

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

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

**SEMESTER : VII/ADD  
SESSION : MO/2024**

**SUBJECT: AR403 ENERGY EFFICIENT ARCHITECTURE**

**TIME: 3 Hours**

**FULL MARKS: 50**

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Before attempting the question paper, be sure that you have got the correct question paper.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	Which one is preferable to have greater power generation, or to reduce energy demand? Please explain the reasoning behind the preference in India.	[5] 1	2
Q.1(b)	Explain the concept of NET ZERO Building, and strategies for it.	[5] 1	2
Q.2(a)	What do you understand by energy management System and different steps to conduct detailed Energy Audit in any Building?	[5] 2	3
Q.2(b)	What do you understand by Visual Performance of any building and its importance?	[5] 2	1
Q.3	Write short notes on any five from the following: a) Xeriscape.      b) Wind Tower.      C) ECBC.      D) Embodied energy	[2.5X4 =10] [2.5]	1 1
Q.4(a)	Describe various passive energy conservation building design strategies suitable for Hot and Dry climate zone.	[5] 3	4
Q.4(b)	Discuss the different factors affecting indoor ventilation & air flow Around building	[5] 4	3
Q.5(a)	What are the advantages and Disadvantages of Solar Energy, and discuss Flat plate collector and its component with neat sketches?	[5] 3	3
Q.5(b)	What the consideration & benefits of green Building?	[5] 4	4

**.....21/11/2024 M:.....**