteorologist Alfred Wegener proposed in 1912 that the continents were all joined in a common landmass he named —Pangaea, which began breaking up approximately 200 million years ago. In fact, precursors of this theory existed in maps depicting the joined continents, which had, it may be noted, been drawn almost a century earlier, but it was Wegener who was the first to combine the accumulating evidence for continental drift into a common framework—to weave seemingly dissimilar, unrelated facts into a theory. His proposal was not well received, however; it remained unclear how the continents actually moved, and science had not developed accurate radiometry to date the fossils or the linear belts of rock at the edges of continents. Geologist Arthur Holmes proposed in 1929 that the hot and melted rocks that made up the mantle of the Earth, the layer just beneath the Earth's thin crust, flowed upward, downward, and laterally, pushing apart regions of ocean floor or allowing nearby regions to collide and overrun each other; but again little evidence existed to support the idea. In the following decades, magnetic studies of the ocean floor, showing that the orientation of rocks had changed over the course of recent geologic time, helped confirm Holmes' ideas that ocean plates were the cause of the rifts and valleys on the ocean floor, as well as of the larger movement of landmasses.

By the early-1960s, a wealth of new evidence (much of it from studies of the ocean floor) formed a picture of what caused continents to drift. The sedimentary rocks of an oceanic origin were different from predial samples previously found, and geologists reasoned from this that continents were not simply upwellings of ocean floor. Continents are built of blocks of crust varying in age, size, rock composition, structure, and fossil assemblage (fauna and flora), with relatively stable, older interiors (the oldest rocks of which are more than 3 billion years old); the sea floors are significantly younger. The theory of mantle convection currents and sea-floor spreading became the prevailing explanation of how large plates of the Earth's crust continually move upward, downward, and to the side, allowing the separation of and collision of landmasses well above the moving

ocean plates. In 1994, however, Seiya Uyeda concluded that subduction (the gravity-controlled sinking of a cold, denser oceanic slab into the subduction zone) —plays a more fundamental role than seafloor spreading in shaping the earth's surface features" and "running the plate tectonic machinery." Current analysis of seismic waves and other geophysical studies continue to vastly expand our understanding of the Earth's interior and the components of plate tectonics theory.

1. The author most likely mentions the work of the Dutch cartographer Abraham Ortelius in order to:
 - A. show that the idea of plate tectonics is not new, although most evidence supporting it dates to the 20th century.
 - B. compare the state of Dutch and English cartography in the 16 century.
 - C. draw a strong contrast between Ortelius' pioneering views and those of Wegener and Holmes.
 - D. show that cartography was sufficiently advanced in the 16th that predictions could be made about continental drift.
 - E. argue that plate tectonics is a recently developed concept Century.
2. According to the author, the primary significance of the discovery that molten uprisings continually reshape the ocean floor is that:
 - A. these uprisings provide a mechanism for the continental drift that has clearly occurred.
 - B. it shows how sensitive the Earth's crust is to geologic activity taking place beneath it.
 - C. ocean floor movement lends strong support to the idea that the super-continent Pangea once existed.
 - D. the movement of deep ocean plates offers an explanation for magnetic and seismic measurements that have perplexed scientists for decades.
 - E. these help explain the phenomena of volcanic eruptions
3. What is the primary concern of the author in writing the passage?
 - A. to propose that modern maps are inaccurate compared to ancient maps
 - B. to discuss the gradual development and acceptance of the theory of plate tectonics.
 - C. to criticise the concept of Pangaea as proposed by some scientists.
 - D. to argue that all the continents will once again join together and become one
 - E. to explain that oceanic sedimentary rocks are different from those found on land
4. According to the passage, all of the following statements are true EXCEPT:
 - A. long, linear zones of rock on continental edges were recognized long before fossils on continental edges were accurately dated.
 - B. mantle convection currents help to explain seismic phenomena long measured by oceanographers and other studying continental drift.
 - C. fossils of similar plant and animal species can be found on widely- separated continents only in the long, linear, coastal rock zones of those continents.
 - D. the Earth's crust is a thin, hard layer of solid rock, while the mantle is a molten, flowing sublayer of the crust.
 - E. Sea floors are younger than continental floors

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Passage – 13

The rate at which pollen settles is dictated principally by the size and density of the grain. The slower the settlement rate, the greater the dispersal range. Numerous species reduce the density of their pollen grains through air cavities in their walls. The grains of many species quickly dehydrate after release.

There is a limit, however, to the lower range of pollen size. The smaller a particle becomes, the more difficult its capture, because as airflow carrying particles sweeps past surfaces, inertia represents a principal component of the mechanism for capture. Usually considered a —primitivell feature in textbooks, wind-pollination has, in fact, reappeared independently in many plant groups relatively recently in geological time.

General textbooks still often give the impression that the anemophilous syndrome is rather uninteresting, often defining it mainly as a combination of negatives: a lack of nectar, scent, petals, etc. Wind pollination has traditionally been viewed as a reproductive process dominated by random events—the vagaries of the wind and weather. This view seems justified by the potential hazards a pollen grain is subject to when transported over long distances. Pollen loss through happenstance is compensated for in wind-pollinated plants to a large degree by pollen-to-ovule ratios that greatly exceed those of insect-pollinated species. And unlike the sticky pollen grains of plants pollinated by insects, the pollen grains of wind-pollinated plants are smooth and dry, to avoid clumping and precipitating, and the stigma of the female is huge, sticky, and feathery, the better to catch any floating pollen grains. Similarly, wind-pollinated plants typically evolved to grow in stands, such as pine forests, corn fields and grasslands. Indeed the wind vector is only useful in large, near-monoculture populations.

However, recent research has shown that several remarkably sophisticated mechanisms for dispersal and capture are characteristic of wind-pollinated plants. Pollen release is often tied to the recognition of unambiguous environmental clues. The devices that operate to prevent self-pollination are also sometimes extremely intricate. Many species take advantage of the physics of pollen motion by generating aerodynamic environments within the immediate vicinity of their reproductive organs. Two biological features appear to be critical in this process: the density and size of the pollen grain and the morphology of the ovulate organ.

The shape of the female organ creates patterns of airflow disturbances through which pollen grains travel. The obstructing organ causes airflow to separate around windward surfaces and creates turbulence along leeward surfaces as ambient wind speeds increase. Because the geometry of female organs is often species-specific, airflow disturbance patterns that are also species-specific can be generated. The speed and direction of this pattern combines with the physical properties of a species' pollen to produce a highly synergistic pattern of pollen collision on windward surfaces and sedimentation on leeward surfaces of reproductive organs. The aerodynamic consequences of this synergism can

significantly increase the pollen-capture efficiency of an ovulate organ.

1. In general, according to the author of the passage, pollen grains that would have the greatest dispersal range would have which of the following characteristics?

- I. Small size
- II. Dryness
- III. Low-density
- A. I only
- B. I and II only
- C. I and III only
- D. I, II and III
- E. II and III only

2. Which of the following is the tone of the passage, in the most part?

- A. Critical
- B. Descriptive C. Laudatory D. Humorous
- E. Condescending

3. Based on the information set forth in the passage, all the following mechanisms serve to reduce pollen loss in wind-pollinated plants EXCEPT:

- A. retention of pollen within the male organ when weather conditions are not conducive to dispersal.
 - B. growth of plants in large populations with few species.
 - C. creation of species-specific air-flow disturbance patterns by the morphology of the ovulate organ.
 - D. development of intricate mechanisms to prevent self-pollination. E. high pollen-to-ovule ratios
4. Based on passage information, it is reasonable to conclude that wind-pollinated plants are LEAST likely to be found:
- A. in tropical rain forests of South America.
 - B. in the taiga and other northern European coniferous forests. C. in the valleys of California.
 - D. along river banks in temperate climates
 - E. on the windy slopes of the Himalayas

Passage – 14

Let us consider whether women as a group have unique, politically relevant characteristics, whether they have special interests to which a representative could or should respond. Can we argue that women as a group share particular social, economic, or political problems that do not closely match those of other groups, or that they share a particular viewpoint on the solution to political problems? Framing the working definition of —representable interestsll in this fashion does not mean that the problems or issues are exclusively those of the specified interest group, any more than we can make the same argument about other types of groups more widely accepted as interest groups. The fact that there is a labour interest group, for example, reflects the existence of other groups such as the business establishment, consumers, and government, which in a larger sense share labour's concerns, but often have viewpoints on the nature of, or solutions to, the problems which conflict with those of labour. Nor does our working definition of an interest group mean that all of the potential members of that group are consciously allied, or that there is a clear and obvious answer to any given problem articulated by the entire group that differs substantially from answers articulated by others. Research in various fields of social

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science provides evidence that women do have a distinct position and a shared set of problems that characterize a special interest. Many of these distinctions are located in the institution in which women and men are probably most often assumed to have common interests, the family. Much has been made of the —sharing or —democratic model of the modern family, but whatever democratization has taken place, it has not come close to erasing the division of labour and, indeed, stratification, by sex. Time-use studies show that women spend about the same amount of time on and do the same proportion of housework and child care now as women did at the turn of the century. To say that women are in a different social position from that of men and therefore have unique interests to be represented is not, however, the same as saying that women are conscious of these differences, that they define themselves as having special interests requiring representation, or that men and women as groups now disagree on policy issues in which women might have a special interest.

Studies of public opinion on the status and roles of women show relatively few significant differences between the sexes, and do not reveal women to be consistently more feminist than men. On the other hand, law and public policy continue to create and reinforce differences between women and men in property and contract matters, economic opportunity, protection from violence, control over fertility and child care, educational opportunities, and civic rights and obligations. The indicators generally used to describe differences in socioeconomic position also show that the politically relevant situations of women and men are different. Women in almost all countries have less education than men, and where they achieve equivalent levels of education, segregation by field and therefore skills and market value remains.

