RK.UNIVERSITY

SYLLABUS
II SEM
CIVIL ENGINEERING

Course Title	**Energy Conservation Techniques In Building Construction**
Course Code	CV205
Course Credit	Lecture : 03
	Practical : 00
	Tutorial : 02
	Total : 04

Detailed Syllabus

SECTION –I

Sr. No.	Name of chapter & Details	Hours Allotted
1.	**UNIT -1**	8
	Introduction: Fundamentals of energy - Energy Production Systems - Heating, Ventilating and air conditioning -Solar Energy and Conservation - Energy Economic Analysis - Energy conservation and audits -Domestic energy consumption - savings -Energy use in buildings - Residential - commercial buildings. Green building concepts.	
2.	**UNIT -2**	7
	Environmental: Energy and Resource conservation - Design of green buildings - Evaluation tools for building energy - Embodied and operating energy - Peak demand - Comfort and Indoor air quality - Visual and acoustical quality - Land, water and materials - Airborne emissions and waste management.	
3.	**UNIT -3**	7
	Design: Natural building design consideration - Energy efficient design strategies - Contextual factors - Longevity and process Assessment -Renewable energy sources and design- Advanced building Technologies - Smart buildings - Economies and cost analysis.	
	SECTION –II	
4.	**UNIT -4**	12
	Services: Energy in building design - Energy efficient and environment friendly building - Thermal phenomena - thermal comfort - Indoor Air quality - Climate, sun and Solar radiations -Psychometrics - passive heating and cooling systems - Energy Analysis - Active HVAC systems -Preliminary Investigation - Goals and policies - Energy audit - Types of energy audit - Analysis of results - Energy flow	

	diagram - Energy consumption/ Unit production - Identification of wastage - Priority of conservative measures - Maintenance of management programme.	
5.	**UNIT -5**	08
	Energy Management: Energy management of electrical equipment - Improvement of power factor - management of maximum demand - Energy savings in pumps - Fans - Compressed air systems - Energy savings in Lighting systems – Air conditioning systems - Applications.	
	TOTAL HOURS	42

Term Work :
Term work shall be based on the above mentioned course content.

Text book:

1.Contract Management & Dispute Resolutions , S. Ranaga Rao, Engineering staff College of India