

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

**CLASS: MTECH/M.SC/IMSC
BRANCH: ALL**

**SEMESTER : III/I/VII
SESSION : MO/2025**

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 different forms of energy. How will you classify the energy resources?	[5] 1	L1,L2
Q.1(b)	Discuss the significance of energy consumption as a measure of prosperity.	[5] 1	L1
Q.2(a)	Explain with neat sketch the working of a natural circulation solar water heater.	[5] 2	L2,L3
Q.2(b)	Describe with neat sketch the working of a basin type solar still (distillation).	[5] 2	L1,L3
Q.3(a)	Differentiate between horizontal axis wind turbine and vertical axis wind turbine.	[5] 3	L4
Q.3(b)	Explain with neat sketch working of a horizontal axis wind turbine.	[5] 3	L2,L3
Q.4(a)	Explain the following terms: (I)Biomass Energy (II)Photosynthesis (III) Gasification	[5] 4	L2
Q.4(b)	Describe briefly the densification and incineration process of biomass conversion.	[5] 4	L1,L3
Q.5(a)	Describe with neat sketch various components of hydro-electric power plant.	[5] 5	L1,L3
Q.5(b)	Explain with neat sketch working of a geothermal energy conversion system.	[5] 5	L2,L3

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