1. According to the passage, which of the following experiences do modern women have most nearly in common with women who lived in 1900?
 - A. they are represented only as individuals and not as a group.
 - B. they spend about the same amount of time on housework.
 - C. they experience significant discrimination in employment.
 - D. the proportion of women among those designated as representatives is lower than among the represented.
 - E. they are still not considered the equal of men.
2. Based on the passage, of the following issues the author is most concerned about the problem of:
 - A. the history of women's demands for representation as a group.
 - B. recent changes in the status of women in society.
 - C. opposing views concerning women's awareness of their own special interests.
 - D. the criteria that would justify group representation for women.
 - E. uplifting the status of women in modern society
3. The passage offers the most support for concluding that which of the following is an important problem confronting women today?
 - A. women are in a different socioeconomic position from that of men.
 - B. men differ greatly from women in the answers they propose for women's problems.

- C. women do not qualify as an interest group, because they have not all banded together to pursue common goals.
 - D. a lack of educational opportunities has inhibited women from voicing their concerns
 - E. sexual harassment at the workplace
4. What is the main function of Paragraphs 1 -3?
 - A. to assert that women should be treated as the equal of men
 - B. to discuss the legitimate definition of a political interest group
 - C. to state that women qualify as a political interest group
 - D. to debate whether women have any unique, politically relevant characteristics
 - E. to applaud the proponents of the feminist movement

Passage – 15

Though he left us with numerous great works and, to be sure, is widely regarded as America's first internationally renowned author, Washington Irving's sometimes enigmatic tendencies and techniques have left literary critiques and academics to ponder his motives more than 140 years after his death. One such trait that raises the proverbial eyebrow of the community of readers and critiques is Irving's repeated, and varied, use of pseudonyms throughout his career. One of the most well-known female writers to adopt a pen name was George Sand, born Aurore Dupin in 1804, who became one of the most prolific and admired French authors — female or male — during the nineteenth century. The true identity of George Sand did not remain a secret for long, for after 1830 the author used this name in her everyday- life, and close friends commonly referred to her as —George.

Most portraits of the author as an adult are entitled simply *George Sand* and make no reference to her given name. Her son, too, adopted this new last name even though association with his famous author- mother did not bring him any obvious benefits, other than to indicate that his relationship with his mother was closer than that of his sister. Given that the name —George Sand is radically different from Aurore Dupin's birth name, many readers have wondered how the author formulated her masculine pen name. At least two possible answers spring to mind. The first, as indicated in Curtis Cate's biography *George Sand*, is that the idea for this pseudonym arose from a collaboration with her first lover, Jules Sandeau, with whom she co-authored several articles as well as a full-length novel entitled *Rose et Blanche*. Since her own literary output was a great success in the 1830s-1800s, she quickly became known by this name, and began to use her pen-name on a daily basis. By continuing to use the name initially assigned to collaborative writings with her lover, perhaps Aurore hoped to maintain her connection to Sandeau. Perhaps she fondly remembered their time together and wished to have a permanent reminder of their relationship. Or perhaps she simply realized that it would be much more expedient to continue to write under a name which was already familiar to her audience thanks to the joint works she and Sandeau had published. Given that George Sand began writing under this masculine name at around the same time as she began to roam around Paris in pants and a jacket — typically male clothing — it is not hard to understand why she chose a

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masculine pseudonym, since, like her choice of clothes, this male identity gave her more freedom of expression, both literally and figuratively. Writing under a false name allowed her to distance parts of her character — her roles as wife, mother, and lover — from the creative and literary parts that formed the basis for her role as an author. Using a male name set her apart and added to her persona as an unusual and fascinating woman. And in the end, the reason why she chose this particular pen-name is not nearly as important as the vast quantity of writing — articles, letters, novels, plays — that forms her legacy to the field of French literature.

1. The author's attitude towards the use of male pseudonyms by female authors as noted in the passage can best be described as:

- A. skeptical of the usefulness of pseudonyms.
- B. critical of the women's adoption of a male name.
- C. appreciative of female authors' efforts to be published at any cost.
- D. intrigued by the creation of a pseudonym.
- E. disillusionment at the idea of discrimination against women

2. According to the passage, the following were all possible reasons for George Sand to create a pseudonym EXCEPT:

- A. she began publishing collaborative works with Jules Sandeau.
- B. her new name reflected important parts of her life.
- C. she was not able to publish any works under her own given name.
- D. the works published under her pen name sold well.
- E. the male identity gave her greater freedom of expression

3. What is the main purpose of the passage?

- A. to criticise female writers who use male names
- B. to discuss why some female writers use male names
- C. to applaud female writers for using male names
- D. to encourage female writers to use their own names
- E. to suggest that male writers should use female names

4. With which of the following statements would the author most likely agree?

- A. Aurore Dupin should have written works under her own name once the secret of her pseudonym was revealed.
- B. By writing under a pseudonym, George Sand created for herself a new identity which allowed her to transcend the limitations of society.
- C. George Sand owed her early success to her partner, Jules Sandeau.
- D. The choice of a masculine pseudonym was restrictive for George Sand and forced her to live as a man throughout her life.
- E. The use of pseudonyms in general by authors of both the sexes should be avoided

Passage – 16

Five times as many workers may be needed to construct a power plant as to operate it. The numbers may be even more disproportionate for a major pipeline or dam. When the construction ends, a substantial reduction in population is virtually guaranteed. Hence, there may be no justification for providing an infrastructure necessary to maintain adequate levels of service during the construction period. Money necessary to build water

systems, schools and roads and to fund salaries and maintenance costs is mismatched by traditional taxing programs. The construction project is usually not subject to local property tax until it nears completion, which may be five years after the impact has occurred. Alternative sources of tax revenue cannot begin to cover the cost of providing the necessary services. Even if some governments have money, they may not be the right governments. Some entities may suffer the impact of development without being able to tax it. For example, a development may be located in the county just outside the limits of an incorporated city. The county will be entitled to tax the property while the city may receive most of the project population and demand for services. The 1960s and 1970s witnessed a new boomtown era in the West.

The typical contemporary boomtown is fuelled by a quest for energy in the form of a fossil-fuelled electric generating plant, a hydroelectric dam or a new mine. The energy project is typically located near a small community or is forced to start a community from scratch. Often, the boomtown is poorly planned and under-financed. Long-time residents find their community changed for the worse and newcomers find the town an undesirable place to live.

The boomtown is characterized by inadequate public services, undesirable labour conditions, confusion in community structure, and deterioration of the quality of life arising from rapid population growth due to a major economic stimulus. Accelerated growth is the most distinguishing characteristic of a boomtown. Studies have shown that large-scale development in sparsely populated areas causes major social problems. Housing, street and water systems construction, school development and police and fire protection lag far behind population growth. Rent and property tax increases join with a rise in the general cost of living to harm persons on fixed incomes.

Education in the community may suffer. One result of boomtown living is higher incidence of divorce, depression, alcoholism and attempted suicide. Until recently, planners have ignored or understated such problems. While the boomtown promotes an -us against them mentality — the old timers versus persons brought to the community by the boom — the fact remains that all parties suffer. Newcomers may blame old-timers for a lack of support just as old-timers may blame them for a deterioration of community life.

Consequences of the boomtown also harm the project developer. The undesirable community results in poor worker productivity and frequent worker turnover, factors that delay construction and push projects over budget. Problems of rapid growth in some boomtowns are compounded by the fact that most of the population disappears with the completion of project construction.

1. It can be inferred from the passage that which of the following are possible ways in which a boomtown is affected by poor planning and under-financing?

- I. Unsatisfactory labour conditions
 - II. Inadequate police protection
 - III. Poor community relations
- A. II only
 - B. I and III only
 - C. II and III only
 - D. I, II, and III
 - E. I only

2. The passage suggests that there is often a lack of services associated with boomtowns. The author claims that

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all of the following are possible causal factors for the lack of services associated with a boomtown EXCEPT:

- A. the expected loss of a substantial number of residents after the completion of a project.
 - B. lack of support from long-time residents.
 - C. the location of an energy project just outside the limits of an incorporated city.
 - D. the time lag between the beginning of project construction and the onset of tax payments for it.
 - E. the mismatch between funds needed and traditional taxing programs
3. The tone of the author's discussion of traditional taxing programs in regard to boomtowns can best be described as:
- A. outraged. B. concerned. C. disbelieving. D. complacent.
 - E. mocking

Passage – 17

The study of the analog position of mental representation has many fascinating branches which help illuminate the inner workings of our minds and how we perceive images in our mind's eye. This theory points to the link between the time it takes to solve mental problems and their complexity.

In a now-famous study, Stephen Kosslyn asked subjects to imagine an animal, such as a rabbit, next to either an elephant or a fly. When the image was formed, Kosslyn would ask whether or not the target animal had a particular attribute. For example, Kosslyn might say, –elephant, rabbit, and then –leg. He found that it took subjects longer to answer when the target animal was next to the large animal than when it was next to the small animal. Kosslyn interpreted this to mean that subjects had to zoom in on the image to detect the particular feature. Just as one has difficulty seeing details on small objects, so the subjects could not simply mentally –see details on the smaller object in their mental image.

Second, Kosslyn and colleagues demonstrated that the time it takes to scan between two points depends on the distance between the two points [in a memorized image]. In one experiment, subjects memorized an array of letters separated by different distances. Kosslyn found that the farther apart the letters were from each other, the longer it took to answer questions about one of the letters. One of the principal hypotheses of the analog position of mental representation, which is the idea that mental processing requires one to move sequentially through all intervening steps to solve a problem, is that mental images have regular properties.

