A

Grass, the most stepped-on organism on earth, created more energy than an atomic bomb – just 700 acres of grass gathers from sunlight in one day, as much energy as that of the standard atomic bomb or 20,000 tons of TNT. Grass is more valuable than gold and as vital to us as air and sunshine. As a tool against floods, grass is 10,000 times more effective than all the dams built by man.

1. Based on paragraph A, which statement is true?
   a. Grass is more vital to us than air and sunshine
   b. Only an atomic bomb created more energy than grass
   c. A standard atomic bomb is equal to 20,000 tons of TNT
   d. Electric power dams are more powerful than grass against flooding

B

Grasses cover one fifth of the land surface of the globe. There are 6,000 species of grass and more individual grass plants than any other kind of vegetation.

2. Which is an inference that can be drawn from paragraph B?
   a. Grasses cover 25% of the land surface
   b. There are more grass species than any other living thing
   c. There are more grass plants than other flowering plants
   d. There are 6,000 grass plants, more than any other kind of plant

C

Grasses are simple structures, consisting of one stem and one leaf on each joint. Few people know that grasses have flowers. Since they are wind-pollinated, their flowers need no color or fragrance to attract insects.

3. Identify the purpose of paragraph C.
   a. Describe the physical characteristics of grass
   b. Reveal that grasses are little understood by most people
   c. Reveal that grasses do not need insects in their life cycle
   d. Emphasize that grasses need no color or scent to pollinate
Grasses are well equipped for the eternal fight for survival. They are tough, adaptable, productive, quick spreading, and are found everywhere in polar zones and in deserts, on mountaintops and under water. They produce pollen in huge amounts – up to 50 million pollen grains per plant. Grass pollen, which has been found as high as 4,000 feet in the air, can cover vast distances. It has traveled by air from South America to Louisiana, from Virginia to southern California.

4. Which is a statement of the main idea for paragraph D?
   a. Grass pollen can cover vast distances
   b. Grasses are quick spreading and are found everywhere
   c. Grasses are given what is needed to survive as a species
   d. The immense number of pollen grains per plant is the most important survival fact

Grass seeds attach themselves to the fur of animals and to the clothes of man. In this way they have followed the trade routes from the Atlantic to the Pacific, from the North to the South. The slave trade brought three grasses, including Bermuda grass, from Africa to the United States because these types were used as bedding for the slaves.

5. An inference that can be drawn from paragraph E.
   a. The slave trade brought grasses to the United States
   b. Bermuda grass came from Africa to the United States
   c. Both humans and animals have helped grasses spread
   d. Grass seeds followed the trade routes from the Atlantic to the Pacific

Grass makes the nutrients of the soil available to livestock, and so to us. In the spring, the grasses draw large quantities of nourishment from the soil, work it over, and store it in their seeds. As the year wears on, the seeds become a storehouse of high-quality food, while the leaves and stems gradually become less nutritious. When the seeds scatter, the better part of the valuable food is lost to livestock.

6. The main idea of paragraph F
   a. Humans receive nutrients of the soil through animals
   b. Grass makes the nutrients of the soil available to livestock
   c. Grass seeds are the valuable part of a plant for both livestock and humans
   d. Seeds become a storehouse of food, and both leaves and stems become poorer eating
7. Based upon paragraphs B-F, which is a statement of central theme?
   a. Grass seeds carry nutrients from the soil to humans
   b. Grasses are well equipped for the eternal fight for survival
   c. Grasses are simple in structure and need no color or fragrance to attract insects
   d. Grasses are prevalent throughout the world, have tenacity for survival and are an important source of nutrients for both animals and humans

G

Early in history, man realized that grasses offered a way to obtain high-quality food for himself. All he had to do was to trick the grasses into providing him with the food they store for their own reproduction. When he began cultivating grasses with an eye to eating the seeds himself, the result was the grains from which bread has been made for years. Wheat, corn, oats, rye, and barley are grasses, cultivated from wild and now extinct types. So are rice, bamboo, and sugar cane.

8. The main idea of paragraph G
   a. Man cultivated grasses and ate the seeds
   b. Grasses offered man a way to get food for himself
   c. Man learned to trick the grasses into providing food
   d. Wheat, corn, oats, rye, and barley are grasses raised by man

H

These cultivated grasses are the basic foods for man. The Mediterranean culture was based on wheat, the Indo-Chinese on rice, the original American culture on corn.

