

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

**CLASS: B.ARCH.
BRANCH: ARCHITECTURE**

**SEMESTER: VII
SESSION : MO/2019**

SUBJECT : AR7305 BUILDING SCIENCE-II (ENERGY EFFICIENT ARCHITECTURE)

TIME: 1.5 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 30.
 2. Candidates may attempt for all 30 marks.
 3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. The missing data, if any, may be assumed suitably.
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- Q1 (a) Why do we need energy efficient architecture in India? [2]
(b) What are the different types of energy uses along with its percentage with respect to each other in any commercial building? [3]
- Q2 (a) Explain energy crisis and how energy efficiency architecture is helpful in this context? [2]
(b) What are the different energy sources and its broad classifications explain with example? [3]
- Q3 (a) What do you understand by term Thermal Performance of a building? [2]
(b) What is energy modeling and its benefits? [3]
- Q4 (a) Explain Energy audit, and requirement with respect to buildings. [2]
(b) What are different types of Energy audit and associated phases of energy audit. [3]
- Q5 (a) What are the different climatic zones in India as per NBC? [2]
(b) Describe various passive building design strategies suitable for Cold Climatic condition. [3]
- Q6 Write short notes on any five from the following: [5]
(a) SHGC (b) Roof Pond (c) U-value

:::: 19/09/2019M ::::