

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: B. Architecture
BRANCH: Architecture

SEMESTER : VII/ADD
SESSION : MO/2025

SUBJECT: AR403 ENERGY EFFICIENT ARCHITECTURE

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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Q.1(a)	Elaborate the statement: "Solar Energy is the only answer for today's energy crisis."	[2]	2 4
Q.1(b)	Define Global Warming and Green House Effect.	[3]	1 1
Q.2	What are the guidelines to be followed for energy efficient design related to (Answer any 2) a) Building materials b) Building orientation c) Building configuration	[5]	3 5
Q.3(a)	What is the relevance of Energy Audit of existing building?	[2]	3 2
Q.3(b)	Demonstrate with necessary sketches the flow of energy through the building envelope from several sources.	[3]	4 3
Q.4	Write short notes on (answer any 2): a) Light shelf b) U-value c) Window Wall Ratio	[5]	3 2
Q.5(a)	What are the various factors effecting the thermal performance of a building?	[2]	3 4
Q.5(b)	Discuss 5(five) major energy conservation techniques in a commercial complex building.	[3]	5 2

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