

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

**CLASS: MTECH/MSC/MUP/IMSC
BRANCH: CSE/SER/EEE/RS/CIVIL/MUP/BT/CHEMISTRY/MGI/IMH**

**SEMESTER: III/I/VII
SESSION:MO/2024**

SUBJECT: ME683 RENEWABLE SOURCE OF ENERGY

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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Q.1(a)	List the advantages and disadvantages of renewable energy sources?	[5]	1 L1
Q.1(b)	Discuss the Indian energy scenario.	[5]	1 L1
Q.2(a)	What is a photovoltaic system? Describe a stand-alone and grid connected PV system.	[5]	2 L1
Q.2(b)	Explain with neat sketch working principle of solar furnace.	[5]	2 L1
Q.3(a)	Describe the basic principle of wind energy conversion system.	[5]	3 L2
Q.3(b)	What are the basic components of wind energy conversion system? Explain briefly.	[5]	3 L1
Q.4(a)	Discuss the urban waste to energy conversion.	[5]	4 L1
Q.4(b)	What are the factors which affect generation of bio-gas? Explain briefly.	[5]	4 L1
Q.5(a)	How are the tidal power plant classified? List the advantages and disadvantages of tidal power plant.	[5]	5 L2,L1
Q.5(b)	Describe with neat sketch working principle of ocean thermal energy conversion (OTEC) system.	[5]	5 L2,L3

::::::20/11/2024::::::E