[PASSAGE 1] – Explanation

From time to time the sea surface, especially near the coast, becomes bright red literally overnight. This phenomenon, called a red tide, has occurred for thousands of years. The Old Testament may contain the earliest known reference to a red tide when it describes the waters of the Nile turning to blood. The Red Sea is named after the red tides that often occur there. ➔ The term "red tide" actually does not refer to the tide, but to the massive blooms of harmful phytoplankton that arrive on the tide. Red tides can not only be red but also orange, brown or even bright green. In recent years, the term "brown tide" has been used in some places for blooms of a particular type of phytoplankton called chrysophytes.

Red tides occur all over the world. Only around 6% of all phytoplankton species are known to cause red tides. About half of red tide organisms are dinoflagellates, but many other organisms including diatoms, chrysophytes, and several other groups can cause red tides. These exceptional phytoplankton blooms are often nothing more than oceanographic oddities, but sometimes they cause serious problems. Such harmful algal blooms (or HABs) are receiving increasing attention from both scientists and society at large, because they are more than just a nuisance; they are deadly.

➔ About a third of red tide organisms produce poisons, some of which are among the most powerful toxins known. A Under normal circumstances, there are too few of the organisms around to worry about, but when they bloom they can cause serious problems. B Mussels, clams, crabs, and other shellfish often tolerate the toxins by storing them away in their digestive gland, kidney, liver, or other tissues. C People who eat the shellfish may suffer nausea, diarrhea, vomiting, numbness, and tingling, loss of balance and memory, slurred speech, shooting pains, and paralysis. D

Swimming or boating in affected water can also cause problems such as sore throats, eye irritation, and skin complaints. There is even proof that some of the toxins are carcinogenic.

01

What is the main idea of the passage?

Ⓐ Red Poison

Ⓑ Deadly Seas

✓ Ⓒ Harmful Algal Blooms

Ⓓ Red Pigments

02

The word literally in the paragraph 1 is closest in meaning to

Ⓐ figuratively

Ⓑ amazingly

Ⓒ lively

✓ Ⓓ really

03

The earliest reference to a red tide has been found in

✓ Ⓐ the Old Testament

Ⓑ the HABs

Ⓒ the Red Sea

Ⓓ the Nile

04

Which of the following is true of a red tide?

Click on 2 answers.

Ⓐ It can be observed in only designated places.

Ⓑ It is a recently discovered phenomenon.

✓ Ⓒ It is caused by massive blooms of phytoplankton.

✓ Ⓓ Its color may also be orange, green or brown.

05

The word exceptional in the paragraph 2 is closest in meaning to

Ⓐ remarkable

✓ Ⓑ unusual

Ⓒ acceptable

Ⓓ excellent

06

The word they in the paragraph 2 refers to

Ⓐ both scientists and society

Ⓑ serious problems

✓ Ⓒ HABs

Ⓓ the oddities

07

It can be inferred from the passage that the term "red tide" is

Ⓐ derived from the unique color of high tides

✓ Ⓑ customarily used to describe blooms of phytoplankton

Ⓒ recently coined by marine biology experts

Ⓓ recently replacing the term "brown tide"

08

Algal blooms are more than just a nuisance because of

Ⓐ a number of scientists and society involved in the study of Algal blooms

✓ Ⓑ their large size

Ⓒ deadly poisons they have

Ⓓ the discoloration of the ocean water

09

Look at the four squares [■] that indicate where the following sentence could be added to the paragraph 2.

The most severe cases are fatal.

Where would the sentence best fit?

Ⓐ A

Ⓑ B

Ⓒ C

✓ Ⓓ D

Paragraph 2 is marked with an arrow [➡].

10

Some marine life forms are NOT affected by toxins because

Ⓐ they have learned to avoid the season of HABs

Ⓑ their bodies have adapted to tolerate the toxins

✓ Ⓒ their bodies have created a safety organ to reject such deadly substances

Ⓓ they have learned not to eat the deadly phytoplankton

11

The algal blooms are sometimes fatal because they

Ⓐ are polluting the ocean water

Ⓑ may be commercially unprofitable

Ⓒ will soon become extinguished

✓ Ⓓ are carcinogenic

12

The word complaints in the paragraph 4 is closest in meaning to

Ⓐ protests

Ⓑ objections

Ⓒ dissatisfactions

✓ Ⓓ ailments

13

Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

Ⓐ The red tide is neither related to the tide nor the redness of phytoplankton in the ocean.