9. An inference drawn from paragraph H
   a. Three basic grasses feed most of the world
   b. Northern Europe sought corn as a food group
   c. The original American culture ate bread similar to the Chinese
   d. Indo-Chinese ate bread from the same grasses as Mediterranean people

I

Wheat, the constant companion of Western man for 6,000 years, was introduced into North America by the colonists at Jamestown and Plymouth. Rice, for 4,000 years the staple food of half of the world’s population, first came to America in 1694 when it was planted in South Carolina. Corn originated on this continent long before Leif Ericson arrived here. It was first given to white settlers at Jamestown. Sugar cane, the greatest vegetable storehouse of energy, was cultivated from a wild saccharine grass in India. It came to the United States from Santo Domingo in 1741.
10. The main purpose of paragraph I:
   a. Explain the origins of some major grasses
   b. Explain how corn came from America to Europe
   c. Provide important historical dates in American history.
   d. Describe how grasses originated in Europe and many other countries

11. The central theme of paragraphs G-I:
   a. Cultivated grasses are the basic foods of man
   b. Wheat has been the constant companion of Western man
   c. Grasses are a source of food for mankind throughout the world
   d. Early in history, man knew that grasses offered food for himself

J

In manufacturing food, grasses capture energy from the sun and nourishment from the soil. Both are necessary to us.

K

The converted energy of the sun supplies the human machinery with its fuel. When we lift a little finger, drive a car, or build a house, we use energy from the sun, which has been stored by plants. We get it by way of meat, milk, or other products from grazing animals.

12. A conclusion drawn from paragraphs J & K:
   a. Energy from the sun can be converted into usable fuel
   b. Manufacturing energy from milk and meat is essential for animals
   c. Climbing stairs correlates to both the weight of grass and calories
   d. It is important that grasses either capture energy from the sun or nourishment from the soil

L

One pound of pasture grass has enough calories to keep a man walking for an hour and a half, climbing stairs for two minutes, sawing wood for half an hour, or washing dishes for three hours. Cereal grains provide about four times as much energy as pasture grass.

13. The main idea of paragraph L:
   a. Cereal grains and pasture grasses provide energy for humans
   b. Energy to saw wood for half an hour comes from cereal grains
   c. Climbing stairs correlates with sawing wood for half an hour
   d. Cereal grains provide four times as much energy as pasture grains
Grasses also supply the human machinery with spare parts, in the form of protein. They reach deep into the soil, sometimes as far as 20 feet, to draw out nitrogen and minerals. These, they convert into protein — the “stuff of life” contained in all living cells. Protein continuously offsets wear and tear in the body.

14. Which statement reveals the purpose for paragraph M?
   a. Proteins are the spare parts of the human body
   b. Protein is made from nitrogen and other materials
   c. Grasses supply important protein for the human body
   d. Nitrogen can be found by plants as far as 20 feet in the earth

Today, the cattle industry in the United States, living off the grass of the land, is a $6 billion business, exceeding in value even the steel and automobile industries. The grazing meat animals, which include sheep and lambs as well as beef and dairy cattle, of the United States produce $12 billion a year in meat and other animal products — seven percent of our gross national production. Conversion of grassland crops into meat produces some 18 billion pounds of dressed beef and veal each year — to the value of over $5 billion. Without grass and hay there would be no milk, butter, cheese, or ice cream, and producing such dairy products puts another $4.5 billion in the pockets of our farmers.

15. The main idea of paragraph N:
   a. The grazing meat animal industry and its by-products depend on grass
   b. Grazing meat animals of the United States produce $12 billion a year in meat and other animal products
   c. Without grass and hay there would be no milk, butter, cheese, or ice cream
   d. Conversion of grassland crops into meat produces some 18 billion pounds of dressed beef and veal each year

O

Hay production itself “ain’t hay” at all — nearly $9 billion worth of this grass crop is produced, annually, which is more than that of any other crop except corn and wheat. Cultivated grass crops — the cereals and sugar cane — add another $9 billion to our income, more than half of it from corn alone.

