



Questions 1-9

The ocean bottom — a region nearly 2.5 times greater than the total land area of the Earth — is a vast frontier that even today is largely unexplored and uncharted. Until about a century ago, the deep-ocean floor was completely inaccessible, hidden beneath waters averaging over 3,600 meters deep. Totally without light and subjected to intense pressures hundreds of times greater than at the Earth's surface, the deep-ocean bottom is a hostile environment to humans, in some ways as forbidding and remote as the void of outer space.

Although researchers have taken samples of deep-ocean rocks and sediments for over a century, the first detailed global investigation of the ocean bottom did not actually start until 1968, with the beginning of the National Science Foundation's Deep Sea Drilling Project (DSDP). Using techniques first developed for the offshore oil and gas industry, the DSDP's drill ship, the Glomar Challenger, was able to maintain a steady position on the ocean's surface and drill in very deep waters, extracting samples of sediments and rock from the ocean floor.

The Glomar Challenger completed 96 voyages in a 15-year research program that ended in November 1983. During this time, the vessel logged 600,000 kilometers and took almost 20,000 core samples of seabed sediments and rocks at 624 drilling sites around the world. The Glomar Challenger's core samples have allowed geologists to reconstruct what the planet looked like hundreds of millions of years ago and to calculate what it will probably look like millions of years in the future. Today, largely on the strength of evidence gathered during the Glomar Challenger's voyages, nearly all earth scientists agree on the theories of plate tectonics and continental drift that explain many of the geological processes that shape the Earth.

The cores of sediment drilled by the Glomar Challenger have also yielded information critical to understanding the world's past climates. Deep-ocean sediments provide a climatic record stretching back hundreds of millions of years, because they are largely isolated from the mechanical erosion and the intense chemical and biological activity that rapidly destroy much land-based evidence of past climates. This record has already provided insights into the patterns and causes of past climatic change — information that may be used to predict future climates.

1. The author refers to the ocean bottom as a "frontier" in line 2 because it
- (A) is not a popular area for scientific research
 - (B) contains a wide variety of life forms
 - (C) attracts courageous explorers
 - (D) is an unknown territory

2. The word "inaccessible" in line 3 is closest in meaning to
- (A) unrecognizable
 - (B) unreachable
 - (C) unusable
 - (D) unsafe



3. The author mentions outer space in line 7 because

- (A) the Earth's climate millions of years ago was similar to conditions in outer space
- (B) it is similar to the ocean floor in being alien to the human environment
- (C) rock formations in outer space are similar to those found on the ocean floor
- (D) techniques used by scientists to explore outer space were similar to those used in ocean exploration

4. Which of the following is true of the Glomar Challenger?

- (A) It is a type of submarine.
- (B) It is an ongoing project.
- (C) It has gone on over 100 voyages.
- (D) It made its first DSDP voyage in 1968.

5. The word "extracting" in line 13 is closest in meaning to

- (A) breaking
- (B) locating
- (C) removing
- (D) analyzing

6. The Deep Sea Drilling Project was significant because it was

- (A) an attempt to find new sources of oil and gas
- (B) the first extensive exploration of the ocean bottom
- (C) composed of geologists from all over the world
- (D) funded entirely by the gas and oil industry

7. The word "strength" in line 21 is closest in meaning to

- (A) basis
- (B) purpose
- (C) discovery
- (D) endurance

8. The word "they" in line 26 refers to

- (A) years
- (B) climates
- (C) sediments
- (D) cores

9. Which of the following is NOT mentioned in the passage as being a result of the Deep Sea Drilling Project?

- (A) Geologists were able to determine the Earth's appearance hundreds of millions of years ago.
- (B) Two geological theories became more widely accepted by scientists.
- (C) Information was revealed about the Earth's past climatic changes.
- (D) Geologists observed forms of marine life never before seen.

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Questions 10-21

Basic to any understanding of Canada in the 20 years after the Second World War is the country's impressive population growth. For every three Canadians in 1945, there were over five in 1966. In September 1966 Canada's population passed the 20 million mark. Most of this surging growth came from natural increase. The depression of the 1930's and the war had held back marriages, and the catching-up process began after 1945. The baby boom continued through the decade of the 1950's, producing a population increase of nearly fifteen percent in the five years from 1951 to 1956. This rate of increase had been exceeded only once before in Canada's history, in the decade before 1911, when the prairies were being settled. Undoubtedly, the good economic conditions of the 1950's supported a growth in the population, but the expansion also derived from a trend toward earlier marriages and an increase in the average size of families. In 1957 the Canadian birth rate stood at 28 per thousand, one of the highest in the world.

After the peak year of 1957, the birth rate in Canada began to decline. It continued falling until in 1966 it stood at the lowest level in 25 years. Partly this decline reflected the low level of births during the depression and the war, but it was also caused by changes in Canadian society. Young people were staying at school longer; more women were working; young married couples were buying automobiles or houses before starting families; rising living standards were cutting down the size of families. It appeared that Canada was once more falling in step with the trend toward smaller families that had occurred all through the Western world since the time of the Industrial Revolution.

Although the growth in Canada's population had slowed down by 1966 (the increase in the first half of the 1960's was only nine percent), another large population wave was coming over the horizon. It would be composed of the children of the children who were born during the period of the high birth rate prior to 1957.

10. What does the passage mainly discuss?
- (A) Educational changes in Canadian society
(B) Canada during the Second World War
(C) Population trends in postwar Canada
(D) Standards of living in Canada

11. According to the passage, when did Canada's baby boom begin?
- (A) In the decade after 1911
(B) After 1945
(C) During the depression of the 1930's
(D) In 1966



12. The word "five" in line 3 refers to
- (A) Canadians
(B) years
(C) decades
(D) marriages

13. The word "surging" in line 4 is closest in meaning to
- (A) new
(B) extra
(C) accelerating
(D) surprising

14. The author suggests that in Canada during the 1950's
- (A) the urban population decreased rapidly
(B) fewer people married
(C) economic conditions were poor
(D) the birth rate was very high

15. The word "trend" in line 11 is closest in meaning to
- (A) tendency
(B) aim
(C) growth
(D) directive

16. The word "peak" in line 14 is closest in meaning to
- (A) pointed
(B) dismal
(C) mountain
(D) maximum

17. When was the birth rate in Canada at its lowest postwar level?

(A) 1966
(B) 1957
(C) 1956
(D) 1951

18. The author mentions all of the following as causes of declines in population growth after 1957 EXCEPT
- (A) people being better educated
(B) people getting married earlier
(C) better standards of living
(D) couples buying houses

19. It can be inferred from the passage that before the Industrial Revolution
- (A) families were larger
(B) population statistics were unreliable
(C) the population grew steadily
(D) economic conditions were bad

20. The word "It" in line 25 refers to
- (A) horizon
(B) population wave
(C) nine percent
(D) first half

21. The phrase "prior to" in line 26 is closest in meaning to
- (A) behind
(B) since
(C) during
(D) preceding

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