In a similar experiment, Kosslyn had subjects memorize pictures of objects like a plane or a motorboat. Then he had them focus on one part of the object (e.g., the motor) and move to another (e.g., the anchor). He found that the time it took to determine whether the second part was present depended on the distance between the two parts in the memorized picture. Using a completely different paradigm, Shepard and Feng tested the amount of time that it would take for subjects to specify whether two arrows on unfolded blocks matched up. They found a linear relationship

between the number of folds between the arrows and the time it took to make this judgment, suggesting that subjects went through a discrete series of organized steps in order to solve this problem.

The final type of experiment showing that mental images have regular properties is perhaps the most famous: mental rotation experiments. In 1971, Shepard and Metzler tested subjects' abilities to make complex figure comparisons. They presented subjects with a three dimensional–standard figure and a comparison figure which was either identical to the standard figure, or its mirror image; the comparison stimulus was rotated, either clockwise or into the third dimension. Shepard and Metzler found that the time needed to judge whether the comparison stimulus was identical or a mirror image depended directly on the size of the angle between the target orientation and the orientation of the standard.

1. According to the way it is presented by the author in the passage, the analog position of mental representation argues that:

- A. mental processing requires one to go sequentially through all intervening steps to solve a problem.
- B. one typically uses short cuts to solve mental problems.
- C. it should take longer to solve more complex problems.
- D. most problems are not able to be solved by people without help. E. the closer two points are the more time it takes to mentally scan between them

2. According to the scanning experiments mentioned in the passage, it should take longer to scan longer distances because the subjects:

- A. believe that there is no relationship between distance and time.
- B. have to keep time with a metronome set up by the experimenter.
- C. form a mental picture of the scene and go through all the intervening positions in the picture.
- D. are tricked by the experimenter into taking a longer time.
- E. tend to forget things quickly

3. According to the passage, why does Kosslyn say it takes longer to identify attributes of objects when they are next to a bigger object than when they are next to a smaller object?

- A. Because one scans objects in order of size from larger to smaller
- B. Because the larger object covers the smaller object and one must move it out of the way
- C. Because large and small objects have all the same features and so interfere with each other
- D. Because one must zoom into see parts of the smaller object when it is next to a larger object
- E. Because the larger object looks more visually imposing

Passage – 18

Most moviegoers tend to sum up all of a film's features – acting, directing, special effects, and script – into a blanket –I loved it! or –hated it!. But movie industry workers, and even film connoisseurs, can attest to the contribution of the movie's 'cinematics', or technical features, towards creating any movie's atmosphere.

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Artistic movies are composed of a multitude of 'shots' or discrete scenes usually lasting only 6 to 20 seconds; together the hundreds of individual scenes combine to make up the movie. For each shot the director has many options on how to film the same. For example, imagine that the movie's script calls for two actors to speak a fixed dialogue in a specified location. Even while the director stays true to the script, he has considerable leeway in how to film the scene. He may film an 'extreme long shot', with the camera far away. This tends to show the setting in a panorama, emphasizing the background while underplaying the actors, and is used primarily in outdoor scenes where the backdrop is particularly impressive. Or, he may employ the 'long shot', which brings the camera close enough to capture the actor's entire bodies, together with some of the setting. And finally there is the 'close-up', where the camera is brought in close enough to focus on the actors' heads and faces and has the effect of spotlighting a particular actor while hiding the setting and other actors.

Camera 'angling' refers to the camera's height from the ground and thus the vertical angle from which the audience views the action. The most common angle is filmed at adult eye level, though some artistic films for or about children can capture a child's-eye view of the world by filming from a child's eye level, looking up at most things. Similarly, even ordinary films can switch to 'low angle view' by occasionally lowering the camera to look upwards at a character or building. The low-angle format suggests that the object or character is somehow larger, grander and more dominant or intimidating. In contrast the 'high angle shot' positions the camera to look down on a character which often suggest that he is inferior, powerless, or in trouble. A 'side by side' shot of two characters suggest that they are equal in importance, while filming one character as seen over the shoulder of another emphasises that character, while reminding the audiences that he is being observed or heard.

1. The passage discussion most clearly suggests that the most important aspect of filmmaking is

- A. figuring out what moviegoers are going to love
- B. deciding how to make a movie artistic
- C. using a good director
- D. signing a top actor for the lead role
- E. having excellent music

2. According to the passage, a scene from a horror movie showing two lovers embracing, unaware of the huge monster closing in on them, would be filmed using

- A. an 'eye-level', 'close up'
- B. a 'high-angle', 'long shot'
- C. a 'low angle', 'long shot'
- D. a 'child's eye level', 'close up'
- E. an 'eye-level', 'over the shoulder'

3. According to the passage, a children's film with three alternative shots showing a mother scolding her small daughter, the daughter, and the father who is secretly listening, would most likely be filmed using which sequence of camera angles?

- A. 'low angle', 'high angle' and 'over the shoulder'
- B. 'low angle', 'low angle', and 'high angle'
- C. 'high angle', 'high angle', and 'over the shoulder'
- D. 'over the shoulder', 'high angle', and 'low angle'
- E. 'high angle', 'low angle' and 'low angle'

Passage – 19

In 1979, a team of scientists from Berkeley working near Gubbio, Italy, discovered a layer of clay that revolutionized theories concerning the disappearance of the dinosaur, which had centred on the assumed gradual climatic change. Beneath the two-centimetre-thick layer lay limestone containing fossil organisms from the late Cretaceous, while above it was limestone with early Cenozoic fossils.

Positionally, then, the Berkeley group could place the clay in a period roughly contemporaneous with the disappearance of the dinosaur approximately 63 million years ago. They found that the clay stratum contained an iridium level thirty times greater than that of clays in adjacent strata. As iridium is distributed fairly evenly over time through micrometeoritic impact, the researchers knew that the anomalous matter in the clay must have originated extra-terrestrially; the high iridium level, moreover, indicated a sudden deposition in an exceptional, catastrophic event.

Scientists are sharply divided on the possible causes of so cataclysmic an event. The possibility that the deposition occurred as an aftereffect of a supernova has been discounted: radioactive isotope Pu-244 was absent from the clay, and neither Ir-191 nor Ir-193 were present in significant proportions.

Those who maintain that the material came from within the solar system contend that the earth must have collided during the late Cretaceous with an astral body large enough to have distributed the iridium-rich material over the globe. An asteroid of the required mass would have been approximately ten kilometres in diameter; a comet would have to have been twice as large, since comets are largely composed of ice water.

Trying to fathom the scale of such an event as this is mind boggling. It is true that from space, an object 0-20 miles across colliding with earth would be akin to something smaller than a grain of sand landing on a basketball, it is also the case that an object twenty miles across that landed on earth would be nearly twice as tall as Mt. Everest (the tallest mountain on Earth) and further across than the length of Manhattan. Furthermore, when the body came crashing to Earth it would have been ablaze in an inferno caused by the friction of entry into our atmosphere.

To the argument that there is no geological evidence of the impact of such massive objects, Richard Grieve has replied that the clay layer could have resettled after the impact in the form of fallout. Frank Kyte of UCLA asserts that a comet, if disrupted by the earth's gravitational field, would have exposed the surface to a deluge of debris that would not have created major craters. Alternatively, the Berkeley group suggests that an asteroid may have landed in the sea; such a collision would have produced tidal waves eight kilometres high, swamping large areas of the earth.

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Whatever the type of body and mode of impact, Walter Alvarez of the Berkeley team argues that the primary effect of the catastrophe was to disrupt the planetary ecology through the suspension of vast clouds of matter in the stratosphere. The effects of the initial impact would have been greatly multiplied, Alvarez argues, as photosynthesis was impeded by the blockage of sunlight; there would then have been a massive disruption at the base of the dinosaur's food chain.

1. The passage discusses a new discovery that may change the way scientists think about one aspect of dinosaurs. It can be inferred that the discovery described in the passage may revolutionize (line 4) which aspect of current theories about dinosaurs?

- A. The geographical extent of the presumed habitation of the dinosaur
- B. The approximate date at which dinosaurs are thought to have become extinct
- C. The assumption that dinosaurs became extinct because of a change in their natural environment
- D. The rate at which the extinction of the dinosaur is thought to have occurred
- E. The notion that dinosaurs became extinct because of the onset of an ice age.

2. According to the passage, the Berkeley group used which of the following to support their hypothesis on the disappearance of the dinosaur?

- I. A comparison of the fossil records of various marine strata
 - II. A comparison of different clay strata near Gubbio, Italy
 - III. A comparison of marine strata in several locations
- A. I only B. III only C. I and II
 - D. II and III
 - E. I, II and III

3. According to the information presented by the author throughout the passage, scientists used the analysis of the isotopes present in the clay to:

- A. estimate the age of the stratum more exactly.
- B. determine the extent of meteoritic impact upon the earth.
- C. derive a hypothesis concerning the effect of the impact of an extraplanetary body on the earth's ecology.
- D. eliminate a possible theory concerning the enriched clay's formation.
- E. determine whether dinosaurs were allergic to these

Passage – 20

The notion of the Great Plains as a vast roaming ground for cowboys and their herds of cattle became popular more recently than some might think. Let us first put aside that now cliché notion of a lawless Wild West with gunslingers and bandits running rampant and shootouts in front of salons every day at high noon. To be sure the west was a dangerous place, but the vast majority of the mystique surrounding the times and places comes more from East Coast writers and later imaginations than anything else. The image of a Great Plains populated by cattle herds and homesteaders was slow to emerge. Much of the settling of the West happened in land grabs after the Civil War. In spite of the conventional interpretation, a survey of source material reveals that the image of the plains as Desert was restricted in 1820 to certain portions of the country and to certain segments of the population. Analysis of newspapers and periodical literature indicates that the Desert image was strongest in the rural areas of the Northeast and weakest

in the rural areas of the South and trans-Appalachian West. Acceptance of the Desert concept was more likely among the well-educated elite, particularly in the Northeast, and acceptance of a Garden notion was greater among the rural populations, particularly in the South and West.

