Code No: **R41025**   **R10**   Set No. 1

IV B.Tech I Semester Supplementary Examinations, February/March - 2018
ENERGY AUDIT CONSERVATION AND MANAGEMENT
(Open Elective)

Time: 3 hours   Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks
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1 a) List and explain the different type of energy audit and on what factors it is divided?   [8]
   b) Explain the different steps that are considered for detailed Energy Audit.   [7]

2 a) Explain the different energy conservation schemes that are used for reduction in energy use.   [8]
   b) Explain in detail about load profile and energy savings potential.   [7]

3 a) Explain in detail about Flood Lighting.   [7]
   b) A room measuring 12 m x 12 m is to be illuminated by 6 lamps and the average illumination required is 30 lumens/m^2. Taking utilization and depreciations factor as 0.6 and 1.1 respectively, determine the mean spherical candle power per lamp.   [8]

4 a) Explain the different power factor improvement methods and give their relative merits.   [8]
   b) A synchronous motor having a power consumption of 30kW is connected in parallel with a load of 160 kW having a lagging power factor of 0.80. If the combined load has a power factor of 0.92, what is the value of leading reactive kVA supplied by the motor and at what power factor is it working?   [7]

5 a) Explain the significance of data logger and where they are used.   [8]
   b) Explain in detail about power analyzers and give its applications.   [7]

6 a) Explain the advantages of replacement analysis and prove it with an example.   [8]
   b) List the different conservative methods used in space heating.   [7]

7 a) Distinguish between normal motor and energy efficient motor.   [8]
   b) Explain the different modes of heat transfer in space heating methods.   [7]

8   Write short notes on the following:
   a) Different methods of replacement analysis
   b) Power factor correction   [15]