

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After reading each passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table or graph).

Questions 1-10 are based on the following passage.

This passage is adapted from Amit Chaudhuri, *A Strange and Sublime Address*. ©1991 by Amit Chaudhuri. A ten-year-old boy named Sandeep travels with his mother, his aunt (Mamima), and his uncle (Chhotomama) to visit family in Calcutta, India.

Two boys were playing carrom on the steps of a small, painted shed which had the following words on its wall in large, black letters: NATIONAL ASSOCIATION OF SPORTSMEN. A single table-tennis table inside the shed could be glimpsed through the window. The boys interrupted their game to give Chhotomama directions to the house in a series of sporadic, enthusiastic gestures. Oh yes, they knew the old couple. And yes, their son and daughter-in-law had arrived last night with their first child.

“Is it a girl or a boy?” asked Mamima, rolling down the window.

“A girl,” said the boy.

Mamima rolled up her window before the mosquitoes came in. The two boys vanished behind them. When they reached the house, they found that the old man was waiting on the verandah with a lantern in his hand. Moths were shuddering round and round the lantern, though the old man was oblivious to them. He had come out because he had heard the throbbing of the engine in the distance. The night had been silent except for the questioning cry of an owl and the continual orchestral sound of crickets in the bushes. The throbbing of the engine had, therefore, travelled through the silence to the

old man’s listening ear, and to his wife’s ear, even when the car was relatively far away and beyond their range of vision. They had pondered over the sound, and finally, he had lit the lantern and shuffled out. “I told her,” he said, referring to his wife. “I told her that I heard the car, I knew it was the car, I told her you were coming.”

Once they were inside, Mamima gave the pot of yoghurt and the pot of sweetmeats to the old lady. “There was no need,” she said. “Oh really,” she said. “This is too much,” she insisted, with the air of one who has just received the Kohinoor diamond as a birthday present. “Come, come, come,” said Chhotomama, with the air of someone who has just given the Kohinoor diamond as a birthday present, and refuses to be overawed by his own generosity. “It’s nothing.” It *was* nothing, of course, only Ganguram’s sweets and yoghurt, but they fussed and fussed and created the illusion that it was something, something unique and untasted and unencountered.

The son and the daughter-in-law emerged shyly from the anteroom. They both stooped gently to touch Chhotomama’s feet, and Sandeep’s aunt’s and his mother’s feet, a traditional greeting and a mark of obeisance towards one’s elders.

“Oh no no no,” said Chhotomama, struggling to keep the son’s hand away from his feet. “There’s no need for all this.” This was half a token gesture towards modesty, and half towards the new, “modern” India—Nehru’s secular India, free of ritual and religion.

“I have not met you for two years, Dada,” said the son, struggling to get his hands near Chhotomama’s toes. “You must not stop me.” This was half a token gesture towards modesty, and half towards the old, “traditional” India—Gandhi’s India of ceremony and custom.

Sandeep, meanwhile, had come to the conclusion that the grown-ups were mad, each after his or her own fashion. Simple situations were turned into complex, dramatic ones; not until then did everyone feel important and happy. Will they never grow up? Sandeep thought irately. He glanced around him. A single blue, fluorescent tube was burning on the wall. It was not a big room. Despite its bareness, the impression it gave was of austerity rather than poverty. It made one remember that poverty meant displacement as well as lack, while austerity meant being poor in a rooted way, within a tradition and culture of sparseness, which transformed even the lack, the paucity, into a kind of being.

1

According to the passage, the old man was standing on the verandah because

- A) he was watching cars travel down the road.
- B) the two boys had reported the visitors would soon arrive.
- C) he had heard what he believed to be the visitors’ car.
- D) he enjoyed listening to the quiet sounds of the evening.

2

In the passage, the yoghurt and sweetmeats are compared to a

- A) jewel.
- B) cuisine.
- C) wedding gift.
- D) generous donation.

3

As used in lines 37 and 40, “air” most nearly means

- A) atmosphere.
- B) absence.
- C) demeanor.
- D) melody.

4

The characters’ behavior during the gift giving mainly serves to

- A) emphasize the lavish value of the gift.
- B) inflate the significance of the gesture.
- C) convey indifference toward the gift.
- D) stress the need for polite behavior.

