

Code No: **R41025**

R10

Set No. 1

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2015

ENERGY AUDIT, CONSERVATION & MANAGEMENT

(Open Elective)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) What is energy audit? What are the different types of audit? [8]
b) What is a load profile? Explain about different types of load profile. [7]
- 2 a) Explain clearly about principles of energy management. [8]
b) Discuss the qualities and functions of an energy manager. [7]
- 3 a) Explain the term luminous efficiency. [7]
b) How the existing lighting system is replaced for the improvement? [8]
- 4 a) Compare the features of static capacitor and synchronous condenser used for power factor correction. [8]
b) Discuss the effect of non linear loads on power factor. [7]
- 5 a) Explain the principle of operation of a watt-hour meter. [8]
b) Discuss the applications of power analyzer. [7]
- 6 a) Discuss the energy conservation aspects in air conditioning system. [8]
b) Discuss the principles used in space heating methods. [7]
- 7 a) Discuss the principle of life cycle costing analysis with an example. [8]
b) Discuss the concept of energy efficient motors. [7]
- 8 a) Discuss the disadvantages of energy efficient lighting systems. [8]
b) Discuss the disadvantages of energy efficient motors. [7]

Code No: **R41025**

R10

Set No. 2

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2015

ENERGY AUDIT, CONSERVATION & MANAGEMENT

(Open Elective)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) What is an energy audit? Explain the significance of energy audit. [8]
b) Explain the terms energy index and cost index with examples. [7]
- 2 a) Discuss the planning aspects of energy management program. [8]
b) Discuss the controlling aspects of energy management. [7]
- 3 a) Explain the significance of polar curve. [8]
b) Discuss the principle of operation of a fluorescent tube light. [7]
- 4 a) Discuss the vector diagram for a system where capacitor improves the power factor. [8]
b) Define harmonics. Discuss the effect of harmonics on the system power factor. [7]
- 5 a) Discuss the principles of operation of a data logger. [8]
b) Discuss the applications of a tong tester. [7]
- 6 a) Discuss the different space heating methods. [8]
b) Discuss the energy efficient water heating systems. [7]
- 7 a) Discuss the principle of present worth method with an example. [8]
b) Discuss the merits and demerits of time value of money. [7]
- 8 a) Discuss the technologies adopted in energy efficient lighting systems. [8]
b) Explain the concept return on investment. [7]

Code No: R41025

R10

Set No. 3

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2015

ENERGY AUDIT, CONSERVATION & MANAGEMENT

(Open Elective)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Explain the energy audit in the perspective of educational institution. [8]
b) Explain the significance of pie-chart. [7]
- 2 a) Discuss the principles of energy management. [8]
b) Explain the functions of energy manager. [7]
- 3 a) Discuss the principle of operation of a LED light with diagrams. [8]
b) Compare the features of incandescent lamp and fluorescent lamp. [7]
- 4 a) Explain the procedure for location of capacitors for improvement of power factor. [8]
b) What is a synchronous condenser? Explain its application for improvement of the power factor. [7]
- 5 a) Explain the principle of operation of a thermo couple. [8]
b) Explain the applications of a pyrometer. [7]
- 6 a) Discuss the principle of air conditioning. [8]
b) Discuss the energy conservation aspects in ventilation of a house. [7]
- 7 a) Explain rate of return method with an example. [8]
b) Discuss the merits and demerits of time value of money. [7]
- 8 a) Discuss one application of life cycle costing analysis. [8]
b) Discuss the advantages of energy efficient motors. [7]

Code No: R41025

R10

Set No. 4

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2015

ENERGY AUDIT, CONSERVATION & MANAGEMENT

(Open Elective)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Explain the advantages of energy audit. [8]
b) List the types of energy conservation methods and discuss their merits and demerits. [7]
- 2 a) What is an energy management? Explain the importance of energy management. [8]
b) Discuss the qualities of a top management. [7]
- 3 a) Discuss about the flood lighting scheme. [8]
b) Discuss about conservation measures in lighting schemes. [7]
- 4 a) Explain the necessity for improvement of the power factor. [8]
b) Discuss the application of static capacitors for improvement of the power factor. [7]
- 5 a) Discuss the principle of operation of a pyrometer. [8]
b) Explain the principle of operation of a Lux meter. [7]
- 6 a) Discuss the various principles used in the heating of buildings. [8]
b) Discuss the energy conservation aspects associated with heating in buildings. [7]
- 7 a) What is time value of money? Explain with an example. [8]
b) Explain the applications of rate of return method. [7]
- 8 a) Discuss the features of energy efficient motors. [8]
b) Discuss the qualities of an energy efficient lighting. [7]