

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**B.VOC- SEMESTER-IV EXAMINATION – SUMMER 2025**

**Subject Code:1140704**

**Date:17-05-2025**

**Subject Name: Energy Conservation and Management**

**Time:10:30 AM TO 12:30 PM**

**Total Marks:50**

**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.**

|            |  | <b>Marks</b> |
|------------|--|--------------|
| <b>Q.1</b> | <b>(a)</b> Write Short note on Indian Energy Scenario.   | <b>05</b>    |
|            | <b>(b)</b> What do you mean by energy? Explain in brief types of energy.   | <b>05</b>    |
| <b>Q.2</b> | <b>(a)</b> Explain the need of energy conservation.  | <b>05</b>    |
|            | <b>(b)</b> Explain the principle of energy conservation.   | <b>05</b>    |
|            | <b>OR</b>  |              |
|            | <b>(b)</b> What are the benefits of energy conservation.   | <b>05</b>    |
| <b>Q.3</b> | <b>(a)</b> Explain need of energy audit.   | <b>05</b>    |
|            | <b>(b)</b> Explain Energy Audit. Give the importance of energy audit.  | <b>05</b>    |
|            | <b>OR</b>  |              |
| <b>Q.3</b> | <b>(a)</b> Explain Energy Audit. Give the importance of energy audit.  | <b>05</b>    |
|            | <b>(b)</b> Explain Electricity Act 2003.   | <b>05</b>    |
| <b>Q.4</b> | <b>(a)</b> What is an energy efficient induction motor? Explain its constructional features and advantages over conventional motors. | <b>05</b>    |
|            | <b>(b)</b> Explain co-generation plant in detail.  | <b>05</b>    |
|            | <b>OR</b>  |              |
| <b>Q.4</b> | <b>(a)</b> What is an automatic power factor controller (APFC)? How does it work and why is it useful?                               | <b>05</b>    |
|            | <b>(b)</b> Explain how cogeneration is advantageous over conventional power plant.   | <b>05</b>    |
| <b>Q.5</b> | <b>(a)</b> What is Demand Side Management (DSM)? How does it help in saving electricity?   | <b>05</b>    |
|            | <b>(b)</b> Enlist methods of Depreciation Calculation and explain any one in brief.  | <b>05</b>    |
|            | <b>OR</b>  |              |
| <b>Q.5</b> | <b>(a)</b> What is tariff restructuring? How does it help in promoting energy efficiency among users?                                | <b>05</b>    |
|            | <b>(b)</b> Explain the different factors that contribute to cost variations in energy conservation projects.                         | <b>05</b>    |

\*\*\*\*\*