A new perspective on bacteria reading passage

A new perspective on bacteria

A.Blue-green algae, yeasts, fungus, viruses, and viroids are all included in microbes as they are extremely minute and cannot be seen with the help of naked eyes.

Almost all bacterias are between 1u to 10u, this creates a significant and diverse group, astonishingly 0.5nm are the largest ones. Bacteria are usually one-celled organisms with an irregular cellular structure that lacks an actual nucleus. The majority of their genetic material is carried on a DNA loop in the cytoplasm, and the membrane even exhibits some nuclear properties.

Coccus, bacillus, and spirillum are the Latin names for the three primary types of bacteria and they are available in spherical, rod-like, and spiral. They can be found in pairs, clusters, chains, or more complicated arrangements. They have a specialty that they can survive in an environment with oxygen, while others cannot.

The symbiotic relationship between bacteria and their hosts benefits both organisms, yet the hosts may die at the hands of parasitic or disease-causing bacteria.

B.Despite the fact humans tend to view germs with suspicion, it is now thought that long-extinct bacteria played a role in their evolution.

Through the process of photosynthesis, plants produce the oxygen that fuels human blood cells. The majority of geologists agree that until the development of micro-organisms around 250 billion years ago, the early earth’s atmosphere contained very little oxygen. For instance, the ancestors of cyanobacteria gave rise to chloroplasts, the cells that perform photosynthesis, after plants appeared, ocean oxygen levels significantly increased, enabling the eventual survival of complex life forms.

The majority of airborne germs are harmless, and the air we breathe today is oxygenated, yet it still contains harmful pathogens, allergens, and commercial pollutants.

C.Actually, scientists barely understand how microbes work. While viruses were discovered a little over a century after bacteria, it has just been 35 decades since bacteria were first discovered. However, the finding of bacteria miles under the earth's surface and even in the earth’s atmosphere over the past three decades has made it evident how prevalent germs are. Surprisingly. They can survive in arid environments and the icy depths of Antarctica. Along with being present in all living things, the snowy rainy sky is an example of them.

At least 1,800 different types of bacteria were found in air samples from two Texas cities taken in 2006, making the atmosphere there as diverse as that of the ground. Both Texas and western China are the origins of this species. It appears that there are now considerably more species of microorganism than there are stars.

D.Every organism contains billions of germs, and in an adult, they weigh 1.36 kg or roughly the same as the brain. Bacteria, despite their minuscule size, produce 90% of all human cells. Over 8 million genes—three times as many as in human cells—are present in these bacteria.

Over 2,000 types of bacteria are discovered in the elbow curve, despite the fact that the majority of bacteria—nearly 34,000 species—are found in the large intestine. Numerous bacteria carry out advantageous tasks such as vitamin and moisturizer creation, immune system support, food digestion, and moisturizer production. Some have incredibly specialized tasks, such as Bacteroides thetaiotaomicron, which breaks down plant starch, to help a baby transition from mother's milk to a more diversified diet.

Without a doubt, some germs can be deadly. One of these pathogens, Staphylococcus aureus, also known as "golden staph," is a concern in hospitals as it contaminates tools and feeds on human flesh until victims fall into toxic shock and die. And to make matters worse, it is still resistant to antibiotics.

E.Antibiotics are nothing but bacteria. The chemical penicillin was created by a mould in Alexander Fleming's laboratory in 1928, and he dubbed it penicillin. Willian Bouw first collected the Borneo rainforest soil in 1951, which eventually transformed into vancomycin. Although pharmaceutical companies are constantly looking for helpful bacteria, according to Michael Fischbach from the University of California, the human body itself provides a ready source of them.

F.Because many bacteria are challenging to culture in a lab, scientists know very little about them. However, rather than culturing bacteria, recent developments in DNA sequencing have made it possible to investigate bacterial populations using computer algorithms.
Fischbach and his team created and trained a computer program to locate gene clusters in microbial DNA sequences that may produce useful compounds. After obtaining microbial DNA from 242 healthy human volunteers, the researchers examined the genomes of 2,340 different types of bacteria, the bulk of which were novel discoveries.

While looking for prospective drug possibilities, Fischbach et al. discovered 3,118 common gene clusters. In a lab setting, for illustration, a gene cluster from the bacterium Lactobacillus gasseri successfully created a compound that resembled lactobacilli. Later, they discovered that this had a structure with an antibiotic called LFF571, which a large pharmaceutical company was testing in clinical trials. Due to the fact that lactobacilli have so far been successful in killing dangerous pathogens, it could also be a dependable antibiotic.

G.Since microbes have been a part of humans for millennia, it is presumably safe to introduce new strains and large amounts of them. But the path to medical patent protection is filled with failures.

Golden staph infections must surely be combated, but as scientists learn more about bacteria, their respect and excitement for them grow, and the possibility of their useful applications rises.

1 A micron= 106m
2 Materials inside a cell

A new perspective on bacteria IELTS Reading Questions

Question 1-5

Passage 2 has seven sections, **A-G.**
Which section contains the following information?
*Write the correct letter **A-G,** in boxes **1-3** on your answer sheet.*
***NB:** Any section can be chosen more than once.*

1. examples of bacteria as a patented medicine
2. a description of bacteria
3. gene cluster detection and culture
4. humans are teeming with bacteria
5. Fischbach's hypothesis

Question 6 – 9

Write the correct letter in boxes **6-9** on your answer sheet.

6. What do almost all bacteria share?

   A. Their simple configurations
   B. Their cellular organization
   C. Their survival without oxygen
   D. Their parasitic nature

7. From the suffix '-bacillus', what shape would you expect the bacterium Paenibacillus to be?

   A. spherical
   B. rod-like
   C. spiral
   D. amorphous

8. Why were ancient bacteria invaluable to humans?

   A. They contributed to higher levels of oxygen.
   B. They reduced widespread industrial pollution.
   C. They protected humans from intestinal ailments.
   D. they provided scientists with antibiotics.

9. How prevalent are microbes?

A. Not at all
B. Somewhat
C. Very
D. Extremely

Question 10 to 13

Answer the questions below.
Choose **NO MORE THAN THREE WORDS OR A NUMBER** from the passage for each answer
*Write your answers in boxes **10-13** on your answer sheet.*

10. Which organ does the total weight of bacteria in a human body equal?
11. Roughly how many bacterial species live in a human's large intestine?
12. In Fischbach's view, where might useful bacteria come from in the future?
13. What do some scientists now feel about microbes?