American historians have argued that the myth of the Great American Desert dominated the pre-Civil War view of the Great Plains. It was this conception of the plains as Desert, according to the traditional interpretation, that caused the American folk migration westward to leap over the region during the 1840's and the 1800's. This conventional understanding is neither completely invalid nor necessarily incorrect; but it is too simplistic to be fully satisfying. To claim the universal acceptance of stereotyped images of the Great Plains is to ignore the presence of a considerable array of data to the contrary. By the middle of the 1840's, the concept of the plains as Desert had become prevalent, but even then the Desert image was not the exclusive one. The year 1840 is critical, for it marked the beginning of the migration of Americans across the Plains to Oregon and California. An examination of the sources of American images of the plains in that year does not support the contention that the folk migration failed to halt on the Great Plains because that region was viewed unfavourably by the migrants. By 1840 the American frontier was bursting with what one Missouri newspaper editor called "perfect Oregon fever." But those who encouraged migration to Oregon did not deny the agricultural potential of the Plains. They simply made Oregon the logical and desirable culmination of the American drive to the Pacific.

This notion of Manifest Destiny was so pervasive during that time. It was considered by most Americans to be not merely a right, but a duty to settle the continent from shore to shore, plowing through the middle of the country to reach the inevitable destination. To substantiate the point that the folk elements of American society did not see the plains as Desert, one need only look at the records of those who crossed the Plains on their way to Oregon or California. A survey of the diaries from the years preceding the Civil War uncovers only 17 references to Desert conditions in the Great Plains.

1. According to the information presented by the author in the passage, American migrants travelling throughout the United States in the mid-1840's often:

- A. doubted the economic potential of the Great Plains.
- B. had an overly optimistic image of the Great Plains.
- C. had geographical destinations other than the Great Plains.
- D. were misinformed by newspaper stories.
- E. faced threats from bandits

2. All of the following can be found in the author's argument about the Great Plains EXCEPT:

- A. a contrast between the views of Americans who lived in different regions.
- B. a comparison of written and oral accounts of the migration experience.
- C. a general description of people who believed the Great Plains to be a Desert.

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- D. an indication as to when westward migration activities increased in scope.
E. a mention of the opinion of American historians
3. Which of the following best summarizes the author's attitude toward the traditional view as posed in the passage that most Americans regarded the Great Plains as Desert?
- A. It ignores conflicting evidence.
B. It is irrelevant to historical understanding. C. It is substantially correct. D. Its importance has been unappreciated. E. It is absolutely absurd

Passage – 21

Pesticides (including insecticides, fungicides, nematicides, and herbicides) are chemicals used in agriculture to increase production by combating organisms that damage or destroy plants. However, pesticides by their very nature can result in serious harm to wildlife both by directly killing animals and through more subtle effects on reproduction, development and behaviour. Organophosphates are pesticides that interfere with the enzyme cholinesterase, which is essential for the proper functioning of the nervous systems of insects, as well as of humans and other vertebrates. Toxic exposure to organophosphates results in fatal respiratory failure. The first indicator of toxic absorption is a reduction in the enzyme cholinesterase in red blood cells, and contact with insecticides is the only known cause of a marked depression of this enzyme. In a recent study, researchers collected specimens of both adult and tadpole Pacific treefrogs from sites located both within the Sierra Nevada (representing northern and southern areas) and also to its west (representing the foothills and the Pacific coast of California). When cholinesterase levels were then examined they were significantly lower in tadpoles taken from the mountains east of the San Joaquin Valley, such as Yosemite and Sequoia National Parks, than in those taken from similar sites farther north in the Sierra Nevada, which lie east of the Sacramento Valley where agricultural activity is less intense. Moreover, lower cholinesterase activity levels were correlated with distance away from the coast and toward the higher elevations of the Sierra Nevada. Similar, although less significant, trends were seen in adult frogs. Concentrations of particular organophosphate pesticides in the collected tadpoles and adult frogs were also measured. More than fifty percent of the adult frogs and tadpoles at Yosemite National Park had measurable levels of diazinon and chlorpyrifos, compared to only nine percent at coastal sites. Since both diazinon and chlorpyrifos degrade very rapidly in organisms, the detection of either compound indicates recent exposure to the chemicals. The red-legged frog is now listed as threatened under the U.S. Endangered Species Act, and the mountain yellow-legged frog and Yosemite toad have been proposed for listing. Many amphibian population declines have occurred in some of the state's most seemingly pristine areas, such as the Sierra Nevada mountain range of eastern California which includes Sequoia, Yosemite, Kings Canyon, and Lassen Volcanic National Parks as well as Lake Tahoe and Mt. Whitney. Because the southern parts of the Sierra Nevada lie east of the intensely

agricultural San Joaquin Valley, environmentalists have suspected that pesticide use may be responsible. Pesticides could be transported from the San Joaquin Valley to the Sierra Nevada on the prevailing eastward summer winds, and then affect populations of amphibians that breed in mountain ponds and streams.

1. In the passage, the author most likely mentions that population declines have occurred in seemingly pristine areas (line 46) in order to emphasize that:
- A. while there has been some damage to the environment of the Sierra Nevada, it is not irreparable.
B. appropriate action should be taken to restore the Sierra Nevada to its former purity.
C. environmental damage and its causes may not be apparent to casual observers.
D. because some amphibian species are still abundant in the Sierra Nevada, casual observers do not realize how many are seriously threatened.
E. the environmental damage caused by pesticides has been all pervasive
2. With respect to pesticides, the author takes time in the passage to assert that they:
- A. are transported for long distances by wind currents. B. are detrimental to both insects and vertebrates.
C. are not used in the Sierra Nevada.
D. have benefits in agricultural applications. E. should be absolutely banned
3. The function of the third paragraph in relation to the passage as a whole is to:
- A. critique the scientific study alluded to in the first paragraph.
B. present evidence to support a hypothesis introduced in the first paragraph.
C. provide more details with respect to the geographical information introduced in the first paragraph.
D. provide more specific examples of the harmful effects of pesticides mentioned in the second paragraph.
E. present data to undermine a theory introduced in the first paragraph.

Passage – 22

With the explosion of the technology industry in the late 1990s, the US ushered in the so-called –new economy. Based largely on speculation and a –cash in mentality, the new economy bustled along until the bottom fell out and it came crashing back to earth. But what set the stage for this collapse to happen was put into motion years earlier.

The growth of productivity is defined as the rate of growth in product less the rate of growth in the labour used in production. Productivity can be affected by factors such as: amount of capital invested in production, methods used in production, educational or demographic composition of the labour force, business climate, global competition, and cost of environmental and safety regulations. Capital investment was booming in the U.S. in the post-1990 period. Furthermore, that part of capital invested in

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information technology, including computers, software, and communications equipment, rose to more than fifty times what it had been in 1970. Because of its high gross rate of return in improving methods of production, capital investment in information technology should have a particularly large impact on overall productivity.

For the past five years the big news for the U.S. economy has been a noticeable productivity growth spurt, which many have attributed to new information and communication technologies. The rate of growth in U.S. productivity had not been so high since the period extending from the end of World War II through the 1960s. In the early 1970s, productivity growth dropped suddenly. Apart from normal cyclical movements low productivity growth continued until the mid-1990s. Then, performance of the U.S. economy accelerated to a truly extraordinary level. From 1990 to 1999 real gross domestic product grew at an average rate of about 4 percent per year, and the rate of growth in labour productivity returned to the pre-1970 rate of increase.

The revolution in technology is, at least in some sense, a worldwide phenomenon. Therefore, one would expect the recent trend in the rate of growth in productivity in the U.S. to be shared by other developed countries. However, marked differences exist. Although the U.S. had the lowest rate of overall productivity growth in the 1981-90 period, in the post-1990 period the U.S. rate of productivity rose to third among the countries, behind only Ireland and Australia. In several other developed countries, including France, Italy, Japan, the United Kingdom, the Netherlands, and Spain, overall productivity growth slowed quite sharply.

The questions then arise: Why are these trends in productivity growth so different; and does this difference illuminate anything about the role of the new technologies? Regression analysis of the rate of growth in productivity in each of these countries in the late 1990s, both as a function of the country's share of spending devoted to information technology and as a function of its number of internet servers, reveals a positive correlation that passes the test for statistical significance.

Therefore, with due deference to the problems of international comparison, the data appears to reinforce the view that utilization of the new technologies has been important in raising productivity in the U.S. in recent years.

1. According to the passage, a resurgence in productivity occurred in:

I. the U.S. in the late 1990s. II. Ireland in the late 1990s. III. developed countries other than the U.S. in the 1981-90 period.

A. I only B. II only C. III only
D. I, II, and III E. I and II only

2. If the passage were to continue, the next topic the author would discuss would most probably be:

A. what factors caused the drop in the growth of U.S. productivity in the early 1970s.
B. what factors prevented the productivity growth spurt in the U.S. from continuing.