5

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 43-44 (“It was . . . yoghurt”)
- B) Lines 44-46 (“they . . . unencountered”)
- C) Lines 52-54 (“Oh no . . . all this”)
- D) Lines 58-60 (“I have . . . stop me”)

6

The description of Chhotomama and the son’s interaction mainly serves to

- A) show how the characters diverge in their approaches to cultural practices.
- B) emphasize the characters’ complex relationship.
- C) stress the characters’ misinterpretations of Indian history.
- D) depict how the characters created gestures that became routine.

7

Over the course of the passage, Sandeep comes to view the adults as

- A) strict.
- B) reserved.
- C) sophisticated.
- D) immature.

8

Sandeep would be most critical of which action from the passage?

- A) The two boys playing carrom
- B) Mamima's inquiry about the gender of the child
- C) The old lady's reaction to the gift
- D) The son and daughter-in-law waiting in the anteroom

9

Which lines from the passage most strongly suggest that India has experienced social change?

- A) Lines 36-37 ("There was . . . she insisted")
- B) Lines 48-51 ("They both . . . elders")
- C) Lines 54-57 ("This was . . . religion")
- D) Lines 73-76 ("It made . . . sparseness")

10

As used in line 72, "impression" most nearly means

- A) appearance.
- B) belief.
- C) imitation.
- D) recollection.

Questions 11-21 are based on the following passage and supplementary material.

This passage is adapted from Nicholas Epley, *Mindwise: How We Understand What Others Think, Believe, Feel, and Want*. ©2014 by Nicholas Epley.

Knowing your own reputation can be surprisingly difficult. Consider, for instance, a study that analyzed a set of published experiments all sharing the same basic design. In these experiments, people working in a group would be asked to predict how the other group members would rate them on a series of different traits. Researchers then compared these predicted ratings to the other group members' actual ratings on the very same traits. The traits varied from one experiment to another and included qualities like intelligence, sense of humor, consideration, defensiveness, friendliness, and leadership ability. The groups varied in familiarity, with the members of some groups being fairly unfamiliar with one another (such as having met only once, in a job interview) and the members of other groups being very familiar with one another (such as having lived together for an extended time as roommates). If people knew exactly what others were thinking, then there would be a perfect correspondence between predicted and actual ratings. If people were clueless, then there would be no correspondence between the two. Statistically speaking, you measure relationships like these with a correlation, where perfect correspondence yields a correlation of 1 and no correspondence yields a correlation of 0. The closer the correlation is to 1, the stronger the relationship.

First, the good news. These experiments suggested that people are pretty good, overall, at guessing how a group of others would evaluate them, on average. The overall correlation in these experiments between predicted impressions and the average actual impression of the group was quite high (.55, if you are quantitatively inclined). To put that in perspective, this is roughly the same magnitude as the correlation between the heights of fathers and the heights of sons (around .5). It is not perfect insight, but it is also very far from being clueless. In other words, you probably have a decent sense of what others generally think of you, on average.

Now the bad news. These experiments also assessed how well people could predict the impression of any single individual within a given group. You may know, for instance, that your

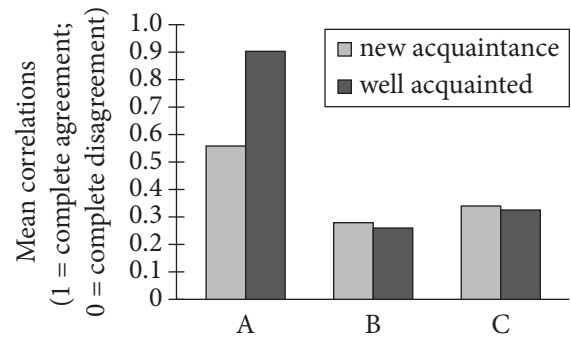
45 coworkers in general think you are rather smart, but those coworkers also vary in their impression of you. Some think you are as sharp as a knife. Others think you are as sharp as a spoon. Do you know the difference?

