B.E /B.Tech (Full time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2012

MECHANICAL ENGINEERING BRANCH : VIII SEMESTER

REGULATION : 2004

ME 514 : ENERGY CONSERVATION & MANAGEMENT

Time : 3 h Max Marks : 100

Assume relevant data, if information provided is insufficient

Answer ALL Questions

Part A **10x2=20**

1. Arrive at the energy and cost share of a household consuming 200 kWh of electricity/month and 1 LPG cylinder/month
2. List any 2 major options for mitigating the energy gap
3. Mention the need for carrying out material balance in a energy utility
4. Differentiate : energy efficiency and energy conservation
5. Present the advantages of induction furnace
6. State the affinity laws of pumps
7. What is lux?
8. Why capacitors are used in electrical distribution systems?
9. What does break even point mean?
10. Prove : energy cost of motor accounts for more than 90% of its life cycle cost

Part B **5x16=80**

11. (a) (i) What is global warming? List the gases that cause it (8)
    (ii) What does the term CO_2 equivalent mean? (4)
    (iii) Compare the energy scenario of India with any one of the developed countries with respect to per capita energy generation, consumption and T&D loss (4)

12. (a) (i) What is energy audit? (2)
    (ii) Detail the methodology and outcome of preliminary, detailed and specific energy audit

    (or)

    (b) (i) Mention the role of energy managers in an Industry
    (ii) List the barriers for conduct of energy auditing

13. (a) (i) Classify the various losses encountered in a motor and detail the techniques adopted for curtailing them