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SUBJECT CODE NO: E – 8259
FACULTY OF ENGINEERING AND TECHNOLOGY
M.E. (Electrical Power System) Examination Nov/Dec 2017
El-1 Energy Audit & Conservation
(Revised)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
1) Solve any two questions from each section.
2) All questions carry equal marks.

Section A

Q.1 a) Explain standalone system & describe the working of standalone Photovoltaic system for AC load. 10

b) Explain different wind turbine Generators & also different technique for speed control of wind turbine rotor. 10

Q.2 a) Explain in details the internal rate of return method; & differentiate between IRR & NPV? 10

b) Calculate net present value of a project which has following cash flow. 10

Investment is = Rs 10, 00,000.

Saving in year	Cash flow
1	2,00,000
2	2,00,000
3	3,00,000
4	3,00,000
5	3,50,000

Comment on the project feasibility.

Q.3 a) Explain in details Potential for saving electric energy in motor with reference to IS 12615. 10

b) Explain in detail "Energy Conservation in Cooling Systems?" 10

Section B

Q.4 a) Explain in details comparison of different energy input on the basis of availability? 10

b) Explain the concept of "Power demand monitoring" & how will you apply it in a domestic sector. 10

Q.5 a) Explain in detail preliminary & detail energy audit by giving suitable examples. 10

b) Explain key features of IEEMA standard 19 – 2000 & IS 12615. 10

Q.6 a) Explain in detail procedure for carrying out energy audit & also instruments used for energy audit. 10

b) Elaborate the need of power demand monitoring & explain demand side & supply side management. 10