50 Evidently, no. The accuracy rate across these experiments was barely better than random guessing (an overall correlation of .13 between predicted and actual evaluations, only slightly higher than no relationship whatsoever). Although you might have
55 some sense of how smart your coworkers think you are, you appear to have no clue about which coworkers in particular find you smart and which do not. As one author of the study writes, “People seem to have just a tiny glimmer of insight into how they
60 are uniquely viewed by particular other people.”

But perhaps this is holding your mind-reading abilities to too high a standard? It’s hard, after all, to define traits like intelligence and trustworthiness precisely, so it might not be so surprising that we
65 have difficulty guessing how others will evaluate us on these ambiguous traits. What about predicting something simpler, such as how much other people like you? Surely you are better at this. You learn over time to hang around people who smile at you and
70 avoid those who spit at you. You must have a much better sense of who likes you and who hates you within a group. Yes?

I’m afraid not. These studies found that people are only slightly better than chance at guessing who in a
75 group likes them and who does not (the average correlation here was a meager .18). Some of your coworkers like you and others do not, but I wouldn’t count on you knowing the difference. The same barely-better-than-guessing accuracy is also found in
80 experiments investigating how well speed daters can assess who wants to date them and who does not, how well job candidates can judge which interviewers were impressed by them and which were not, and even how well teachers can predict their
85 course evaluations. Granted, it’s rare that you are completely clueless about how you are evaluated. Accuracy tends to be better than chance in these experiments, but not necessarily by very much.

Mean Correlations of Perceptions of Individuals among New Acquaintances and Old Acquaintances in Twenty-One Studies



A = correlation between individuals’ self-perception and those individuals’ predictions of how others perceive them

B = correlation between individuals’ self-perception and actual perception of those individuals by others

C = correlation between individuals’ predictions of how others perceive them and actual perception of those individuals by others

Adapted from Erika N. Carlson and Simine Vazire, “Meta-Insight: Do People Really Know How Others See Them?” ©2011 by American Psychological Association.

11

Which choice best supports the claim in the first sentence of the passage?

- A) Lines 2-4 (“Consider . . . design”)
- B) Lines 21-23 (“If people . . . two”)
- C) Lines 26-27 (“The closer . . . relationship”)
- D) Lines 54-58 (“Although . . . not”)

12

The information about statistical measurement in lines 23-27 (“Statistically . . . relationship”) is presented in order to

- A) correct a common misunderstanding of how researchers quantify certain data from experiments.
- B) forestall potential objections to how data from the experiments were analyzed in the study.
- C) draw attention to a pattern evident in the conclusions of the experiments.
- D) provide context for a way in which the results of the experiments will be discussed.

13

Based on the passage, in which situation would an individual stand the greatest chance of accurately predicting how he or she is perceived?

- A) An intern predicts the impression that her direct supervisor holds of her.
- B) A manager predicts the collective opinion of employees about her ability.
- C) An instructor predicts the enthusiasm of his class after talking with two students.
- D) A biographer predicts the esteem in which he is held by the living subject of his book.

14

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 9-13 (“The traits . . . familiarity”)
- B) Lines 28-33 (“These experiments . . . high”)
- C) Lines 41-44 (“Now the . . . group”)
- D) Lines 68-70 (“Surely . . . at you”)

15

As used in line 35, “magnitude” most nearly means

- A) strength.
- B) influence.
- C) severity.
- D) reality.

16

What main effect do the words “clueless” (line 38) and “mind-reading” (line 61) have on the tone of the passage?

- A) They contribute to a casual and gently humorous tone that renders a potentially specialized discussion more approachable.
- B) They contribute to a slyly mocking and disapproving tone that reinforces the author’s criticisms of the researchers’ conclusions.
- C) They contribute to a deeply pessimistic tone that stresses the impossibility of ever knowing how people truly perceive each other.
- D) They contribute to a thoughtful yet uncertain tone that casts doubt on the real-world usefulness of experimental data.

17

The author quoted in lines 58-60 expresses which view of the study’s results?

- A) They indicate that there is a small but promising chance of correctly predicting how one is perceived.
- B) They show that individuals generally know very little about how they are regarded by groups of people.
- C) They reveal that one individual hardly knows what another individual thinks of him or her.
- D) They confirm that one’s predictions about other people’s impressions are no better than random guesses.

