

Note: All questions are compulsory. Assume suitable data wherever necessary Each questions carries 20 marks.

1. (a) What is an HVAC system ? What are the energy conservation opportunities in an HVAC system ?

(b) What are the energy conservation opportunities in thermal power plant.

Or

1. Discuss energy conservation opportunities in

(a) Sugar industry

(b) Cement industry

(c) Textile industry

(d) Residential building.

3. Explain in detail energy audit methodology.

Or

4. Briefly describe the instruments used for energy audit.

5. Describe the sankey diagram and its uses in Material energy balance.

Or

6. Describe in detail the method for preparing process flow chart used in Material energy balance.

7. What is the importance of restructuring the electric tariff plan ? Explain in detail.

Or

8. Discuss in detail the various energy conservation methods applied to pumps and fans.

9. What is co-generation ? What are its benefits ? Discuss in short various co-generation techniques. **Or**

10. Explain waste heat techniques and thermal insulation in thermal system.,