Ⓑ The red tide is a tide accompanied with harmful phytoplankton in the ocean.

Ⓒ The giant red phytoplankton is called as 'the red tide'.

✓ Ⓓ The red tide indicates the phenomenon of flourishing harmful phytoplankton in the ocean.

The highlighted sentence is marked with an arrow [➡].

14

Directions: **An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage.**

This question is worth 2 points.

The red tide phenomenon is caused by the massive blooms of harmful phytoplankton, resulting in discoloration of the ocean.
•
•
•

ANSWER CHOICES

Ⓐ ✓ Only a few phytoplankton cause red tides, but when they bloom they are toxic.	Ⓓ ✓ During the season of HABs, algal toxins cause serious problems.
Ⓑ Many scientists studied specific types of phytoplankton that cause red tides.	Ⓔ ✓ Some algal toxins stored in shellfish could cause sickness when digested, and even the slightest contact can cause illnesses.
Ⓒ Some organisms develop tolerance to the toxins from the algal blooms.	Ⓕ Usually phytoplankton are not dangerous, but when they bloom they become carcinogenic.

[PASSAGE 2] – Classification

Birds have some significant advantages over reptiles, including the ability to fly. They are endotherms, or homeotherms, also known as "warm-blooded." This has allowed them to live in a wide variety of environments, unlike reptiles. Their bodies are covered with waterproof feathers that help conserve body heat. Water-proofing is provided by oil from a gland above the base of the tail. The birds preen by rubbing the oil into their feathers with their beaks. Flight is made easier by their light, hollow bones. Furthermore, their eggs are more resistant to water loss than those of reptiles.

➔ Seabirds are those birds that spend a significant part of their lives at sea. Ⓐ They nest on land but feed at least partially at sea and have webbed feet to aid them in the water. Seabirds descend from several different groups of land birds. Ⓑ As a result, they differ widely in their flying skills, feeding mechanisms, and ability to live away from the land. Although comprising only about 3% of the estimated 8,600 species of birds, seabirds are distributed from pole to pole, and their impact on marine life is significant. Most are predators of fish, squid, and bottom invertebrates, but some feed on plankton. Ⓒ They need a lot of food to supply the energy required to maintain their body temperatures. Ⓓ

The shape of a seabird's beak is related to the kind of food it eats and the bird's feeding style. Penguins have strong heavy beaks, a characteristic of seabirds that feed on fish and large plankton like krill. ➔Penguins are the seabirds most fully adapted for life at sea. They are flightless, with wings modified into stubby "flippers" that come alive underwater. On land it is another story: they are clumsy and awkward. The tubenoses comprise a large group of seabirds with distinctive tube-like nostrils and heavy beaks that are usually curved at the tip. They spend months and even years on the open sea. In tubenoses such as petrels, the beak is relatively short, heavy, and hooked – an ideal shape for holding and tearing prey that are too big to be swallowed whole. Such a beak is best suited for shallow feeding because its size and shape interfere with fast pursuit underwater. Gannets, terns and other plunge divers have a straight and narrow beak for feeding on fish that are swallowed whole. Skimmers are the only birds with a lower part of the beak that is longer than the upper, which permits feeding while flying.

15

The passage is mainly about

Ⓐ an introduction to birds as a species

Ⓑ the feeding patterns of seabirds

✓ Ⓒ a general overview of seabirds

Ⓓ the differences between seabirds and reptiles

16

How are birds different from reptiles?

✓ Ⓐ The eggs of birds have a better chance of survival than those of reptiles.

Ⓑ Reptiles are very sensitive to weather and freeze to death easily.

Ⓒ Reptiles more easily adapt to their present environments than birds.

Ⓓ Reptiles have heavy bones that make quick movements impossible.

17

The word their in the paragraph 1 refers to

✓ Ⓐ birds

Ⓑ beaks

Ⓒ bones

Ⓓ bodies

18

Seabirds differ widely among themselves because they

Ⓐ live away from the land

Ⓑ prey on different animals

✓ Ⓒ are developed from various groups of land birds

Ⓓ share the same evolutionary history

19

The word comprising in the paragraph 2 is closest in meaning to

Ⓐ reforming

Ⓑ compromising

Ⓒ combining

✓ Ⓓ constituting

20

Look at the four squares [■] that indicate where the following sentence could be added to the paragraph 2.

Whatever they feed on, seabirds have amazing appetites.

Where would the sentence best fit?