18

The main reason that the author includes the information about speed daters, job candidates, and teachers in lines 78-85 is to

- A) caution against making assumptions about certain individuals' motives.
- B) distinguish among certain behaviors observed in three different scenarios.
- C) indicate certain settings where further study by researchers is needed.
- D) offer examples of situations in which a certain finding holds true.

19

According to the figure, the mean correlation that most nearly approaches complete agreement exists between individuals' self-perception and

- A) how those individuals are actually perceived by new acquaintances.
- B) actual perceptions of those individuals by people with whom they are well acquainted.
- C) the individuals' predictions of how they are perceived by people with whom they are well acquainted.
- D) the predictions those individuals make about how they are perceived by new as well as old acquaintances.

20

Which statement best exemplifies the distinction made by correlation C in the figure?

- A) Sally believes she is outgoing but thinks that others will describe her as reserved.
- B) Sally expects that others will say she is outgoing, but many describe her as reserved.
- C) Sally has been told that she is outgoing but only by people with whom she is well acquainted.
- D) Sally is outgoing with those with whom she is well acquainted but reserved around new acquaintances.

21

Information in the figure is most useful for addressing which question provoked by the passage?

- A) What determined the traits that researchers tended to focus on in the experiments being analyzed?
- B) Why are individuals more likely to accurately predict the impressions of groups than of specific individuals within groups?
- C) To what degree are people able to predict how individual acquaintances perceive them?
- D) Is one person's understanding of trustworthiness really so different from another person's understanding of that trait?

Questions 22-32 are based on the following passage and supplementary material.

This passage is adapted from David Shiga, “Has Pluto Sent Us a Message in Ceres?” ©2008 by Reed Business Information, Ltd.

Does Pluto have a wayward cousin lurking in the inner solar system? The dwarf planet Ceres—and other icy chunks—may have been born in the same realm as Pluto, but travelled all the way to the
5 asteroid belt between the orbits of Mars and Jupiter. If so, it would be further evidence that a massive upheaval rearranged the early solar system.

At 950 kilometres in diameter, Ceres is by far the largest object in the asteroid belt. And that’s not the
10 only reason it doesn’t quite fit in with many of its companions, according to William McKinnon of Washington University.

McKinnon points out that Ceres has a low density, which suggests it is 25 to 30 per cent water
15 ice. That’s a high proportion for an asteroid, but closely matches Pluto and other icy objects native to the outer solar system, known as trans-Neptunian objects (TNOs). What’s more, a dip in Ceres’s light spectrum may be a sign of ammonium-rich clay at
20 the surface. This material has never been found in the fragments of asteroids that have fallen to Earth, but fits the expected ammonia-rich composition of a TNO.

So if Ceres formed in Pluto’s neighbourhood,
25 how did it end up 2 to 4 billion kilometres away? Some researchers think that the orbits of the planets were once unstable. According to this idea—known as the Nice model—Uranus and Neptune went rampaging through the outer solar system around
30 3.9 billion years ago. As a result, many of the icy objects that formed in the outer solar system were pulled inward by the gravity of the two planets, and some ended up joining the rocky asteroids that were born in the asteroid belt. Ceres would simply be the
35 largest of these immigrants. “The odds for this seem low, but it is not inconceivable,” says Bill Bottke of the Southwest Research Institute (SwRI) in Boulder, Colorado.

Bottke and Hal Levison of SwRI led a pair of
40 studies which support the idea of refugees from the outer solar system orbiting in the asteroid belt. They focused on the so-called D- and P-type asteroids that comprise 20 per cent of the population in the outer part of the belt. These objects are a dark
45 reddish colour that suggests they are covered in

carbon-rich gunk—just the sort of residue that might have been left behind on an icy object that had its outermost layers vaporised in the bright sunlight of the inner solar system. Bottke and Levison’s
50 computer simulations show that the observed number of objects is about right if they are immigrants, though they have assumed many of the objects broke up after transport.

Thomas McCord of the Bear Fight Center in
55 Winthrop, Washington, who was not involved in any of the three studies, agrees that the asteroid belt probably hosts some small refugees from the outer solar system, but says there is no reason to believe Ceres is a stranger there. Its ice-to-rock ratio matches
60 the expected composition of the raw materials that would have been available at its current position early on, he says. What’s more, objects of its size are expected to have formed in the inner solar system. New measurements of Ceres’s composition by
65 NASA’s Dawn mission, for which McCord is a team member, could help pin down its birthplace.

