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| Topic | TPO 50 - Integrated |
| Number of Words | 294 words |
| Time | 20 min |

***Answer:***

The reading asserts that sending humans to mars, unlike manned missions to moon, incorporates many challenges which makes it impossible. The lecturer, however, finds this assertion false and casts doubts on the reasons presented in the reading passage.

The author argues that a travel to mars and back takes at least two years, and the limited cargo capacity of food, water and oxygen in spaceships the trip would be impossible. Conversely, the lecturer poins out a new method in which plants' roots are grown in water instead of soil. Therefore, little space is needed to cultivate the seeds and inadequate food capacity problem would be solved. Furthermore, this process can recycle wasted water and fresh water would be achieved. Moreover, analogous to other plants, it will absorb CO2 and release O2 for breathing.

Furthermore, the author states that the zero-gravity environment of the space has detrimental effects on human body and may lead to serious medical problems. On the contrary, the professor underlines the fact that lessons learned from previous space stations carrying many astronomers has provided some useful techniques. For instance, doing some exercises would contribute to their muscle mass and taking some vitamin and mineral pills like Calcium can help them maintain their bone density.

Finally, the reading asserts that in order to protect spaceship from detrimental effects of space radiation a shield would be needed that increases spaceships weight by too much. In contrast, the speaker refutes this idea. She states that not all space radiations are dangerous, and the dangerous ones happen occasionally. Thus, these radiations can be closely monitored. And a small shelter can be built inside the spacecraft which does not impose too much weight. Therefore, whenever the rays get too dangerous, astronomers can seek shelter in there.