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BIEE-038

DIPLOMA IN ELECTRICAL ENGINEERING (DELVI)

Term-End Examination

00187

June, 2014

BIEE-038 : ENERGY AUDIT

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any* ***ten*** *questions. All questions carry equal marks.*

1. Explain in detail the difference between Energy Conservation and Energy Efficiency and its relevance. 7

2. Explain in detail the methodology for conducting a detailed energy audit. 7

3. During a ESP performance evaluation study, the inlet gas stream to ESP is 289920 Nm^3/hr and the dust loading is 5500 mg/Nm^3. The outlet gas stream from ESP is 301100 m^3/hr, and the dust loading is 110 mg/Nm^3. How much fly ash is collected in the system ? 7

4. Explain the following stating the advantages and limitations, if any : 7
   (i) Simple payback period
   (ii) Return on investment
   (iii) Internal rate of return

5. Explain in detail about ozone layer depletion process and its various effects. 7

6. What are the duties and responsibilities (5 each) of Energy Manager as per the Energy Conservation Act, 2001 ? 7

7. Explain in detail about Emission Trading. In Indian scenario what is its significance ? 7

8. Define the 'Energy Audit' as per the Energy Conservation Act, 2001. What are the base line data that an audit team should collect while conducting detailed energy audit ? 7

9. Distinguish between preliminary energy audit and detailed energy audit. 7

10. Explain the meaning of fuel substitution and energy substitution with two examples. 7

11. What is energy intensity and what does it indicate ? How is the calorific value of fuel measured in a laboratory ? 7

12. Explain why a project with a high IRR is not necessarily more attractive than a project with a lower IRR. 7