

### PASSAGE 3 – Questions 21-30

The most important requirement for life is the presence of liquid water, not only as part of the chemical reactions of life, but also as a medium to transport nutrients and wastes within the organism.

The water requirement **automatically** eliminates many worlds in our solar system. The moon is airless, and although some data suggest ice frozen in the soil at its poles, it has never had liquid water on its surface. Mercury too is airless and cannot have had liquid water on its surface for long periods of time. Venus has some traces of water vapor in its atmosphere, but it is much too hot for liquid water to survive.

The inner solar system seems too hot, and the outer solar system seems too cold. The Jovian planets have deep atmospheres, and at a certain level, they have moderate temperatures where water might condense into liquid droplets. But it seems unlikely that life could begin there. The Jovian planets have no surfaces where oceans could nurture the beginning of life, and currents in the atmosphere seem destined to circulate gas and water droplets from regions of moderate temperature to other levels that are much too hot or too cold for life to survive.

A few of the satellites of the Jovian planets might have suitable conditions for life. Jupiter's moon Europa seems to have liquid-water ocean below its icy crust. Nevertheless, Europa is not a promising site to search for life because conditions may not have remained **stable** for the billions of years needed for life to evolve beyond the microscopic stage. If Jupiter's moons interact gravitationally and modify their orbits, Europa may have been frozen solid at some points in history.

Saturn's moon Titan may have oceans of liquid methane and ethane on its surface. The chemistry of life that might crawl or swim on such a world is unknown, but life there may be unlikely because of the temperature. The surface of Titan is a deadly  $-173^{\circ}\text{C}$  ( $-290^{\circ}\text{F}$ ). Chemical reactions occur slowly or not at all at such low temperatures, so the chemical evolution needed to begin life may never have occurred on Titan.

Mars is the most likely place for life in our solar system. The evidence, however, is not encouraging. Meteorite ALH84001 was found on the Antarctic ice in 1984. It was probably part of debris ejected into space by a large impact on Mars. ALH84001 is important because a team of scientists studied it and announced in 1996 that it contained chemical and physical traces of ancient life on Mars.

Scientists were excited too, but being professionally skeptical they began testing the results immediately. In many cases, the result did not confirm the conclusion that life once existed on Mars. Some chemical contamination from water on Earth has occurred, and some chemicals in the meteorite may have **originated** without the presence of life. The physical features that look like fossil bacteria may be mineral formations in the rock.

We are left to conclude that, so far as we know, our solar system is bare of life except for Earth. Consequently, our search for life in the universe takes us to other planetary systems.

21. The word "**automatically**" in the passage is closest in meaning to..
- A. partially
  - B. actually
  - C. occasionally
  - D. naturally
22. Which of the following statements about the water on Venus is true? A.The water evaporated because of the high temperatures.
- B. The water became frozen in the polar regions.
  - C. Only a little water is left in small lakes on the surface.
  - D. Rain does not fall because there is no atmosphere.

23. The word "it" in paragraph 2 refers to...
- A. ice
  - B. soil
  - C. moon
  - D. solar system
24. What can be inferred from the passage about the Jovian planets?
- A. Some of them may have conditions that could support life.
  - B. Jupiter is classified as one of the Jovian planets.
  - C. Europa is the largest of the moons that revolve around Jupiter.
  - D. The orbits of the Jovian planets have changed over time.
25. The word "stable" in the passage is closest in meaning to
- A. visible
  - B. active
  - C. constant
  - D. strong
26. According to paragraph 5, why would life on Titan be improbably?
- A. It does not have an ocean.
  - B. It is not a planet.
  - C. It is too cold.
  - D. It has a low atmosphere.
27. Why does the author mention the meteorite —ALH840011 in the passage?
- A. Because it was found in Antarctica about 50 years ago
  - B. Because it was evidence of a recent impact on Mars
  - C. Because scientists thought that it contained evidence of life on Mars
  - D. Because the meteorite probably came from Mars a long time ago
28. Which of the sentences below best expresses the information in the highlighted statement in the passage?
- A. Life on Mars was found as a result of research in many cases.
  - B. The evidence did not demonstrate that there was life on Mars in the past.
  - C. Many cases of life were concluded in the history of Mars.
  - D. The conclusion was that only one instance of life on Mars was verified.
29. The word "originated" in the passage is closest in meaning to...
- A. turned
  - B. changed
  - C. begun
  - D. disappeared
30. Which of the following statements most accurately reflects the author's opinion about life in our solar system?
- A. Life is probably limited to planets in the inner solar system.
  - B. There is a large body of evidence supporting life on Mars.
  - C. There is little probability of life on other planets.
  - D. We should explore our solar system for conditions that support life.

