PROGRAM	**Master of Business Administration**
SEMESTER	**IV**
COURSE TITLE	**Energy Business Management**
COURSE CODE	**04MB0443**
COURSE CREDITS	**3**
COURSE DURATION	**42 Hrs**

COURSE OUTCOMES:

- Awareness and assessment of the importance of energy and its conservation, various energy sources and their significance.
- Understanding the energy storage and distribution and the conversion processes.
- Gaining knowledge on the impact of energy on society, need for sustainable energy, global and Indian energy policies.
- Identification and analysis of various techniques of energy management and conservation.
- Obtaining basic skills of energy accounting and conducting an energy audit.

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	Energy General Principles Energy resources - Energy uses patterns and scope of conversion Energy conversion processes and devices – Energy conversion plants –Conventional - Thermal, Hydro, Nuclear fission , and Non-conventional – Solar, Wind Biomass, Fuel cells, Magneto Hydrodynamics and Nuclear fusion. Energy from waste, Energy plantation.	8
II	Energy Storage Energy storage and Distribution – Electrical energy route – Load curves – Energy conversion plants for Base load , Intermediate load, Peak load and Energy displacement – Energy storage plants. Energy Scenario – Global and Indian –Impact of Energy on economy, development and environment, Energy policies, Energy strategy for future.	9
III	Energy Management and Auditing Energy Management – Definitions and significance – objectives –Characterizing of energy usage – Energy Management program – Energy strategies and energy planning Energy Audit – Types and Procedure – Optimum performance of existing facilities – Energy management control systems – Computer applications in Energy management.	8
IV	Energy conservation – Principles – Energy economics – Energy conservation technologies – cogeneration – Waste heat recovery – Combined cycle power generation – Heat Recuperators – Heat regenerators – Heat pipes – Heat pumps – Pinch Technology, Social and Economic Benefits- Energy accounting and analysis- Pollution control impact- Energy management in deregulated environment	9
V	Energy Conservation in Electric Utility and Industry Energy Conservation Opportunities – Electrical ECOs – Thermodynamic ECOs in chemical process industry – ECOs in residential and commercial buildings – Energy Conservation Measures.	8

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignment/ Quiz/ Class participation/ presentation/ etc.,	20%(C.E.C)
B	Internal assessment	30%(I.A)
C	End- Semester Examination	50% (External assessment)

SUGGESTED READINGS:

Text Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
T-01	Amlan Chakrabarti	Energy Engineering and Management	Prentice Hall India	Latest
T-02	Rai G. D.	Non-conventional Energy Sources	Khanna Publishers	Latest
T-03	Wayne C. Turner & Steve Doty	Energy Management Handbook	CRC Press Publications 6th Edition	Latest

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition and Year
R-01	D.A. Reay	Industrial Energy Conservation: A Handbook for Engineers and Managers	Pergamon Press	Latest
R-02	S.C. Tripathy Utilization and Conservation	Electrical Energy Utilization and Conservation	Tata McGraw-Hill	Latest
R-03	Albert Thumann P. E. and W. J. Younger	Handbook of Energy Audits	Fairmont Press	Latest