

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF CIVIL ENGINEERING**

**Open Elective-II (to other Branches)
GREEN BUILDINGS
SYLLABUS FOR B.E. IV-SEMESTER**

Instruction	:	1 period per Week	Semester End Exam	:	40	Subject Reference Code	:	OE410CE
Credits	:	1	Sessional Marks	:	30	Duration of Sem. End Exam	:	2

COURSE OBJECTIVES	COURSE OUTCOMES
<i>Objectives of this course are to:</i>	<i>Upon the completion of this course the students will be expected to:</i>
1. Learn the principles of planning and orientation of buildings. 2. Acquire knowledge on various aspects of green buildings	1. Explain the principles of building planning, its bylaws and provide facilities for rainwater harvesting 2. Understand the concepts of green buildings

UNIT-I

Planning of building: Principles of planning, Relevant building bylaws, site selection for buildings, orientation of buildings, common errors in planning, Provision of rain water harvesting

UNIT-II

Green Building Technologies: Introduction- Necessity - Concept of Green building. Principles of green building – Selection of site and Orientation of the building – usage of low energy materials – effective cooling and heating systems – effective electrical systems – effective water conservation systems - Certification systems- Green Rating for Integrated Habitat Assessment (GRIHA) and Leadership in Energy and Environmental Design (LEED), case studies

Suggested Books:

1. Shahane, V. S, "Planning and Designing Building", Poona, Allies Book Stall, 2004.
2. Michael Bauer, Peter Mösle and Michael Schwarz "Green Building – Guidebook for Sustainable Architecture" Springer, 2010.
3. Tom Woolley, Sam Kimmins, Paul Harrison and Rob Harrison "Green Building Handbook" Volume I, Spon Press, 2001.

References Books:

1. Mili Majumdar, "Energy-efficient buildings in India" Tata Energy Research Institute, 2002.
2. TERI "Sustainable Building Design Manual- Volume I & II" Tata Energy Research Institute, 2009.