Properties of Selected Solar System Objects

Object	Average distance from Sun (Earth distance = 1)	Radius (Earth = 1)	Mass (Earth = 1)	Average density (g/cm ³)
Earth	1.0	1.0	1.0	5.5
Mars	1.52	0.53	0.11	3.9
Juno (asteroid)	2.7	0.019	0.000003	2.8
Ceres (dwarf planet)	2.8	0.073	0.00015	2.7
Jupiter	5.2	11.2	318.0	1.3
Saturn ¹	9.5	9.5	95.0	0.7
Uranus	19.2	4.0	15.0	1.3
Neptune	30.1	3.9	17.0	1.6
Pluto (dwarf planet)	39.5	0.2	0.002	2.1

¹Properties given do not include Saturn’s ring system.

Source: Data from the National Aeronautics and Space Administration (NASA).

22

In McKinnon’s view, Ceres differs from other objects in the asteroid belt in which significant way?

- A) The surface temperature of Ceres is lower than the temperatures of the other objects.
- B) The dimensions of Ceres have varied more over time than the dimensions of the other objects have.
- C) The surface composition of Ceres is dissimilar to the composition of the other objects.
- D) The light reflected by Ceres is more intense than the light reflected by the other objects.

23

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 2-5 (“The dwarf . . . Jupiter”)
- B) Lines 8-9 (“At 950 . . . belt”)
- C) Lines 18-20 (“What’s . . . surface”)
- D) Lines 20-23 (“This . . . TNO”)

24

According to the passage, the Nice model is based on the idea that

- A) Uranus and Neptune were not always locked into their current orbital paths.
- B) Ceres traveled a greater distance than any other object in the solar system did.
- C) objects formed in the inner solar system were able to resist the gravitational pull of Uranus and Neptune.
- D) icy objects like Ceres were formed in the inner solar system.

25

As used in line 34, “simply” most nearly means

- A) wholly.
- B) sincerely.
- C) plainly.
- D) merely.

26

Based on the passage, Bottke and Levison’s conclusions would be most weakened by a study that

- A) confirmed that heat from the Sun burned away the outer layers of all immigrant objects.
- B) established that the orbits of certain objects of the inner solar system were once less stable.
- C) demonstrated that very few objects broke up after migrating to the asteroid belt.
- D) proved that not all immigrants from the outer solar system survive in the asteroid belt today.

27

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 39-41 (“Bottke . . . belt”)
- B) Lines 42-44 (“They . . . belt”)
- C) Lines 44-49 (“These . . . system”)
- D) Lines 49-53 (“Bottke . . . transport”)

28

As used in line 60, “raw” most nearly means

- A) original.
- B) young.
- C) exposed.
- D) inexperienced.

29

The last sentence of the passage serves mainly to

- A) hint at a possible weakness in a claim.
- B) emphasize the critical nature of a decision.
- C) allude to a potential resolution to a puzzle.
- D) reconcile two opposing positions on an issue.

30

According to the table, which object has the lowest average density?

- A) Earth
- B) Ceres
- C) Saturn
- D) Pluto

31

Which statement is supported by data represented in the table?

- A) Earth shows greater variation in density than Ceres does.
- B) Juno's average distance from the Sun is less than that of Ceres.
- C) Some objects in the asteroid belt are greater in mass than Ceres is.
- D) No other dwarf planet has a radius as large as that of Ceres.

32

Which data presented in the table would McKinnon find most useful to his argument?

- A) The average density of Pluto is similar to that of Ceres.
- B) Neptune is located much farther from the Sun than is Ceres.
- C) The mass of Ceres is only slightly greater than that of Juno.
- D) Ceres is denser, on average, than either Neptune or Uranus.

Questions 33-42 are based on the following passages.

Passage 1, by Patrick Henry, and Passage 2, by Edmund Pendleton, are adapted from speeches delivered to the Virginia ratifying convention in 1788. Both are in response to the proposal by the 1787 Constitutional Convention in Philadelphia to replace the Articles of Confederation with a new constitution establishing a national government.