C. the relative importance of other factors in fostering productivity growth in the U.S.
D. why different developed countries invested different shares of total spending on capital investment in new technologies.
E. what will happen to productivity growth in the US in the next five years

3. In paragraph 2, the author is primarily concerned with:

A. defining productivity and identifying the types of factors that can affect its growth.
B. noting a correlation between a peak in capital investment and a peak in the growth of productivity.
C. emphasizing the impact of the amount of capital invested on the degree of improvement in methods used for production.
D. introducing an explanation that will then be tested by further investigation.
E. criticise an explanation that was later proved correct

Passage – 23

Polychlorinated biphenyls are heavy, syrupy hydrocarbons that were first synthesized in the 1880s. Because they conduct heat but not electricity and are water-insoluble, fire-resistant, and extremely stable (withstanding temperatures of up to 1600° F), they were found, in the 1930s, to be extremely useful as components in cooling systems and electrical equipment (transformers and capacitors). They were widely used for these purposes and also in the composition of sealants, rubber, paints, plastics, inks, and insecticides. PCBs were banned in 1979, after researchers linked them to cancer and developmental problems in humans. However, PCBs persist in the environment for extremely long periods. Because of an affinity for fat, they have a marked tendency to accumulate in living organisms; increasing in concentration as they move up the food chain.

At sites where dumping of chemical wastes had occurred, such as warehouses, landfills, and even rivers, uncontrolled or abandoned hazardous wastes still remained. To locate, investigate, and clean up the worst of these sites nationwide, Congress in 1980 established the Superfund Program, administered by the Environmental Protection Agency (EPA). Due to dumping over a period of 30 years by two capacitor

manufacturing plants located along the northern part of the Hudson River in New York State, EPA has estimated that 1.1 million pounds of PCBs have accumulated.

Field surveys of the river have found substantial contamination in 40 submerged sediment –hot spots,|| O exposed shoreline remnant deposits, dredge spoils on riverbanks, and estuary sediments.

Today, because of PCB contamination, human consumption of fish caught in the most affected areas of the Hudson River is prohibited. But, while fish consumption remains the most potent route of PCB exposure, exposure can also occur through other routes. Eight municipalities currently draw drinking water from the Hudson and another, New York City, draws it during emergencies.

EPA's report recommending dredging indicates that, due to opposition of local residents, neither a

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landfill nor a thermal treatment facility (for high temperature incineration) can be locally-sited and the PCBs should therefore be transported to a solid waste landfill outside of the area. The report does not, however, identify a specific location.

Furthermore, air along the river contains elevated concentrations of PCBs, and individuals living along the River show PCB residue in their bodies, paralleling the river's contamination. The EPA has recommended that PCBs be removed from the river bottom by dredging, thus reducing contamination and possibly eventually permitting revitalization of commercial fishing, which once generated \$40 million income annually. However, the corporation blamed for the dumping argues that dredging may stir up the PCBs (which they describe as now lying undisturbed in the riverbed), causing the water, air, and riverbanks to become even more contaminated. Some area residents echo these concerns and also argue that dredging will subject them to years of unacceptable noise, disruption, and curtailed recreational activities

1. Based on information provided by the author of the passage, it can be inferred from the passage that PCBs are:

- I. heavier than water.
 - II. toxic to fish.
 - III. readily biodegradable.
- A. I only
B. I and II only
C. I and III only
D. II and III only
E. I, II and III

2. According to the passage, the EPA differs from local residents and the company responsible for PCB contamination in that it affirms that it bases its recommended action on benefit to:

- A. commercial fishing interests. B. residential interests.
C. the environment as a whole. D. recreational activities.
E. the general American populace

3. It can be inferred from the passage that the justification used for prohibiting individuals from consuming fish caught in contaminated sections of the Hudson River is that the individuals may thereby:

- A. reduce the level of PCBs in their bodies.
B. avoid any further increase in the level of PCBs in their bodies.
C. mitigate the accumulation of PCBs in their bodies.
D. prevent cancer and developmental problems.
E. cause a reduction in their health insurance premium

Passage – 24

Previous investigations into the workings of memory usually tested episodic memory, which describes the recall of specific events, as well as the ability to remember names and the whereabouts of items like car keys. This ability usually remains intact until the mid-sixties, when people often become forgetful of things like recent events and minor details.

While some researchers suggest that this well-known decline in episodic memory in the elderly stems from degeneration of the frontal lobes of the brain, many scientists believe that such memory loss is largely due to retirement: after the demands of work stop, most people no longer exercise their mental faculties as

strenuously. Thus, regular mental exercise might curtail memory loss.

But episodic memory comprises only part of this intricate brain function. Memory researchers have identified two other types of memory, neither of which seems to deteriorate with age. New studies suggest that we have more than one kind of memory, and imply that elderly people who suffer from forgetfulness can utilize other types of memory to compensate for the decline.

This new conception of memory stems from a shift in methodology of memory research. While older studies of memory and aging involved comparisons between different age groups, recent investigations tested the same group of people over a number of years. Such longitudinal data more clearly establishes the relationship between memory and aging. Through these studies of older adults, researchers concluded that there exist three major kinds of memory, only one of which declines in old age.

Semantic memory, which describes our ability to recall knowledge and facts as well as events in the distant past, does not seem to lessen over the course of a lifetime. In fact, such memory may be even sharper in elderly people than in the young or middle-aged. When a group of men and women in their sixties were tested on a specific vocabulary list and retested on the same list a decade later, the group had improved their scores by an average of six words—an increase researchers consider substantial. Such studies suggest that by taking notes or mulling over events, elderly people who suffer from forgetfulness can store more information in the semantic memory, thus compensating for episodic memory loss.

Implicit memory deals with the tremendous variety of mental activities we perform without making any intentional effort. Examples of these include actions like driving a car, touch-typing, or riding a bicycle. In a particular study, an amnesiac patient who had been an avid golfer before developing a memory problem remembered which club to use for each stroke; however, he forgot that he had played a hole within minutes of having done so. In addition, further studies of amnesiacs have shown that people with these disorders can learn new facts but cannot remember when and where they had learned them. Studies of people in their sixties and seventies showed similar results: like amnesiacs, older people are able to learn from new experience as well as younger people, but often have difficulty remembering the source of their knowledge or skill. While the findings are encouraging, it must be noted that such studies do not deal with memory problems associated with illness, disease, or injury to the brain.

1. Based on the information in the passage, the author implies that advanced age might adversely affect which of the following?

- I. Memory of details of a recent conversation
- II. Recollection of childhood memories
- III. Ability to perform routine tasks

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- A. I only B. II only C. III only D. I and II only
E. I, II and III
2. With regard to new research into memory and the various points brought up in the passage, the author's attitude might be described as one of:
A. unbridled enthusiasm. B. wary skepticism.
C. reserved optimism. D. unbiased objectivity E. unreserved joy
3. The primary purpose of the passage is to:
A. discuss the ways in which a new theory of memory challenges common assumptions regarding memory and aging.
B. explain why past investigations into memory tested only episodic memory.
C. describe recent research into the functioning of the brain.
D. consider the reasons why episodic memory diminished in later years. E. describe two new types of memory
4. Based on the information in the passage, the author would probably agree with which of the following statements regarding memory problems associated with illness, disease, or injury?
A. Since many elderly suffer from such organic dysfunctions, memory research remains more theoretical than practical.
B. Scientists do not anticipate that these studies will contribute to our understanding of these disorders as well.
C. It is likely that researchers will turn toward these more critical problems in the near future.
D. Since such disorders do not conform to the tripartate model of memory, most researchers are not interested in them
E. These problems can be resolved by conducting more in-depth research into the different memory types

Passage – 25

Georges LeClerc (1707-1788) proposed a mechanism for calculating the age of the Earth using molten spheres of iron and measuring cooling times, after which he proposed that the Earth was at least 70,000 years old and perhaps as old as three million years.

Some students may feel that we should not focus on the past, and that our thoughts should be trained on new knowledge and invention, rather than antiquated ideas. What these students do not understand is the importance of the old ideas in shaping our current understanding of the world around us, and that an outright dismissal of past theories simply because they have been rejected by new evidence may limit our understanding of current theories.

There is value of learning about hypotheses that were once espoused to explain an observed phenomenon, but that have now been long disproved and invalidated. Darwin's theory of natural selection as the mechanism for evolution is all too often taught in a vacuum in high school biology classrooms, as if this brilliant naturalist developed a ground-breaking theory on natural order which had never before been contemplated in any form. It is only by learning about the gradual development of evolutionary theory, and the role of some religious individuals in shaping this theory, that students may come to see the logic

and power behind Darwin's relatively simple ideas.

Many of the contributions upon which Darwin built his ideas came from scientists who were staunch creationists themselves. These scientists believed that all organisms on Earth had been placed here through —special creation,|| by God, because there was little evidence at the time to support evolution. LeClerc also perceived that species were not fixed and could change over time; he even proposed that closely related species, such as the horse and donkey, had developed from a common ancestor and had been modified by different climactic conditions. Yet, LeClerc was a devout Christian creationist and devoted much of his writing to the debunking of evolutionary ideas. Despite their commitments to religion, LeClerc and Linnaeus both gave Darwin crucial raw material to work with—their ideas concerning the similarities between related species and possible connections with common ancestors cried out for a reasonable explanation.

For centuries before Darwin, data that challenged the biblical account of creation was surfacing in many fields of research. As explorers began to study the forces that shape the Earth, such as mountain building and volcanic eruptions, accounts from scripture and assertions that the Earth was very young began to be called into question. Uniformitarian geologists such as Charles Lyell felt that the only reason mountains and other features of the Earth's terrain had been built the way they had was because of long, gradual processes that shaped these structures. There was no way, he felt, that the Earth could be several thousand years old as asserted in the Bible. In addition, the discovery of new plants, animals, and fossils as explorers travelled to uncharted regions of the world aroused suspicion about the paucity of animal and plant —kinds|| in the Bible.

Improvements in scientists' abilities to estimate the age of the Earth and the relative ages of fossils also pushed people to question old assumptions.