16. Which statement is supported by paragraph O?
   a. More hay is produced each year than corn and sugar
   b. “Ain’t hay” refers to the wealth realized from wheat production
   c. A considerable income is realized from the grass crop annually
   d. Less than $4.5 billion is realized from the growing of corn annually
But the simple, uncultivated grasses, the Jones of the flowering plants, are worth their weight in gold in still other ways. Each year, floods cost the American taxpayer $250 million in damage to crops, equipment, and other property, plus at least another $400 million in lost production. Grass is the cheapest and most effective means of holding rainfall where it hits the ground. In this way it controls floods and, at the same time, protects the soil from being washed or blown away.

17. A point made in paragraph P about flood control:
   a. Grass is less effective in flood control than dams
   b. Grass is the cheapest means of flood control
   c. The grass crop in Europe is hurt more each year than in the U.S.
   d. More money is lost in damage to crops than in lost production

Grass roots are so fine and extend so far that the roots of a single plant, dug up and placed end to end, would be several miles long. These roots hold the soil crumbs in place with a powerful grip. And they eagerly lap up every drop of water that comes within their reach and keep it in the soil. That’s why springs in grassland areas are clear and provide good drinking water – and why dirty water comes from grassless soils, not only unfit for drinking, but carrying off valuable soil as well. Experiments have shown that grassland holds 1,000 times more soil and almost 300 times more water than fields in which a cultivated crop is grown.

18. Which factor in paragraph Q supports the topic of soil control?
   a. Plant roots hold the soil crumbs in place with a powerful grip
   b. Springs in grassland areas are clear and provide good drinking water
   c. Grasslands hold 300 times more water than fields of a cultivate crop
   d. Grass roots when dug up and placed end to end, would be several miles long

Grasses not only protect land from water and wind; they actually buildup land. Cord grasses thrive in the soft mud along the coast, covered by the tide. They break the oncoming waves and catch bits of rocks that are washed in, protecting the shore and building up the floor until it becomes marsh meadow and eventually dry land. Then the cord grasses die out and leave the land ready for cultivation. Much of the tidewater land of Virginia was built that way, and so were the meadowlands of the tidal estuaries of the Gulf of St. Lawrence and Chesapeake and San Francisco Bays.
19. The main idea of paragraph R:
   a. Cord grasses protect land from water and wind
   b. Much of the tidal estuaries in Virginia were built by grasses
   c. Cord grasses dies out and leave the land ready for cultivation
   d. Cord grasses thrive in the soft mud along the coast, covered by the tide

S

Grass, “the handkerchief of the Lord,” plays its part in our lives whether we notice it or not. If you are one of the 20 million homeowners who sport a lawn, you may curse grass as something that continuously calls for watering and mowing. But if you are one of the 55 million American motorists, you might bless the grass that protects the banks of highways and makes driving safer. If you are one of the two and a half million golfers, you are pleased with grass anyway. But you may not be aware that 750,000 acres of the soft green carpet covers 6,000 golf courses. On baseball and football fields, in parks, picnic grounds, schools, and colleges, grass helps us to relax and enjoy life. We often take our first tottering steps on it, and it closes tightly over our graves.

T

When Edison experimented with his electric bulbs he used a grass – carbonized bamboo stem – as his first light-providing element, and bamboo fibers were sued in lamps as late as 1910. when you tip your Bangkok or Leghorn hat, it is grass that is conveying your greeting. During some periods of fashion the Easter parade saw more grass than hair on ladies’ heads, not only in the hats themselves but also in the trimmings.

U

If you buy perfumes, toilet soap, or aromatic oils with the fragrance of violets, chances are that the scent is from the Oriental citronella grass. Grasses are made into mats in China, paper in South Africa, brooms in Mexico, ropes by the American Indians, and thatched roofs everywhere. The uses of bamboo, biggest and strongest of the grasses, include fishing rods, canes and switches, mats, screens, baskets, farm implements, water mains, houses and bridges. Recently first rayon production from bamboo has started in Travancore, India. It is used in the paper industry in India, Southeast Asia, and France. Due to its fast growth, bamboo pulp yields three times as much paper a year as an acre of slash pine.

20. Identify the central, unifying theme of paragraphs S – U:
   a. Gifts from the grasses
   b. The handkerchief of the Lord
   c. Use of bamboo used in many ways
   d. Edison’s experiment with electric bulbs