Passage 1

If a wrong step be now made, the republic may be lost forever. If this new government will not come up to the expectation of the people, and they shall be disappointed, their liberty will be lost, and tyranny
 5 must and will arise.

. . . And here I would make this inquiry of those worthy characters who composed a part of the late federal Convention. I am sure they were fully impressed with the necessity of forming a great
 10 consolidated government, instead of a confederation. That this is a consolidated government is demonstrably clear; and the danger of such a government is, to my mind, very striking.

I have the highest veneration for those gentlemen;
 15 but, sir, give me leave to demand, What right had they to say, We, the people? My political curiosity, exclusive of my anxious solicitude for the public welfare, leads me to ask, Who authorized them to speak the language of, We, the people, instead of,
 20 We, the states? States are the characteristics and the soul of a confederation. If the states be not the agents of this compact, it must be one great, consolidated, national government, of the people of all the states. . . .

The people gave them no power to use their name. That they exceeded their power is perfectly clear. It is not mere curiosity that actuates me: I wish to hear the real, actual, existing danger, which should lead us to take those steps, so dangerous in my
 30 conception. Disorders have arisen in other parts of America; but here, sir, no dangers, no insurrection or tumult have happened; every thing has been calm and tranquil. But, notwithstanding this, we are wandering on the great ocean of human affairs. I see
 35 no landmark to guide us. We are running we know not whither. Difference of opinion has gone to a degree of inflammatory resentment in different parts of the country, which has been occasioned by this perilous innovation. The federal Convention ought
 40 to have amended the old system; for this purpose they were solely delegated; the object of their mission

extended to no other consideration. You must, therefore, forgive the solicitation of one unworthy member to know what danger could have arisen
45 under the present Confederation, and what are the causes of this proposal to change our government.

Passage 2

Mr. Chairman, my worthy friend (Mr. Henry) has expressed great uneasiness in his mind, and informed us that a great many of our citizens are also
50 extremely uneasy, at the proposal of changing our government. . . .

. . . [A]n objection is made to the form: the expression, We, the people, is thought improper. Permit me to ask the gentleman who made this
55 objection, who but the people can delegate powers? Who but the people have a right to form government? The expression is a common one, and a favorite one with me. The representatives of the people, by their authority, is a mode wholly
60 inessential. If the objection be, that the Union ought to be not of the people, but of the state governments, then I think the choice of the former very happy and proper. What have the state governments to do with it? . . .

65 But the power of the Convention is doubted. What is the power? To propose, not to determine. This power of proposing was very broad; it extended to remove all defects in government: the members of that Convention, who were to consider all the defects
70 in our general government, were not confined to any particular plan. Were they deceived? This is the proper question here. Suppose the paper on your table dropped from one of the planets; the people found it, and sent us here to consider whether it was
75 proper for their adoption; must we not obey them? Then the question must be between this government and the Confederation. The latter is no government at all. It has been said that it has carried us, through a dangerous war, to a happy issue. Not that
80 Confederation, but common danger, and the spirit of America, were bonds of our union: union and unanimity, and not that insignificant paper, carried us through that dangerous war. “United, we stand—divided, we fall!” echoed and reëchoed
85 through America—from Congress to the drunken carpenter—was effectual, and procured the end of our wishes, though now forgotten by gentlemen, if such there be, who incline to let go this stronghold, to catch at feathers; for such all substituted projects
90 may prove.

33

In Passage 1, Henry states that Virginia differs from other areas of the country in that

- A) there is no evidence of civil unrest.
- B) the federal convention is widely praised.
- C) opposition to a consolidated government is strong.
- D) tyranny and loss of liberty are greatly feared.

34

The figurative language in lines 33-35 (“But, notwithstanding . . . guide us”) serves mainly to suggest

- A) impatience.
- B) uncertainty.
- C) optimism.
- D) indignation.

35

In Passage 2, Pendleton indicates that the phrase “We, the people” is

- A) objectionable to most citizens.
- B) appropriate for the proposed type of government.
- C) popular among proponents of states’ rights.
- D) overused by supporters of a federal system.