1. Taking into account all that was argued by the author, the main idea of this passage is that:

- A. religious scientists before Darwin greatly influenced his formation of the theory of natural selection.
B. similarities between species of plants and animals were too great to ignore as people attempted to explain relationships in nature.
C. Darwin relied on a great deal of information from those who lived before him as he formed his well-known conclusions about the mechanisms of evolution.
D. old ideas should not be dismissed simply because they are old and disproved.
E. There is no connection between old ideas and new ones
2. If the author were teaching a class on evolution in a university in the United States, the passage suggests that the class would spend a significant amount of time discussing:
A. the origins of Darwin's theory of natural selection.
B. details of Darwin's theory of natural selection.

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- C. the Biblical account of creation.
D. taxonomy and classification and their importance in Darwin's ideas. E. the future of evolution
3. The author's discussion of Darwin's theory in paragraph 3 of the passage suggests that:
A. Darwin does not deserve the credit he is given for his ideas on evolutionary theory.
B. Darwin's theories should be presented in the context within which they were originally conceived.
C. Darwin's ideas would be properly devalued if people knew the religious background from which his ideas stemmed.
D. Darwin's ideas are simple enough that he didn't need much help in formulating them.
E. Darwin's ideas have no place in modern theories of evolution
4. According to the passage, the idea that mountains and other structures take a great deal of time to form was an idea championed by:
A. catastrophists. B. Darwinists.
C. creationists. D. uniformitarians. E. modern scientists

Passage – 26

After being formed deep within the earth, hydrocarbons migrate upwards, following a complex path of minute cracks and pore spaces, and will eventually reach the surface and be lost unless they encounter impermeable rocks (such as dense shale) through which they cannot travel. If the rock within which they are trapped is highly permeable (such as sandstone) the hydrocarbons can be extracted by drilling through the impermeable seal, and tapping into this permeable reservoir.

The need to expand oil and gas reserves brings with it a need to find hydrocarbon reservoirs that are difficult to locate using current geological and geophysical means. To do so, geologists look for rock formations that constitute the seals and reservoirs within which hydrocarbons could be trapped.

There are a number of different types of traps, but they can be divided into two broad categories. Structural traps are formed by deformation after the rocks have been formed, for example by folding or faulting. Stratigraphic traps are formed when the loose sediments that will eventually be turned into rocks were laid down.

Structural traps tend to be easier to locate and are the source of most of the known hydrocarbon reserves. Expanding our reserves therefore means locating more stratigraphically trapped hydrocarbons. The primary means of exploring for oil where there is no surface expression of the underlying geology is by seismology. When a seismic pulse transmitted into the earth encounters an interface where the density changes, typically the surface between two beds or an unconformity with velocity-density contrasts, some of the energy is reflected back upwards. A string of seismophones record these reflections and after extensive computation seismologists can build

up a visual record of the intensity of each reflection and the time taken for it to reach the surface.

The primary limitation of the seismic method for locating stratigraphic traps is resolution: It is not possible to resolve features that are thinner than a seismic wavelet. The most common stratigraphic traps (with the possible exception of carbonate reservoirs) are in sandstone layers that are much thinner than a seismic wavelet. Seismic wavelets can be narrowed by increasing the frequency of the seismic pulse. However, high frequencies are selectively attenuated as the pulse travels through the earth, so there are limits to how much resolution can be improved by simply generating higher frequency pulses, or by filtering out the lower frequency components of the seismic source. Moreover, the density contrasts between oil-bearing sandstones and the shales that provide stratigraphic seals for the oil are often very small, so that the reflectivities, and hence the strength of the reflection, will be so low that the events may not be observable above background noise.

Recent developments such as zero phase wavelet processing and multivariate analysis of reflection waveforms have decreased noise and increased resolution. In the future it is hoped that these techniques, and greater understanding of stratigraphy itself, will prove fruitful in expanding hydrocarbon reserves.

1. As opposed to other essays written on the same topic, it is likely that the primary purpose of this passage is to:
A. explain how hydrocarbons are formed and trapped within the earth. B. detail how seismologists can locate hidden deposits of hydrocarbons.
C. contrast the relative difficulty of locating structural traps and stratigraphic traps.
D. discuss the formation of hydrocarbon reserves and how they can be located.
E. argue for increased private investment in the location of hydrocarbons
2. According to the passage it is often difficult to distinguish reflections from the interface between oil bearing sandstones and the shales that provide stratigraphic seals from background noise because:
A. high frequencies are attenuated as they travel through the earth.
B. there is little density contrast between the oil bearing sandstone and the shales which provide stratigraphic seals.
C. the frequency of the seismic pulse is not high enough.
D. they are thinner than the seismic wavelet. E. they are thicker than the seismic wavelet
3. According to the passage, all of the following are needed if oil is to be extracted from a reservoir EXCEPT:
A. an impermeable seal above the reservoir.
B. an original source of hydrocarbons below the reservoir.
C. high density contrast between the reservoir rocks and the stratigraphic seal.
D. high permeability within the reservoir.
E. presence of cracks and pores in the earth's crust
4. Based on the points made throughout the passage, which of the following best describes how the author views seismology as a tool in locating hydrocarbons?
A. Of limited effectiveness but showing promise

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- B. Intrinsically flawed
- C. Effective and profitable
- D. Theoretically useful but ineffectual in practice
- E. Out-dated and archaic

Passage – 27

American culture changed forever in the latter part of the twentieth century with the advent of pop music. Before the 1900s music defined its own circles, but, at best, only shaded the frame of popular American culture. The birth of Rock and Roll forever changed that as larger and larger numbers of youth came, not only to identify with the music they were listening to, but to identify themselves by that music.

We use pop songs to create for ourselves a particular sort of self- definition, a particular place in society. The pleasure that a pop song produces is a pleasure of identification: in responding to a song, we are drawn into affective and emotional alliances with the performers and with the performers' other fans. Thus music, like sport, is clearly a setting in which people directly experience community, feel an immediate bond with other people, and articulate a collective pride.

At the same time, because of its qualities of abstractness, pop music is an individualizing form. Songs have a looseness of reference that makes them immediately accessible. They are open to appropriation for personal use in a way that other popular cultural forms (television soap operas, for example) are not—the latter are tied into meanings which we may reject.

This interplay between personal absorption into music and the sense that it is, nevertheless, something public, is what makes music so important in the cultural placing of the individual. Music also gives us a way of managing the relationship between our public and private emotional lives. Popular love songs are important because they give shape and voice to emotions that otherwise cannot be expressed without embarrassment or incoherence. Our most revealing declarations of feeling are often expressed in banal or boring language and so our culture has a supply of pop songs that say these things for us in interesting and involving ways.

Popular music also shapes popular memory, and organizes our sense of time. Clearly one of the effects of all music, not just pop, is to focus our attention on the feeling of time, and intensify our experience of the present. One measure of good music is its "presence," its ability to "stop" time, to make us feel we are living within a moment, with no memory or anxiety about what has come before us, what will come after. It is this use of time that makes popular music so important in the social organization of youth. We invest most in popular music when we are teenagers and young adults—music ties into a particular kind of emotional turbulence, when issues of individual identity and social place, the control of public and private feelings, are at a premium. What this suggests, though, is not that young people need music, but that "youth" itself is defined by music. Youth is experienced, that is, as an intense presence, through an

impatience for time to pass and a regret that it is doing so, in a series of speeding, physically insistent moments that have nostalgia coded into them.

1. The author's primary purpose in this passage in discussing popular music is to:

A. account for the importance of popular music in youth culture. B. contrast several sociological theories about popular music.

C. compare popular music with other forms of popular culture.

D. outline the social functions of popular music. E. describe how popular music originated

2. While there are obviously many differences between the two, the author of the passage suggests that one similarity between popular and classical music is that both:

A. articulate a sense of community and collective pride. B. give shape to inexpressible emotions.

C. emphasize the feeling of time. D. define particular age groups.

E. are timeless in nature

3. It can be inferred from the passage that the author's attitude towards love songs in popular music is that of being:

A. bored by the banality of their language.

B. embarrassed by their emotional incoherence. C. interested by their expressions of feeling.

D. unimpressed by their social function.

E. disgusted by their mushiness

4. Regardless of what the purpose of the passage is as a whole, in the last paragraph, the author is predominantly concerned with:

A. defining the experience of youth.

B. describing how popular music defines youth.

C. speculating about the organization of youth movements.

D. analyzing the relationship between music and time.

E. describing the decline of popular music

Passage – 28

The apparent change from the rather mechanistic explanation of evolution put forth by the Greeks to the more creationist reasoning found later in Europe was a significant paradigm shift, yet it is clear that the idea of evolution was not first pioneered by Darwin himself.

It is essential to confront the creationist issue and to look at it in a scientific manner. Creationism is not science and doesn't belong in the science classroom. However, a frank discussion of creationism with students is also important. To avoid it may suggest that perhaps there is something valid there, lurking in the irrationality.

The late Carl Sagan, one of the staunchest advocates of rationality and reason in the increasingly irrational and superstitious world in which we live, has defended the importance of good science teaching by saying: —In the demon-haunted world that we inhabit by virtue of being human, [science] may be all that stands between us and the enveloping darkness.¶ In its most simple form, the concept of evolution is that populations of

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organisms change over time. One can trace the origins of evolutionary thought at least as far back as the Greeks.

Anaximander, in 600 BC, held the belief that living creatures were formed from water and that humans and other animals were descended from fishes. Empedocles, around 400 BC, proposed an evolutionary hypothesis in which he stated that heads, limbs, and various other parts of animals were continuously joined in random combinations – e.g. human heads with cows' bodies – and that only some of these combinations were fit for survival.

Christian philosophers later elaborated on the ideas of Aristotle and Plato when they reasoned that because existence is a good thing and because God is considered benevolent, God must have bestowed existence on all creatures. This twist of circular reasoning, to which the name –natural theology‖ was applied, dominated the period preceding Darwin, and this philosophy resisted change long after Darwin published his theory of natural selection in 1809.