#### PASSAGE 4 – Questions 31-40

Taken together, income, occupation, and education are good measures of people's social standing. Using a layered model of stratification, most sociologists describe the class system in the United States as: upper, upper middle, middle, lower middle, and lower class. The different classes are arranged along a continuum with **those** with the most money, education, and prestige at the top and those with the least at the bottom. In the United States, the *upper class* owns the major share of corporate and personal wealth; it includes those who have held wealth for generations as well as those who have recently become rich. Only a very small proportion of people actually constitute the upper class, but they control vast amounts of wealth and power in the United States. Those in this class exercise enormous control throughout society.

Despite social myths to the contrary, the best predictors to future wealth is the family into which you are born. Each year, the business magazine *Forbes* publishes a list of the 400 wealthiest families and individuals

in the country. Of all the wealth represented on the Forbes 400 list, most is inherited. Those in the upper class with newly acquired wealth are known as the *nouveau riche*. Luxury vehicles, high-priced real estate, and **exclusive** vacations may mark the lifestyle of the newly rich.

The *upper middle class* includes those with high incomes and high social prestige. They tend to be well-educated professionals or business executives. It is difficult to estimate exactly how many people fall into this group because of the difficulty of drawing lines between the upper, upper middle, and middle classes. Indeed, the upper middle class is often thought of as "middle class" because their lifestyle sets the standard to which many aspire, but this lifestyle is actually unattainable by most.

The *middle class* is hard to define, in part because being "middle class" is more than just economic position. A very large portion of Americans identify themselves as middle class even though they vary widely in lifestyle and in resources at their disposal. But the idea that the United States is an open-class system leads many to think that the majority have a middle-class lifestyle.

The *lower middle class* includes workers in the skilled trades and low income bureaucratic workers, many of whom may actually define themselves as middle class. This class includes blue collar workers and many service workers such as secretaries, hair stylists, food servers, police, and firefighters. The term *lower* in this class designation refers to the relative position of the group in the stratification system, but it has a pejorative sound to many people, especially to people who are members of this class.

The *lower class* is composed primarily of the displaced and poor. People in this class have little formal education and are often unemployed or working in minimum-wage jobs. Six per cent of all working people now live below the poverty line. The concept of the *underclass* has been added to the lower class. The underclass includes those who are likely to be permanently unemployed and without means of economic support. Rejected from the economic system, those in the underclass may become dependent on public assistance or illegal activities.

31. The word "those" in the passage refers to...
  - A. characteristics
  - B. groups
  - C. classes
  - D. continuum
32. The word "enormous" in the passage is closest in meaning to
  - A. very large
  - B. very new
  - C. very early
  - D. very good
33. Which of the sentences below best expresses the information in the highlighted statement in the passage?
  - A. Although it is not generally accepted, your family provides the best prediction of your future wealth.
  - B. You can achieve great future wealth in spite of the family in which you may have been born.
  - C. It is not true that your family will restrict the acquisition of your future wealth and level of social status.
  - D. Social myths are contrary to the facts about the future wealth and social status of your family.
34. Why does the author mention the —Forbes 400l in paragraph 3?
  - A. To explain the meaning of the listing that appears every year
  - B. To support the statement that most wealthy people inherit their money
  - C. To cast doubt on the claim that family income predicts individual wealth
  - D. To give examples of successful people who have modest family connections
35. The word "exclusive" in the passage is closest in meaning to
  - A. long
  - B. expensive
  - C. frequent
  - D. relaxing

36. In paragraph 4, the author states that business and professional people with educational advantages are most often members of the
- lower middle class
  - upper middle class
  - nouveau riche*
  - upper class
37. According to paragraph 5, why do most people identify themselves as middle class in the United States?
- They have about the same lifestyle as everyone else in the country.
  - They prefer not to admit that there are class distinctions in the United States.
  - They don't really know how to define their status because it's unclear.
  - They identify themselves with the majority who have normal lifestyles.
38. According to paragraph 7, why has the underclass emerged?
- The new term was necessary because the lower class enjoyed a higher lifestyle than it had previously.
  - The increase in crime has supported a new class of people who live by engaging in illegal activities.
  - Changes in the economy have caused an entire class of people to survive by welfare or crime.
  - Minimum-wage jobs no longer support a class of people at a standard level in the economic system.
39. What can be inferred about the lower class in the United States?
- They are often not able to find entry-level jobs.
  - They work in jobs that pay minimum wage.
  - They are service workers and manual laborers.
  - They are considered lower class.
40. All of the following are indicators of prestige in the United States EXCEPT
- the level of education that a person has achieved
  - the amount of money that an individual has acquired
  - the type of employment that someone pursues
  - the hard work that a person does on a consistent basis.