



# **GRETSA UNIVERSITY - THIKA**

## **UNIVERSITY EXAMINATIONS JANUARY- APRIL 2025 SEMESTER**

### **BACHELOR OF SCIENCE IN HOSPITALITY MANAGEMENT**

**COURSE CODE: BSHM 406**

**COURSE TITLE: PHYSICAL PLANT AND MAINTENANCE**

**DATE: APRIL 2025**

**TIME: 2 HOURS**

---

#### **INSTRUCTIONS TO CANDIDATES**

1. SECTION A IS **COMPULSORY**.
2. SECTION B: ANSWER ANY OTHER **TWO** QUESTIONS.
3. **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
4. ALL ROUGH WORK SHOULD BE AT THE BACK OF YOUR ANSWER BOOKLET AND CROSSED OUT.

**CAUTION:** *All exam rooms are under CCTV surveillance during the examination period.*

## SECTION A: COMPULSORY

### Question One

Green Haven Hotel, a luxury five-star property, has been facing several operational challenges related to facility management. Rising energy costs, inefficient waste disposal, and increasing water consumption have negatively impacted the hotel's profit margins. Additionally, guests have raised concerns about poor ventilation in some rooms and inconsistent hot water supply in the bathrooms. The hotel's management recognized the need for a sustainable approach to facility operations to enhance efficiency, reduce costs, and improve guest satisfaction.

To address these issues, the facility management team developed a comprehensive sustainability plan. The plan included installing energy-efficient LED lighting throughout the hotel, implementing a water conservation program with low-flow faucets and automated irrigation systems, and improving the HVAC system's efficiency through regular maintenance and ventilation upgrades. Additionally, the hotel introduced smart sensors to optimize energy usage based on room occupancy and provided training for housekeeping staff on proper waste disposal and recycling practices.

Since implementing these measures, Green Haven Hotel has observed a 20% reduction in energy costs, 15% lower water consumption, and an increase in guest satisfaction ratings. However, the hotel continues to face some challenges. The high upfront cost of energy-efficient technology remains a financial burden, and some staff members have shown resistance to adopting new waste management practices. Despite these challenges, the hotel remains committed to expanding its sustainability efforts and fostering a culture of environmental responsibility among employees.

### ***SOURCE: LECTURER***

- a) Explain **two** major facility management issues that Green Haven Hotel faced before implementing the sustainability plan. **[4 marks]**
- b) Describe **two** specific ways the hotel reduced its energy and water consumption. **[6 marks]**
- c) Suggest **two** additional strategies the hotel could implement to further improve its sustainability efforts. **[4 marks]**
- d) Discuss **two** ways the hotel can encourage staff to be more engaged in sustainable facility management. **[4 marks]**
- e) Discuss **three** ways the hotel can balance the high initial costs of sustainable technology with long-term operational savings. **[6 marks]**

- f) Explain **three** safety and security measures that hotel management should implement to protect guests and property. [6 marks]

## SECTION B: ANSWER ANY TWO QUESTIONS

### Question Two

- a) Explain **five** benefits of proper ventilation systems in hospitality buildings. [10 marks]  
b) Describe **five** ways in which automation has improved facility management in hotels. [10 marks]

### Question Three

- a) Explain **five** risks associated with electrical system failures in hotels. [10 marks]  
b) Describe **five** common wastewater management techniques used in hotels. [10 marks]

### Question Four

- a) Discuss **three** advantages and **two** disadvantages of outsourcing facility maintenance in hotels. [10 marks]  
b) Explain **five** strategies for improving the efficiency of laundry systems in hotels. [10 marks]

### Question Five

- a) Explain **five** types of hotel heating, ventilation, and air conditioning (HVAC) systems. [10 marks]  
b) Discuss **five** factors to consider when designing a lighting system for a hotel to enhance guest experience and energy efficiency. [10 marks]