36

As used in line 79, “issue” most nearly means

- A) misgiving.
- B) publication.
- C) proceeding.
- D) outcome.

37

Based on Passage 2, which statement best reflects Pendleton’s view of the Articles of Confederation?

- A) They were a source of great concern to a large number of American citizens.
- B) They gave too much power to the elected representatives.
- C) They served to unite the country in ways that were unprecedented.
- D) They had little to do with America’s having prevailed in its most recent conflict.

38

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 47-51 (“Mr. Chairman . . . government”)
- B) Lines 58-60 (“The representatives . . . inessential”)
- C) Lines 79-83 (“Not . . . war”)
- D) Lines 83-89 (“United . . . feathers”)

39

Which statement best describes the relationship between the views expressed in the two passages?

- A) Henry and Pendleton both disagreed with the conclusions of the federal Convention.
- B) Henry and Pendleton held similar beliefs about the new Constitution.
- C) Henry asked questions that Pendleton admitted he could not answer.
- D) Pendleton disagreed with most of the points made by Henry.

40

Which statement best expresses Henry’s and Pendleton’s respective views of the Confederation?

- A) Henry felt it was flawed but correctable, while Pendleton felt that it had served no useful purpose.
- B) Henry viewed it as a perfect expression of democracy, while Pendleton viewed it as fundamentally authoritarian.
- C) Henry regarded it as adequate in its current form, while Pendleton regarded it as a transitional system only.
- D) Henry considered it an unavoidable compromise during a time of crisis, while Pendleton considered it to have harmed the nation’s future prospects.

41

Henry would most likely have responded to Pendleton’s claim about the members of the Convention by asserting that they

- A) did not sufficiently address the defects of the Confederation.
- B) should not have proposed an entirely new form of government.
- C) were seeking only to enact the wishes of the American people.
- D) failed to understand the danger of taking no significant action.

42

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 6-10 (“And here . . . confederation”)
- B) Lines 11-13 (“That . . . striking”)
- C) Lines 39-42 (“The federal . . . consideration”)
- D) Lines 42-46 (“You . . . government”)

Questions 43-52 are based on the following passage.

This passage is adapted from Catherine Clabby, "A Tangled Tale of Plant Evolution." ©2009 by Sigma Xi, The Scientific Research Society.

As ancestors of land plants abandoned their aquatic nurseries for life on shore, they needed the means to seal in water and hold themselves up to thrive. Lignin, a strengthening and stiffening polymer common in woody plant cells, contributes to both extremely well.

Lignin production for those tasks was considered a key adaptive achievement of vascular plants, which descend from green algae. Now a University of British Columbia botanist and some highly specialized chemists have strong evidence for lignin in a red alga called *Calliarthron cheilosporioides*.

The finding suggests that a biological building block fundamental to the success of land plants has roots that stretch back far deeper—and maybe wider—through evolutionary time than was known. "This pathway is involved in the production of other secondary metabolites like pigments in plants. A lot of that is likely to be conserved pretty far back in the evolutionary history of algae," says Patrick T. Martone, the botanist who led the study.

Martone didn't set out to locate lignin in algae. The biomechanist simply wanted to better understand the toughness of *C. cheilosporioides*, which dwells in the harsh habitat of intertidal zones along rocky shores.

During high tides, waves pummel the alga with water velocities exceeding 20 meters per second and with forces that exceed those generated by hurricane winds. The calcified, or rigid-bodied, seaweed has multiple noncalcified joints that make it flexible yet strong enough to handle that setting.

When collaborator Jose Estevez at the Carnegie Institution for Science examined the joints for Martone with a transmission electron microscope, he saw secondary cell walls, features commonly found in land plants. That prompted Martone and Estevez to seek out experts in lignin, a molecule of great research interest right now because its toughness impedes the use of some plants as sources of biofuel and animal feed.

John Ralph and colleagues at the University of Wisconsin-Madison's Great Lakes Bioenergy Research Center detected lignin in *C. cheilosporioides*. They found the same telltale components derived from radical coupling reactions of hydroxycinnamyl alcohols used to describe lignins in terrestrial plants.

At the Centre de Recherches sur les Macromolécules Végétales in France, Katia Ruel applied antibodies designed to locate lignin within land plants to samples of *C. cheilosporioides*. Her tests detected lignin in the seaweed too.

