2024 年度 科学技術英語特論・演習 定期試験

注意：解答用紙は２枚あります。それぞれに学籍番号と氏名を記入してください。

問題１

次の文章は"NASA Details Plans for Railway System on the Moon"と題した記事で、５つのパラグラフから構成されている。この英文に関する以下の問に、原文に則して日本語で答えなさい（直訳でなくてよいが、原文の内容を十分に踏まえて書くこと）。なお、それぞれの問に対して、解答は 40 字以上 80 字以内とすること。

The American space agency NASA is providing details about a railway system it plans to build on the surface of the moon. The railway would be part of NASA's Artemis program. It seeks to return astronauts to the moon for the first time since 1972. The agency has set a target landing date of September 2026 to place astronauts on the surface of the moon. NASA has said it also plans to establish a long-term moon base where astronauts could do their own exploring and carry out science experiments. Agency officials have said the base could be built as soon as the 2030s. It could also serve as a possible launch site for future exploration of Mars.

Last month, NASA announced new efforts to develop and test new vehicle models designed to explore the moon. The lunar rail proposal is called the Flexible Levitation on a Track, or FLOAT. NASA said such a railway system will be "critical to the daily operations" on the moon. The main purpose of FLOAT would be to provide transportation services in areas of the moon where astronauts are active, the space agency said. This will include carrying loads of lunar soil and other materials to different areas of the lunar surface.

NASA has said it plans to mine such soil, called regolith, for substances that could support astronaut activities on the moon. Regolith can contain materials like water or liquid forms of oxygen and hydrogen. Those elements could be used to support astronauts and their equipment during long stays on the moon.

The FLOAT system is already being developed by engineers at NASA's Jet Propulsion Laboratory (JPL) in California. It is based on magnetic levitation – a commonly used technology in high-speed rail development. Drawings by NASA suggest the plans call for flat, magnetic panels, called robots, to float, or levitate, over a flat rail line, or track. The robots have no moving parts and are unpowered. They are pushed along the track by electromagnetic energy.

NASA said the simple design of the carrier robots should help them last a long time and require little ongoing care. The system's tracks can be placed directly on the lunar surface, avoiding the need to build a complex, permanent structure. They could also be moved around to change the transportation path.

（Science & Technology, Voice of America Learning English　2024 年 5 月 12 日の放送原稿より抜粋）

(1) NASA のアルテミス計画とはどのようなものであると言っているのか、説明しなさい。

(2) NASA の FLOAT という輸送システムの主な目的は何であると言っているのか、説明しなさい。

(3) 月のレゴリスとはどのようなもので、そこから採取された物質の用途は何であると言っているのか、説明しなさい。

(4) FLOAT システムにはどのような技術が使われていると言っているのか、説明しなさい。

(5) ロボットと呼ばれるパネルにはどのような特徴があると言っているのか、説明しなさい。

授業科目名	担当者名	開講曜時	金曜日 2 講時	先端理工学研究科 電子情報通信コース 年	氏名		学籍番号	採点
科学技術英語特論・演習	小堀他	実施日	8 月 2 日 2 講時				Y　M	

2024 年度 科学技術英語特論・演習 定期試験

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問題２

Answer the following questions in English using more than 50 but less than 100 words for each question.

(1) Describe your research activities.

(2) What kind of practical use is expected when your research is completed ?

(3) How is your research related with the important challenges in this century (global warming, food crisis, population explosion, energy depletion, digital divide, etc.) ? If you cannot answer the question, you may describe one of these challenges.

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