Ⓐ A

Ⓑ B

✓ Ⓒ C

Ⓓ D

Paragraph 2 is marked with an arrow [➡].

21

Why does the author mention fish, squid, and bottom invertebrates in the passage 2?

✓ Ⓐ to indicate what seabirds feed on

Ⓑ to point out the marine life that feeds on seabirds

Ⓒ to exemplify other marine life that preys on plankton

Ⓓ to show the marine life that need a lot of food for energy

22

The word awkward in the paragraph 3 is closest in meaning to

Ⓐ rude

✓ Ⓑ blundering

Ⓒ difficult

Ⓓ embarrassing

23

According to the passage, the beaks of the seabirds

✓ Ⓐ are an example of how form follows function

Ⓑ have adapted to the demands of the environment

Ⓒ are examples of how function follows form

Ⓓ are the only means through which birds may be differentiated

24

The word curved in the paragraph 3 is closest in meaning to

Ⓐ angled

Ⓑ twisted

Ⓒ sweeping

✓ Ⓓ hooked

25

What does the author mean by the statement its size and shape interfere with fast pursuit under water?

Ⓐ The beak's size and shape allows fast pursuit in shallow water.

Ⓑ A seabird enjoys pursuing its prey quickly in spite of the beak's shape and size.

✓ Ⓒ The beak's size and shape does not allow sufficiently fast pursuit under water.

Ⓓ The beak's size and shape interrupt fast pursuit wherever it occurs.

26

Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

Ⓐ Penguins are known as the purest breed of all land seabirds living at sea.

Ⓑ Penguins live in the sea but they are birds.

Ⓒ Penguins dominate the marine habitats at the most.

✓ Ⓓ Penguins adjusted really well to living at sea even though they are seabirds.

The highlighted sentence is marked with an arrow [➡].

27

Directions: **Select the appropriate phrases from the answer choices and match them to the type of bird to which they relate. TWO of the answer choices will NOT be used.**

This question is worth 3 points.

Drag your answer choices to the spaces where they belong.
To remove an answer choice, click on it. To review the passage, click on View Text.

Answer Choices	Penguins
Ⓐ They have hardy and heavy beaks. Ⓑ Their beaks are suitable for holding their prey. Ⓒ Their short, sharp beaks make them able to peak a small tool to catch prey. Ⓓ They swallow prey rather than chew them. Ⓔ They mostly snatch prey off branches or on the ground because they fly fast. Ⓕ They have very long beaks with a down-curved hook at the end, so they can easily pick up fish in the water. Ⓖ They hunt fish by diving.	• Ⓐ • Ⓑ • Ⓕ
	Terns
	• Ⓓ • Ⓖ

[PASSAGE 3] – Biographic narration

Arthur Eddington will be remembered for many great achievements. He invented the subject of astrophysics – the study of how physical laws deduced here on Earth, together with observations of the light from stars, can explain how the processes going on inside stars keep them hot, and how the stars must change as they age. However, he was mostly known as the definitive popularizer of Einstein's theory of relativity in the English language, not just in the sense of communicating these ideas to lay persons, but also as the scientific interpreter who made them clear to experts, and wrote textbooks on the subject which helped spread its message.

After first presenting his general theory at the Berlin Academy of Science in 1915, Einstein sent his paper to his friend in Holland, William de Sitter, who in turn mailed it to Eddington. The latter was Secretary of the Royal Astronomical Society at the time, and was the one person who had the intellectual ability and background to fully appreciate the significance of Einstein's work. Fate had several more twists to add to the story before Einstein's new theory was proved correct.

The way to test for light bending, as Einstein pointed out, was to look at stars seen near the Sun during an eclipse. ➔Normally, of course, the bright light of the Sun makes it impossible to see stars in that part of the sky, but with the Sun's light temporarily blotted out by the Moon it would be possible to photograph the positions of stars which lie far beyond the Sun but in the same direction in the sky.

➔ A By comparing such photographs with those(photographs) of the same part of the sky made six months earlier or later, when the Sun was on the other side of the Earth, it would be possible to see any shift in the apparent positions of the stars produced by the light bending effect. B What the astronomers needed was an eclipse of the Sun. If they could have chosen the eclipse they wanted, they would have asked for one on May 29th because the Sun is seen passing in front of an exceptionally rich field of bright stars. Eclipses are quite frequently visible from some part of the earth, but to have it occur on such a specific day is very rare. C But by a remarkable stroke of good fortune, there was an eclipse due in 1919 on May 20th, visible from the island of Principe off the west coast of Africa. D Eddington's pictures of the stars established the validity of Einstein's theory.