Thomas Huxley, one of Darwin's most ardent supporters, was one of the founding members of the powerful London School Board, which helped to set curriculum guidelines for students and teachers. However, in the United States a strong biblical fundamentalism was taking hold, using the Bible as both a means of consolation as well as a guide for moral conduct. Many states passed laws banning the teaching of evolution in schools, and teachers who persisted either did so quietly or allowed themselves to be martyred. Most recently, those opposed to the teaching of evolution in schools have pressed the idea of –creation science,‖ a tactic devised by creationists in the late 1960s to infiltrate America's science classrooms with religious ideas.

Creation science, despite the apparent oxymoron, is a phrase that has been widely used by creationists to add legitimacy to their claims by stating that creationism is a scientific theory just as much as evolution. By claiming that their ideas are scientific, creationists could then demand equal time in the classroom devoted to both evolutionary theory and the –theory‖ of creationism.

1. When reviewing all of the arguments made in the passage it becomes apparent that the author's main idea in this passage is:

- A. to explain the differences between natural selection and creation science.
- B. to show how the continued spread of creationist views is a potentially dangerous affront to a rational, scientific understanding of evolution.
- C. to contrast the creationist viewpoints, such as fundamentalism and natural theology with more ancient views of evolution.

D. to explain why the concepts of evolution are more scientifically correct than those of –creation science.‖

E. to argue that 'creation science' is the best explanation of evolution

2. The author brings up Greek philosophers to point out which of the following: A. that the origins of evolutionary thought comprised some silly notions such as heads, limbs, and various other parts of animals were always being joined in random combinations.

B. that the origins of evolutionary thought began long before Darwin.

C. that both evolutionary thought and creationism have their origins among the Greeks.

D. Anaximander first came up with the theory of evolution.

E. Greeks were far more learned than any other group at that time

3. Which of the following can be inferred from the passage?

A. A frank discussion of creationism is pointless

B. Carl Sagan was indifferent towards rationality

C. Anaximander believed that humans were descended from apes

D. Thomas Huxley approved of Darwin's theories

E. Christian philosophers rejected the ideas of Aristotle and Plato

Passage - 29

The variety of fish reproduction techniques provides an example of the adaptive complexity that ecologists have found. Most spawning is synchronized with phases of the moon, and eggs are fertilized in the water column. However, some species lay eggs on the sea bottom or in a protected area. Damselfishes will guard their nests quite aggressively, while jawfish and cardinalfish incubate eggs in the mouth. Seahorse and pipefish carry their eggs in a pouch.

Most hermaphroditic species follow the protogynous pattern of the fairy basslet. If the male disappears, the dominant female in his harem will change sex within days and take over his role within hours. However, a few species are protandrous, where the fish are male first and then become female. Much remains to be learned about fish reproduction, and evolutionary biologists find that the coral environment provides them with many opportunities to observe a variety of species and specialized behaviours.

The reef itself is alive with many billions of coral colonies plus other limestone-depositing organisms, growing among the skeletons of their predecessors. Reefs grow on the continental shelf edge, on the shelf itself, along islands and atolls, and from the continental mainland. While strict requirements concerning the amount of available light, and the ocean's clarity, temperature, and movement have restricted the geographic locations of the Earth's reefs, these requirements have not limited the ecological complexity of reef communities.

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Species representing more phyla than those found in a tropical rainforest live on coral reefs. Scientists counted 1,441 worms on one coral head alone, and these worms belonged to over a hundred different families. Six of the Earth's seven species of marine turtles inhabit the Great Barrier Reef. Four thousand species of fishes, more than a third of all marine fish species, make coral ecosystems their home. Perhaps more notably, representatives from all fish families and most genera are reef inhabitants.

Scientists study reef fishes not only because of the diverse sampling of species but also because of the range of behaviours and relationships between species and other animals that is available for analysis. Intense competition and predation have caused fishes to carve out special niches.

Mimicry and camouflage offer just two ways for species to blend in with

their surroundings. Symbiotic relationships between fish and other organisms also occur with frequency on coral reefs. The anemonefish share their habitat with sea anemones in a symbiotic relationship that scientists have yet to unravel completely. The defensive nematocysts of the anemone are used to stun prey, but the anemonefish are resistant to these stinging cells.

Researchers believe that the fish secretes a mucous coating that mimics that of the anemone allowing for chemical signals to prohibit the firing of the cells. One theory holds that the fish obtain these chemicals by rubbing against the sea anemone's tentacles. The benefits, if any, to the anemone for having these fish live with them is not clear. 1. Based on the information set down in the passage by the author, with which of the following statements would the author most likely agree?

- A. More effort should be made to protect Australia's Great Barrier Reef.
 - B. The absence of diverse phyla in terrestrial ecosystems makes them irrelevant for Earth's biodiversity.
 - C. The richness of coral reef diversity should be recognized and studied.
 - D. Ecologists should focus research efforts on environments other than coral reefs
 - E. Coral reefs are not as important as they are made out to be
2. The author discusses the number of species found on a coral head in the fourth paragraph in order to:
- A. provide an example of an abnormal phenomenon.
 - B. emphasize how much greater the diversity of worms on a reef than fish.
 - C. highlight the importance of coral reef preservation.
 - D. illustrate the diversity found in coral reefs.
 - E. contradict a widely accepted theory
3. It can be inferred from the passage that changes in an ocean's water clarity and temperature would concern researchers studying coral reefs because:
- A. water clarity and temperature directly limit ecological biodiversity.

- B. symbiotic relationships between organisms are complex and interesting.
- C. water clarity and temperature affect the growth of coral communities.
- D. scientists studying reefs also study climate change.
- E. fishes cannot survive in very cold temperature

Passage – 30

Because we have so deeply interiorized writing, we find it difficult to consider writing to be an alien technology, as we commonly assume printing and the computer to be. Most people are surprised to learn that essentially the same objections commonly urged today against computers were urged by Plato in the *Phaedrus*, against writing. Writing, Plato has Socrates say, is inhuman, pretending to establish outside the mind what in reality can be only in the mind. Secondly, Plato's Socrates urges, writing destroys memory. Those who use writing will become forgetful, relying on external resource for what they lack in internal resources. Thirdly, a written text is basically unresponsive, whereas real speech and thought always exist essentially in a context of give-and-take between real persons.

Without writing, words as such have no visual presence, even when the objects they represent are visual. Thus, for most literates, to think of words as totally disassociated from writing is psychologically threatening, for literates' sense of control over language is closely tied to the visual transformations of language. Writing makes —words appear similar to things because we think of words as the visible marks signalling words to decoders, and we have an inability to represent to our minds a heritage of verbally organized materials except as some variant of writing. A literate person, asked to think of the word —nevertheless will normally have some image of the spelled-out word and be quite unable to think of the word without adverting to the lettering. Thus the thought processes of functionally literate human beings do not grow out of simply natural powers but out of these powers as structured by the technology of writing.

Without writing, human consciousness cannot achieve its fuller potentials, cannot produce other beautiful and powerful creations. Literacy is absolutely necessary for the development not only of science, but also of history, philosophy, explicative understanding of literature and of any art, and indeed for the explanation of language (including oral speech) itself. Literate users of a grapholect such as standard English have access to vocabularies hundreds of times larger than any oral language can manage. Thus, in many ways, writing heightens consciousness. Technology, properly interiorized, does not degrade human life but enhances it.

In the total absence of any writing, there is nothing outside the writer, no text, to enable him or her to produce

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the same line of thought again or even verify whether he has done so or not. In primary oral culture, to solve effectively the problem of retaining and retrieving carefully articulated thought, you have to do your thinking in mnemonic patterns, shaped for ready oral recurrence. A judge in an oral culture is often called upon to articulate sets of relevant proverbs out of which he can produce equitable decisions in the cases under formal litigation under him. The more sophisticated orally patterned thought is, the more it is likely to be marked by set expressions skilfully used. Among the ancient Greeks, Hesiod, who was intermediate between oral Homeric Greece and fully developed Greek literacy, delivered quasiphilosophic material in the formulaic verse forms from which he had emerged.

1. In paragraph 0 of the passage, the author mentions Hesiod in order to:

- A. prove that oral poets were more creative than those who put their verses in written words.
- B. show that some sophisticated expressions can be found among the pre-literate ancient Greeks.
- C. demonstrate that a culture that is partially oral and partially literate forms the basis of an ideal society.
- D. thinking in mnemonic patterns is an unsuccessful memory device.
- E. no sophisticated expressions could be found among the pre-literate ancient Greeks.

2. According to the author, an important difference between oral and literate cultures can be expressed in terms of:

- A. extensive versus limited reliance on memory.
- B. chaotic versus structured modes of thought.
- C. simple versus complex use of language.
- D. barbaric versus civilized forms of communication.
- E. presence and absence of books

3. The author refers to Plato in the first and second paragraphs. He brings the philosopher up primarily in order to:

- A. provide an example of literate Greek philosophy.
- B. suggest the possible disadvantages of writing.
- C. illustrate common misconceptions about writing.
- D. define the differences between writing and computer technology.
- E. suggest possible benefits of writing

4. The passage is primarily concerned with

- A. criticising those who speak against 'writing'
- B. emphasising the importance of writing
- C. assert that writing and consciousness are independent of each other
- D. documenting the negative effects of writing
- E. discussing how writing has influenced human consciousness

Passage – 31

Tracking seems to contradict the oft-stated assumption that —all kids can learn. If certain students are better in certain subjects, they must be allowed to excel in those areas and not be relegated to an inferior class simply because they have been tracked in another subject in which they don't excel. The major obstacle to eliminate tracking seems to be scheduling, and tracking has become, in many ways, a means to alleviate

difficulties faced by administrators in scheduling their student body for classes.

