GT Reading Mock Test 31:

Part 3: Question 26-40

Read the text below and answers to the questions **13-25** on your answer sheet.

GT Reading: "Underground cities - Japan's answer to overcrowding"

The following notice gives information about school excursions. Each excursion is labelled **A-J**.

Read the following notice and answer **questions 13-19.**

UNDERGROUND CITIES—JAPAN'S ANSWER TO OVERCROWDING

A nation running out of room seeks a down-to-earth solution

The Japanese may find a solution to the nation's space shortage right beneath their feet. Some of Japan's largest construction companies are planning underground cities that would not only ease urban crowding but also provide protection against earthquakes and increase energy efficiency.

Japan's soaring real-estate prices provide reason enough. In a country with nearly half as many people as the United States, but squeezed onto an archipelago which is only

one hundredth the size, land shortages have led to construction becoming prohibitively expensive.

Another plus for subterranean construction is that the underground earth's movement during an earthquake is far less than the surface's—a big consideration in earthquake-prone Japan. The devastation caused by recent earthquakes in Japan could to some extent have been avoided if much of the cities affected were largely located underground.

In addition, the near-constant temperature would reduce the fuel costs for subterranean cities. Underground areas would need much less heating in winter and much less cooling in summer.

Taisei Corporation of Tokyo is planning a network of 'Alice Cities', named after the fictional Lewis Carroll heroine who fell down a rabbit hole into a wonderland. Taisei proposes turning cramped downtowns into airy underground spaces connected by subway trains and subterranean roads. The cities will be designed for self-sufficiency, but could be linked to sister cities by underground railway. Although some buildings and roads would remain above ground, much surface space would be freed up for trees and public parks.

Each Alice City would be divided into three sectors. The first sector, Town Space, would comprise verdant underground boulevards and open-air and atrium-type plazas—all

free of automobile traffic. These boulevards and plazas will include shopping malls, entertainment complexes and fitness centres. Secondly, the Office Space sector will house business operations, hotels and parking lots. A solar dome above each office complex will ease feelings of claustrophobia. Express elevators or an extension of the underground railway system will run to the bottom level. Some workers will ride to work vertically horn residential areas within the sector, while others will commute from the suburbs. Isolated from the town and office sectors will be the third sector. Infrastructure Space. This will contain facilities for power generation. regional heating and air-conditioning, waste recycling, and sewage treatment.

Existing cities could be redeveloped beneath the surface using the Alice system. The downtown areas could be retained above ground in a slightly modified form and most of the future growth of the cities could be accommodated underground.

An alternative to the Alice City concept is the Shimizu Corporation’s proposed Urban Geo Grid, a vast network of smaller subterranean city spaces linked by tunnels. The $80.2 billion project would cover 485 square miles and accommodate a half-million people.

The Urban Geo Grid provides for a much more complicated interaction of many underground spaces over a larger area. Each ‘grid station’—a complex of underground offices, shopping malls and hotels—would be connected to several smaller ‘grid points’, which would provide local services such as public baths and convenience stores. The Grid would provide a network for road and rail transportation, communication, and energy supply both within a city and between cities. Individual facilities for various

services such as power generation and waste treatment will be on a smaller scale, but more numerous.

Whichever concept is ultimately applied, one obstacle that will need to be overcome before Japanese cities have real ‘downtowns’ involves the nation’s geology. Japan’s densely populated lowlands are mostly founded on loose geologic strata, making underground construction particularly difficult. Thus, Japanese construction firms are conducting extensive research and development on technologies for drilling, excavation and underground construction.

Some of the technology is already available. Robots similar to those that built the Channel Tunnel between France and England could be used for excavation and construction in some areas. It is anticipated that within 10 to 15 years most of the remaining technological obstacles will be overcome.

Underground city spaces in Japan are therefore coming much closer to reality. It may be difficult to imagine people adapting to life underground, but in Japan, it may be one of the most practical solutions to the problem of limited living space. The next century may see many similar developments in other countries.

Questions 26-30

Indicate whether the following characteristics apply to **Alice Cities** or **Urban Geo Grids** or **both** or **neither** by writing:

AC if it applies to Alice Cities

UGG if it applies to Urban Geo Grids

BOTH if it applies to both

NEITHER if it applies to neither Alice Cities nor Urban Geo Grids

Write answers in boxes **26-30** on your answer sheet.

The first one has been done as an example.

Example: named after a storybook character

Answer: AC

26. cities linked by underground railways

27. a large number of separate underground spaces linked together

28. one large space for city facilities such as waste treatment

29. cities largely independent

30. construction has already started

Questions 31-35

Using information from the reading passage, complete the sentences below.

Use **NO MORE THAN THREE WORDS** for each answer.

31. Real estate is expensive in Japan because **.....**

32. By moving many buildings and roads underground, surface land in Alice Cities could be used for **.....**

33. In Alice Cities, some people will live in the sector called **.....**

34. Underground cities in Japan cannot yet be built because of two factors: loose geologic strata and **.....**

35. In the Urban Geo Grid, hotels would be located in the **.....**

Questions 36-40

The following is a brief summary of the reading passage.

Complete each gap in the summary by choosing a word from the list below the summary.

Write your answers in boxes **36-40** on your answer sheet.

Note: *There are more words than gaps so you will not need to use them all. You may use any word more than once.*

Summary

Example: Japan is planning underground cities to solve problems of living space, earthquakes and energy.

One Japanese company plans to develop large cities underneath existing **(36) ……** areas. Each of these cities would be divided into three sectors: for **(37) ……** , office and infrastructure spaces. Another company plans a more spread out and complicated **(38) ……** based on smaller spaces. The main **(39) ……** to the construction of these cities is the unstable structure of the **(40) ……** itself.

Word List:

obstacle **network** **ground** **technology**

robots **earthquakes** **developing** **leisure**

downtown **private** **rural**

ANSWER
26. BOTH 27. UGG 28. AC 29. AC 30. NEITHER 31. of land shortages 32. trees and parks 33. office space 34. not available yet 35. grid station 36. downtown 37. leisure 38. network 39. obstacle 40. ground