28

The word lay persons in the paragraph 1 is closest in meaning to

Ⓐ specialists

Ⓑ scientists

✓ Ⓒ amateurs

Ⓓ colleagues

29

What does the author primarily discuss in the passage?

Ⓐ the achievements of Arthur Eddington

Ⓑ the significance of the eclipse in Einstein's general theory

Ⓒ the reception of Einstein's work in Europe

✓ Ⓓ the Background in proving Einstein's general theory

30

In the paragraph 1, Eddington is known as all of the following EXCEPT

✓ Ⓐ a close friend of Einstein

Ⓑ a translator of Einstein's work into English

Ⓒ the father of astrophysics

Ⓓ an interpreter of Einstein's work

31

The word them in the paragraph 1 refers to

Ⓐ scientific interpreters

Ⓑ lay persons

✓ Ⓒ these ideas

Ⓓ textbooks

32

It can be inferred that de Sitter sent Einstein's work to Eddington because

Ⓐ Einstein had few friends

✓ Ⓑ Einstein was not acquainted with Eddington

Ⓒ due to World War II, England and Germany were rivals

Ⓓ due to World War II, Einstein could not send anything to Eddington

33

The word appreciate in paragraph 2 is closest in meaning to

Ⓐ enjoy

Ⓑ judge

Ⓒ approve

✓ Ⓓ understand

34

According to paragraph 2, to test Einstein's General Theory needed to test it was necessary to observe

✓ Ⓐ the bending of light

Ⓑ an eclipse of the Sun

Ⓒ the gravitational force of the Sun

Ⓓ the visibility of the stars surrounding the moon

35

The word apparent in the paragraph 4 is closest in meaning to

Ⓐ light

Ⓑ fixed

✓ Ⓒ distinct

Ⓓ invisible

36

According to paragraph 4, the validity of Einstein's general theory depended mainly on

Ⓐ the visibility of the Sun

Ⓑ the eclipse of the moon

✓ Ⓒ the observed or apparent position of stars

Ⓓ the large numbers of visible stars around the Sun

37

The successful testing of Einstein's general theory was partially due to

✓ Ⓐ luck

Ⓑ collective effort

Ⓒ Eddington's intelligence

Ⓓ Eddington's and Sitter's friendship

38

Look at the four squares [■] that indicate where the following sentence could be added to the paragraph 4.

As Eddington himself commented, "it might have been necessary to wait some thousands of years for a total eclipse of the Sun to happen on the lucky date."

Where would the sentence best fit?

Ⓐ A

Ⓑ B

✓ Ⓒ C

Ⓓ D

Paragraph 4 is marked with an arrow [➡].

39

What can be inferred about the eclipse on May 20 in 1919?

Ⓐ Eclipses are quite often visible from the island of Principe.

✓ Ⓑ Einstein's light bending theory was proved by the result from the eclipse.

Ⓒ The scientists waiting for the eclipse on May 29 missed this eclipse.

Ⓓ Because it didn't happen on May 29, the scientists couldn't get a useable result.

40

Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

Ⓐ In general, taking pictures of stars near the Sun is impossible.

Ⓑ A solar eclipse is when the Sun is partially or completely covered by the Moon for a short time.

Ⓒ If there's a solar eclipse, it is possible to photograph the Sun, the Moon and the stars near the Sun during daytime.

✓ Ⓓ The positions of stars near the Sun at daytime can be photographed during Solar eclipses.

The highlighted sentence is marked with an arrow [➡].

41

Directions: **An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage.**

This question is worth 2 points.

Arthur Eddington left an indelible mark on the history of astrophysics.
•
•
•

ANSWER CHOICES

Ⓐ Eddington is the father of astrophysics, inspiring many scientists including Albert Einstein.	Ⓓ ✓ Eddington was the one who perfectly comprehended Einstein's relativity theory and provided proof that the theory is right.
Ⓑ ✓ One of Eddington's great achievements is that he made Einstein's theory of relativity available to all.	Ⓔ Eddington believed that a total eclipse is a rare event, and therefore the possibility of proving Einstein's theory was slim.
Ⓒ Eddington was the Secretary of the Royal Astronomical Society in the early 1900s.	Ⓕ ✓ Eddington's observation in the island of Principe in 1919 confirmed that Einstein's relativity theory is valid.