Tracking has the ability to create divergent experiences, even in identical courses that are meant to be taught at the same level and speed. Administrators who support tracking generally assume that it promotes student achievement, citing that most students seem to learn best and develop the most confidence when they are grouped amongst classmates with similar capabilities. Yet, at least for the lower level tracks, this method of class assignment can encourage —dumbing down, or teaching to the lowest common denominator of ability within a particular class, rather than accommodating differences and pushing all students equally hard.

Tracking places different students in groups that are usually based on academic ability as demonstrated by their grades and as described in teacher reports. These tracks mean that a student will proceed through every school day with essentially the same group of peers, assigned to classes at a particular level of difficulty. Researcher R. Slavin notes that —students at various track levels experience school differently, depending on their track assignments. There are differences, for example, in how fast a class progresses through material, how talkative and energetic the classroom is, even how stressed or relaxed the teacher appears.

One of the major problems with tracking is that the level in which students are initially placed often determines not only where they remain throughout high school, but also the kinds of courses they are allowed to take. For example, schools that offer Advanced Placement (AP) courses often require that students take the honours-level version of the introductory course before enrolling in the AP course a year or two later. A student who is tracked into the —regular introductory course, rather than the honours level, may not be able to take the AP course even after doing an exemplary job in the introductory course, simply because the honours course is offered a year earlier than the regular one—allowing honours-track students to complete enough other graduation requirements to have time for the AP course later on. And, even if the —regular-track student could make it into the AP course, he or she would be at a disadvantage, because the introductory course couldn't cover key concepts when the teacher was compelled to slow down the class for the less able students.

1. If it were found that students who were tracked did better overall on standardized tests than those who were not tracked, this would most likely *weaken* the author's argument that:

- A. tracking has the ability to create a diversity of student experience in the classroom.
- B. tracking encourages teaching to the lowest common denominator.
- C. tracking allows administrators to overcome scheduling difficulties.
- D. tracking allows students to learn best when grouped with similar-ability classmates.

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- E. tracking should be banned in schools
2. According specifically to the points laid out by the author in the various paragraphs of the passage, the main idea of the passage is that:
- A. tracking should not be used by schools to try and promote student achievement.
- B. tracking may be detrimental to many students' success in school.
- C. teachers of tracked classes are often stressed and run their classes at a slow pace.
- D. scheduling is a major problem for school administrators.
- E. tracking could prove beneficial for all students in the long run
3. According to the arguments made in the passage, students may fall into a particular track because of all of the following conditions EXCEPT:
- A. high grades.
- B. learning difficulties.
- C. honours-course enrolment.
- D. how talkative and energetic they are.
- E. they are extremely skilled at a particular subject
4. In spite of what points may be made in other parts of the passage, in paragraph 2, the author is primarily concerned with:
- A. contrasting administrative views of tracking with his own views. B. defining -dumbing down and its effect on students.
- C. describing the diverse experiences students face when tracked. D. conveying the importance of pushing all students equally hard.
- E. listing down the benefits of tracking

Passage – 32

There are over one hundred small white rabbits here in the laboratory today for the Draize test, immobilized by their positions in their small containers, with only their heads sticking out. An assistant is placing a drop of the newest cologne or perfume directly into each of the animal's eyes. The bucking and kicking of these small subjects seems to indicate that they are experiencing severe pain as a result of this experiment. Yet it seems necessary in order to ensure that humans do not experience eye injuries resulting from the use of this product. Thereafter the animals will be analyzed and destroyed.

Is it right under any circumstances to experiment with animals? Do we have a moral obligation towards animals? What is an animal? Certainly, most humans would think of these small rabbits as animals that deserve our protection. But, do humans generally consider that mosquitoes, spiders, or ticks deserve the same protection? Probably not. They are not -fubsy; the term used to describe the cuddly soft, furry, larger mammals that we generally fawn over and feel the desire to protect.

Recognizing this intrinsic tendency and attempting to override it, let us then define animals as any non-human organism. Yet, this is such a wide definition that it could pertain to potential aliens. Will we witness an Alien Rights movement soon? We are then forced to narrow our field to non-human organisms that remind us of humans and,

thus, provoke empathy in us. However, to most advocates this would seem rather unsatisfactory because it is not -fair.

Historically, philosophers like Kant (and Descartes, Malebranche and even Aquinas) did not favor the idea of animal rights. They said that animals are the organic equivalents of machines, moved by coarse instincts, unable to experience pain (though their behavior sometimes might deceive us into mistakenly believing that they do). Thus, any moral obligation that we have towards animals is a derivative of a primary obligation, which we have towards our fellow humans.

Empathy as a differentiating principle is of little use because it is primarily structural. If the animal looks like me, resembles me, behaves like me — then he must be like me in other, more profound ways. However, this is a faulty method when used to prove identity; empathy is defined in the dictionary as pathetic fallacy. The method is too dependent upon historical, cultural, and personal contexts. That another organism looks like us, behaves like us and talks like us is no guarantee that it is like us. The creature is not capable of want, and if it were, it would neither necessarily want nor deserve our pity. We cannot determine whether another creature, like another human, is experiencing pain, through empathy.

Additionally, pain is a value judgment and the reaction to it is not only relative, but also culturally dependent. In some cases, it can actually be perceived as positive, and be sought after. If we, humans, cannot agree and separate the objective from the subjective, the rational from the cultural — what gives us the right to decide for other organisms (without getting their approval)? We cannot decide right and wrong, good and evil for those with whom communication is barred.

1. The author implies that an animal does not:
- A. have enough 'fubsy' characteristics to be considered human.
- B. communicate effectively.
- C. benefit from human empathy. D. empathize with humans.
- E. deserve human sympathy
2. It has been said that animal experimenters -are using more and more animals whom they consider less 'cute', because, although they know these animals suffer just as much, they believe people won't object as strenuously to the torture of a pig or a rat as they will to that of a dog or a rabbit. The author would probably disagree by saying that:
- A. dogs and rabbits are less -cutell than pigs or rats.
- B. people will usually object strenuously to an experiment in which any kind of animal is suffering.
- C. the experimenters cannot know how much the animals suffer.
- D. the experimenters probably realize that non-human organisms cannot suffer as we do.
- E. there should be no discrimination on the basis of 'cuteness'

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3. The passage indicates that its author would NOT agree with which of the following statements?

- A. Animals communicate effectively though non-verbal means.
- B. The reaction to pain is culturally dependent and relative.
- C. An organism may look like us, behave like us and talk like us, yet not be like us at all.
- D. An animal's reaction to a certain stimulus might not lead us to believe that it is experiencing pain.
- E. Animals deserve our love and sympathy

Passage - 33

Arguments abound over whether marijuana should be legalized. Many of these arguments pertain to the lengthy federal guidelines for prison sentences meted out for what is considered a relatively petty crime. Others point out that marijuana is a drug that could, and should, be used for medicinal purposes. But most proponents of legalization ignore the mounting evidence which points to the long term damage to the user and for society as a whole.

In the Netherlands, marijuana has been legally available since 1976.—Coffee shops^{ll} sell cannabis over the counter in many parts of the country. However, more people have tried cannabis since it has been legalized.

Medical research has repeatedly provided evidence that marijuana use causes permanent physical, psychological, and thus emotional damage to those who regularly use it. Studies at the University of Maryland and UCLA indicated that the regular smoking of only two marijuana cigarettes a day would tend to promote toe fungus and thrush. But over the years, much stronger claims have surfaced: heavy marijuana users perform poorly at work or school, are more likely to be delinquent and develop psychiatric problems, or have abnormal brain waves. Repeatedly, however, such studies encounter the same objection: are the problems caused by smoking marijuana, or is it just that people with problems are more likely to end up using marijuana heavily?

Marijuana is addictive. According to Wayne Hall, director of the National Drug and Alcohol Research Centre at the University of New South Wales, Sydney, cannabis is not generally regarded as a drug of dependence because it does not have a clearly defined withdrawal syndrome. But that, he says, is an old-fashioned definition of addiction. Research into marijuana's use as a medicine has proven either inconclusive or tended to show that its side effects rendered cannabis unsuitable as a drug. For instance, one study surveyed the use of cannabinoids to combat nausea following chemotherapy. While the tablets or injections were slightly more effective than standard treatments, their side effects, plus the recent development of new, more powerful drugs, makes them a poor choice for nausea relief. In her study,—Cannabinoids were no more effective than codeine in controlling acute and chronic pain and they had undesirable effects in depressing the central nervous system,^{ll} comments Eija Kalso of Helsinki University Hospital. Yet, under mounting pressure, the

U.S. Drug Enforcement Agency has reluctantly agreed to provide funds for once again testing the efficacy of marijuana as a medicine.

1. According to the passage, all of the following are harmful effects of marijuana EXCEPT:

- A. poor performance at work
- B. development of psychiatric problems
- C. growth of toe fungus and thrush
- D. depression and memory loss
- E. Abnormal brain waves

2. According to an earlier definition, why is marijuana not considered addictive?

- A. Its use does not result in death
- B. Lack of clearly defined withdrawal syndrome
- C. It has several beneficial uses
- D. Its harmful effects have not been proved
- E. Its use is legal in a lot of countries

3. Which of the following can be inferred from the information in the passage?

- A. It has now been proved without a doubt that marijuana is indeed harmful to humans
- B. Marijuana has been unreasonably criticized by doctors
- C. Netherland will soon make marijuana illegal
- D. Marijuana has several harmful effects and probably some beneficial ones as well

E. The US Drug enforcement Agency has decided to ban the use of Marijuana