

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION SP/2025)

CLASS: BTECH
BRANCH: MECHANICAL ENGG.

SEMESTER : IV
SESSION : SP/2025

SUBJECT: ME217 RENEWABLE ENERGY RESOURCES

TIME: 2 Hours

FULL MARKS: 25

INSTRUCTION:

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

		CO	BL
Q.1(a)	How will you classify energy resources?	[2]	1 L-2
Q.1(b)	Discuss the importance of energy consumption as measure of prosperity.	[3]	1 L-2
Q.2(a)	Distinguish between conventional and non-conventional energy sources.	[2]	1 L-2
Q.2(b)	Explain world energy scenario.	[3]	1 L-2
Q.3(a)	Define solar collector and solar PV array .	[2]	2 L-1
Q.3(b)	Explain with neat sketch working principle of flat plate collector.	[3]	2 L-2
Q.4(a)	Explain the terms: (I) Stand-alone power system (ii) Grid Connected power system.	[2]	2 L-2
Q.4(b)	Describe with neat sketch working principle of natural circulation solar water heater.	[3]	2 L-2
Q.5(a)	Define horizontal axis wind turbine?	[2]	3 L-1
Q.5(b)	Enumerate the factors which should be considered while selecting the site for wind turbine.	[3]	3 L-1

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