University of Information Technology & Sciences (UITS)
Faculty of Science and Engineering
Department of Computer Science and Engineering
Program: B.Sc. in CSE
Term Final Examination, Spring 2025
Course Title: Communicative English
Course Code: GED 0232111

Marks: 50 **Time: 3*(Three)* hours**

(Answer all questions)

Q.No **Read the passage carefully and answer questions no. 1, 2 and 3:** **Marks**

As the global population continues to grow, urban areas are facing increasing pressure to provide sustainable food sources. Traditional agriculture, with its extensive land and water requirements, often falls short in densely populated cities where arable land is scarce and environmental concerns are pressing. In response to these limitations, urban vertical farming has emerged as a promising solution, utilizing vertical space to cultivate crops within city environments, often in ways that are both innovative and efficient.

Vertical farming involves growing plants in stacked layers, often integrated into buildings like skyscrapers, repurposed warehouses, or custom-designed structures. This method leverages controlled-environment agriculture (CEA) technology, allowing for precise regulation of temperature, humidity, CO_2 levels, and light. Such control enables year-round crop production, independent of external weather conditions, climate variability, or seasonal changes. As a result, urban farms can achieve high levels of productivity, consistency, and food safety.

One of the significant advantages of vertical farming is its efficient use of space. By stacking crops vertically, these farms can produce a much higher yield per square meter compared to traditional farming methods. Additionally, vertical farms can be established within or near urban centers, drastically reducing the distance food must travel from farm to table. This proximity helps decrease transportation emissions and ensures that produce reaches consumers at peak freshness, with less spoilage and waste.

Water conservation is another critical benefit. Vertical farms often employ hydroponic or aeroponic systems, which use up to 90% less water than conventional soil-based agriculture. These systems recycle water and nutrients through closed-loop setups, minimizing waste and environmental impact. Furthermore, because vertical farms are typically enclosed, they also avoid pesticide runoff and reduce exposure to pests and diseases, thereby eliminating the need for chemical pesticides.

Despite these advantages, vertical farming faces several notable challenges. The initial setup costs are substantial, requiring heavy investment in advanced technology, infrastructure, lighting, and automation systems. For new ventures or smaller companies, securing the necessary capital can be a major barrier to entry. Additionally, the energy consumption required to maintain controlled environments—particularly for artificial

lighting and climate control—can be significant, raising legitimate concerns about the long-term sustainability of such operations.

Critics argue that vertical farming may not be suitable for all types of crops. While leafy greens, herbs, and some fruits like strawberries thrive in controlled environments, staple crops such as wheat, corn, and root vegetables require more space, deeper soil, and longer growth periods. These crops are generally less compatible with vertical farming systems, which may limit the range of foods that can be produced in urban settings.

Economic viability is another key consideration. The high operational and maintenance costs associated with vertical farms can lead to elevated prices for consumers, potentially limiting access to fresh, locally grown produce for lower-income populations. However, proponents argue that as technology advances, automation improves, and economies of scale are achieved, costs will gradually decrease, making vertical farming more affordable and widespread.

Some cities have already begun to support vertical farming initiatives through policy changes, incentives, and funding programs. For instance, Singapore has invested significantly in urban agriculture to enhance food security, while cities like New York, Tokyo, and Amsterdam have witnessed a rise in rooftop farms and indoor growing facilities supported by both private and public sectors.

In conclusion, urban vertical farming presents a compelling and forward-thinking approach to sustainable food production in cities. While challenges related to cost, crop variety, and energy use remain, ongoing technological innovations, public support, and sustainable practices may pave the way for its broader adoption. Ultimately, vertical farming could become a vital component of resilient urban food systems, helping cities meet the demands of growing populations while minimizing environmental impact.

1. Scan, identify and write down only <u>True</u> if the statement agrees with the information, <u>False</u> if the statement contradicts the information or <u>Not Given</u> if there is no information on this: **[4×1=4]**

a) Vertical farming allows crops to be grown even during extreme weather conditions.

b) All types of crops, including wheat and corn, are suitable for vertical farming

c) Vertical farming uses robots to harvest crops automatically.

d) The government in New York City has made vertical farming mandatory in all new buildings.

2. Scrutinize the passage and carefully answer the following questions. **[4×1=4]**

a) Why is vertical farming considered a solution to the challenges of traditional agriculture in urban areas?

b) What are the environmental benefits of vertical farming mentioned in the passage, and how do they compare to traditional farming?

c) What challenges might prevent the widespread adoption of vertical farming, according to the passage?

d) How might vertical farming reshape the relationship between cities and their food systems?

3. **Summarize the given passage in your own words. (Word limit: 120 words)** **[1×4=4]**

4. **Convert the words as directed in the bracket and make sentences with them (<u>any five</u>):** **[5×1=5]**

Danger (to verb), Ignorance (to adjective), Require (to noun), Fright (to verb), Operate (to noun), Resource (to adjective), Refuse (to noun).

5. **Rewrite and correct the following paragraph using <u>appropriate punctuation marks and capitalizations</u> where necessary:** **[2.5]**

after hours of travel we finally arrived at grandmas house tired hungry but excited her garden was full of flowers roses tulips daisies and sunflowers the kids energy returned instantly they ran around laughing and playing who wants cookies grandma asked is there a better welcome than that

6. **Rewrite the following sentences using the correct form of verbs:** **[5×0.5=2.5]**

As Bangladesh is a developing country, skilled people (a) _____ (be) much required. If they serve their own country, their country's economic growth (b) _____ (accelerate). But if they work abroad for a limited period and send money to their native land, the country is also benefited by (c) _____(get) foreign exchange. There are still many who prefer to stay home, (d) _____ (disregard) the lure of high salary and other facilities. These people may therefore (e) _____ (call) real patriots.

7. **Make an <u>Outline</u> and write an essay on <u>any one</u> of the following topics (320 words):** **[1×(3+7)= 10]**

a) Emergence of Technologies and Their Impacts
b) Media Manipulation

8. **Suppose, you have completed your graduation in CSE and masters in Telecommunication. Now you are looking for a suitable position in any renowned company. Robi Axiata Ltd located at Gulshan, is looking for suitable candidates for the post of Network Engineer. The recruiting news was published in The Daily Star on 15.06.25. Now write down a cover letter along with a CV to apply for the post of Network Engineer.** **[1×8=8]**

9. **Suppose, you are the IT Manager at Infotech Pvt. Ltd., and your team has identified unauthorized software installations on several company computers. Now write a memorandum to all employees explaining the risks of using unapproved software and outlining the new policy for software requests and installations.** **[1×5=5]**

10. **Give an appropriate <u>title</u> and write down <u>a story</u> based on the following picture. [1×5=5] (180 words).**