The amounts are much smaller than what is found in land plants. But lignin is most abundant in the parts of the seaweed that are most mechanically stressed, which suggests to Martone that there could be some environmental stimulation that increases production of the polymer in the organism. The puzzling thing is that it's also present in calcified portions of the algae. "We don't know what it's doing there," Martone says.

Martone's working hypothesis is that the molecular pathways producing lignin emerged long before land plants evolved from green algae, back to some ancestor shared with red algae more than a billion years ago. Molecular evidence and comparisons of the biological gear the algae use to harvest light convince him that both red and green algae descend from one endosymbiotic event, when a eukaryote cell engulfed a photosynthesizing cyanobacterium and gained the ability to make its own food.

Karl J. Niklas, a Cornell University botanist, considers Martone's evidence for lignin in *C. cheilosporioides* exceptionally strong. But he thinks that red and green algae evolved from separate endosymbiotic events. Still, the progenitors of the two algae may both have carried genes similar to those participating in the lignin production pathways seen today, he says.

43

The passage is primarily concerned with

- A) narrating how a finding was arrived at and indicating possible implications.
- B) explaining some differences among specialists in different fields of science.
- C) identifying a particularly vexing phenomenon and endorsing a single explanation.
- D) describing the properties of an organism and showing how they can be exploited.

44

As presented in the passage, the conclusion that lignin is present in *C. cheilosporioides* can best be described as

- A) theorized previously within the larger scientific community.
- B) founded on empirical evidence and thus persuasive.
- C) certain to disprove most earlier theories of algal evolution.
- D) supported by an abundance of conjectural reports.

45

It can reasonably be inferred from the passage that Martone's research interest in lignin should be considered

- A) unusually insightful, because it has fundamentally changed the way lignin is understood.
- B) somewhat questionable, because Martone based his conclusions on an atypical sample.
- C) properly cautious, because Martone checked his findings about *C. cheilosporioides* multiple times.
- D) initially secondary, because it was undertaken to support particular questions about *C. cheilosporioides*.

46

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 7-9 (“Lignin . . . algae”)
- B) Lines 13-16 (“The finding . . . known”)
- C) Lines 23-26 (“The biomechanist . . . shores”)
- D) Lines 59-61 (“The puzzling . . . algae”)

47

The passage indicates that the structure of *C. cheilosporioides* consists of components that

- A) change density in response to external conditions.
- B) protect the cell interior from exposure to seawater.
- C) regenerate as the seaweed colony matures.
- D) operate together to allow for suppleness.

48

As used in line 32, “handle” most nearly means

- A) train for.
- B) survive in.
- C) engage in.
- D) act on.

49

Scientists who specialized in lignin were useful to Martone and Estevez because

- A) the toughness of *C. cheilosporioides* made it difficult to analyze without the use of specialized chemistry.
- B) *C. cheilosporioides* was found to contain features typically found in plants known to contain lignin.
- C) prior research suggested that seaweed species contain molecules of a particularly durable chemical compound.
- D) some unexpected measurement results from tests for lignin required specialist interpretation.

50

Which choice provides the best evidence for the answer to the previous question?

- A) Line 22 (“Martone . . . algae”)
- B) Lines 30-32 (“The calcified . . . setting”)
- C) Lines 33-37 (“When . . . plants”)
- D) Lines 42-45 (“John Ralph . . . *C. cheilosporioides*”)

51

As used in line 76, “strong” most nearly means

- A) compelling.
- B) distinctive.
- C) impervious.
- D) vigorous.

52

Niklas counters Martone’s proposal about the evolutionary history of red and green algae by suggesting that the

- A) major molecular pathways present in red and green algae must have been in place long before their evolutionary lines separated.
- B) evidence uncovered in Martone’s research does not directly address the issue of when the last common ancestor of red and green algae existed.
- C) evolutionary lines leading to the two kinds of algae might have diverged before they acquired the ability to photosynthesize.
- D) process by which *C. cheilosporioides* produces lignin might be different from the process by which ancestral species of algae produced it.

STOP

**If you finish before time is called, you may check your work on this section only.
Do not turn to any other section.**