

GUJARAT TECHNOLOGICAL UNIVERSITY

BHMCT - SEMESTER-V EXAMINATION – WINTER 2025

Subject Code:153306

Date:25-11-2025

Subject Name: Hotel Engineering & Maintenance

Time:10:30 AM to 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) What are the primary functions of the hotel maintenance department?	03
(b) What are the characteristics of natural gas as a fuel?	04
(c) How does the Chief Engineer handle procurement and inventory of equipment and supplies?	07
Q.2 (a) What are the advantages of a three-phase electrical system?	03
(b) What is the role of heat in the hotel's heating, ventilation, and air conditioning (HVAC) systems?	04
(c) What are the common industrial applications of different types of fuels?	07
OR	
(c) How do hotels prioritize maintenance tasks?	07
Q.3 (a) How can kitchen lighting be managed to save electricity?	03
(b) What are the common issues encountered in swimming pool maintenance?	04
(c) How does ventilation impact the fire triangle in a fire situation?	07
OR	
Q.3 (a) What is the thermal value of a fuel, and why is it important?	03
(b) What are the common energy-saving technologies for food and beverage service?	04
(c) How will you overcome water pollution in hotels? Recommend some positive steps for the same.	07
Q.4 (a) What is a Class K fire, and why is it relevant to hotels?	03
(b) How do hotels manage wastewater disposal?	04
(c) Calculate the electricity bill for the month of April 2011 having the following electric loads: Tariff: Rs.5/- per unit	07
(a) 1000W bulb 10 nos. 8 hrs./day	
(b) 1.5 KW heater 2 nos. 4 hrs./day	
(c) 1.5 KW A.C. 1 no. 4 hrs./day	
(d) 40W tube light 10 nos. 8 hrs./day	
OR	
Q.4 (a) What is ohms Law?	03
(b) How does a water seal work in hotel plumbing?	04
(c) What is the role of technology in modern hotel maintenance?	07

- Q.5** (a) Explain Water Closet system. **03**
(b) What is the role of a close and open circuit in hotel electrical safety? **04**
(c) Calculate the electricity bill for December 2023 for the following **07**
appliances:
(a) 60W bulbs 10 Nos. 6 hrs/day
(b) 60W fans 10 Nos. 5 hrs/day
(c) 3 KW heater 03 Nos. 4 /hrs/day
(d) 750W iron 02 Nos. 3 hrs/day
(e) 6KW boiler 01 No. 3 hrs/day
Cost of electric energy is ₹3/- per unit.
- OR**
- Q.5** (a) What are types of Pollutants? **03**
(b) How does the choice of fuel impact hotel energy costs? **04**
(c) How do sanitary systems affect guest comfort in hotels? **07**
