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Code No: AEE503



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

MODEL QUESTION PAPER

B.Tech VI Semester End Examinations (Regular), April-2020

Regulations: IARE-R16

ENERGY AUDIT AND MANAGEMENT

(EEE)

Time: 3 hours

Max. Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

UNIT - I

MARKS

1. a) What are the principles of energy management? Will these objectives vary for different organization/industries? [7M]
- b) Give the classification of energy audit. What is the importance of preliminary, targeted and detailed audits? [7M]
2. a) Explain about understanding energy costs. How this help in auditing? [7M]
- b) Write about preliminary and targeted audit. What are their advantages and disadvantages? [7M]

UNIT – II

3. a) Explain about mass and energy balance. What are the laws influencing this balance? [7M]
- b) What are the energy conservation opportunities? How this helps for company to get profits? [7M]
4. a) Discuss in detail about incremental cost with an example. [7M]
- b) Write about electrical load characteristics. How these characteristics vary according to season? [7M]

UNIT – III

5. a) List out 4 basic management functions? Why the energy management policy varies for different sectors? [7M]
- b) Explain about top management commitment and support. What is the policy of management on employs? [7M]
6. a) Explain about market communication skills. How this helps for the company? [7M]
- b) Write about responsibilities and duties of energy manager. What if these are not fulfilled properly? [7M]

UNIT – IV

7. a) Write about energy flow. Why it is depended on process flow? [7M]
b) Explain about energy balance sheet. What are the benefits of maintaining energy balance sheet? [7M]
8. a) Explain about energy modeling. What are the possibilities of improvements? [7M]
b) Give a example for balance sheet. Explain the details in a balance sheet. [7M]

UNIT – V

9. a) Explain about Fyrite? What are the parameters in selection of meters? [7M]
b) Explain about Contact thermometer? Define energy driver? [7M]
10. a) Explain about Stroboscope? Write about the effectiveness of stroboscope? [7M]
b) Write about accuracy of measurement instruments. Explain savings in commercial fields. [7M]



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COURSE OBJECTIVES:

The course should enable the students to:

I	Outline the principles and objectives of energy management.
II	Illustrate the techniques, procedures, evaluation and energy audit reporting.
III	Devise energy policy planning and implementation.
IV	Analyze energy balance sheet and management information System.

COURSE OUTCOMES (COs)

CO 1	Conceptual knowledge of the need and approach of energy audit and management.
CO 2	Capability to integrate various options and assess the business and policy environment regarding energy conservation and energy auditing
CO 3	Advocacy of strategic and policy recommendations on energy conservation and energy auditing
CO 4	Knowledge of energy balance and information management
CO 5	Discuss the instruments required for energy auditing

COURSE LEARNING OUTCOMES:

Students, who complete the course, will have demonstrated the ability to do the following:

AEE503.1	Demonstrate knowledge on auditing practices, management measures and economics of energy.
AEE503.2	Analyze auditing practices, management measures and economics of energy.
AEE503.3	Design an appropriate energy management measures in commercial and industrial applications.
AEE503.4	Provide feasible solutions for problems associated with energy auditing and management through proper investigation and interpretation of data.
AEE503.5	Use appropriate techniques for energy auditing and management.
AEE503.6	Solve energy auditing and management problems with societal relevance.
AEE503.7	Consider environment and sustainability in energy auditing and management.
AEE503.8	Follow relevant rules and regulations in practicing energy audit and management.
AEE503.9	Communicate effectively on energy audit in written and graphical forms.
AEE503.10	Consider financial issues in energy audit and management.
AEE503.11	Devise energy policy planning and implementation.
AEE503.12	Analyze energy balance sheet and management information System.
AEE503.13	Know about Instruments for audit and monitoring energy and energy savings, types and accuracy.
AEE503.14	Knowledge on marketing and communicating training and planning.
AEE503.15	Explore the knowledge and skills of employability to succeed in national and international level competitive examinations.

MAPPING OF SEMESTER END EXAMINATION TO COURSE LEARNING OUTCOMES:

SEE QUESTION NO.	COURSE LEARNING OUTCOMES			BLOOMS TAXONOMY LEVEL
1	a	AEE503.1	Demonstrate knowledge on auditing practices, management measures and economics of energy.	Remember
	b	AEE503.1	Demonstrate knowledge on auditing practices, management measures and economics of energy.	Understand
2	a	AEE503.2	Analyze auditing practices, management measures and economics of energy.	Remember
	b	AEE503.2	Analyze auditing practices, management measures and economics of energy.	Remember
3	a	AEE503.4	Provide feasible solutions for problems associated with energy auditing and management through proper investigation and interpretation of data.	Understand
	b	AEE503.4	Provide feasible solutions for problems associated with energy auditing and management through proper investigation and interpretation of data.	Remember
4	a	AEE503.5	Use appropriate techniques for energy auditing and management.	Understand
	b	AEE503.5	Use appropriate techniques for energy auditing and management.	Remember
5	a	AEE503.8	Follow relevant rules and regulations in practicing energy audit and management.	Remember
	b	AEE503.8	Follow relevant rules and regulations in practicing energy audit and management.	Remember
6	a	AEE503.9	Communicate effectively on energy audit in written and graphical forms.	Understand
	b	AEE503.9	Communicate effectively on energy audit in written and graphical forms.	Remember
7	a	AEE503.11	Devise energy policy planning and implementation.	Remember
	b	AEE503.11	Devise energy policy planning and implementation.	Understand
8	a	AEE503.10	Consider financial issues in energy audit and management.	Remember
	b	AEE503.12	Analyze energy balance sheet and management information system.	Understand
9	a	AEE503.13	Know about Instruments for audit and monitoring energy and energy savings, types and accuracy.	Remember
	b	AEE503.13	Know about Instruments for audit and monitoring energy and energy savings, types and accuracy.	Remember
10	a	AEE503.13	Know about Instruments for audit and monitoring energy and energy savings, types and accuracy.	Understand
	b	AEE503.13	Know about Instruments for audit and monitoring energy and energy savings, types and accuracy.	Remember

Signature of Course Coordinator

Dr. Mule Laxmidevi Ramanaiah, Associate Professor, EEE

HOD, EEE