

CRM08

Rev 1.9

ME

11/06/2022

CONTINUOUS INTERNAL EVALUATION - 2

Dept: ME	Sem / Div: 6 th	Sub: NCES	S Code: 18ME651
Date: 18/06/2022	Time: 9.30-11.00 AM	Max Marks: 50	Elective: OPEN

Note: Answer any 2 full questions, choosing one full question from each part.

QN	Questions	Marks	RBT	CO's
PART A				
1	a What do you mean by Ocean Thermal Energy conversion? Explain its principle of working.	10 5	L2	CO7
	b With the help of T-S diagram, explain Claude & Anderson Cycles used in converting OTEC.	10 12	L2	CO7
	c Enlist the advantages, limitations of OTEC	8 8	L2	CO7
OR				
2	a What do you mean by Tidal Energy? Explain the process generation of Tides.	10 5	L2	CO7
	b With a neat schematics explain Single Basin & Two Basin types of Tidal Plants.	10 12	L2	CO7
	c Enlist the advantages, limitations of Tidal Energy harnessing	10 8	L2	CO7
PART B				
3	a Define Wind. With the basic principles derive the equation for Energy in the wind.	10 10	L2	CO4
	b If the wind speed is 20 m/s and the blade length is 50 m, calculate the power in the wind. Take $\rho = 1.23 \text{kg/m}^3$	5	L3	CO4
	c A wind turbine has a blade length 20 m and observed to work with maximum wind speed of 15m/s and minimum speed of 5 m/s, Determine the wind power	5	L3	CO4

	d	Calculate the wind power for: turn radius 22m, number of blades-3, assuming suitable value of 'f' with highest & lowest wind velocity 18, 2 m/sec.	5	L3 CO4
4	a	With basic concepts-deduce the equation for Power in the Wind.	15	L2 CO4
	b	Explain with a neat schematic a wind Mill/Turbine.	5	L2 CO4
	c	Enlist the advantages, limitations of Wind Energy harnessing.	85	L3 CO4

Dr. DKB

Prepared by: Dr. DKB/Dr. BJM/Prof. SML

Dr. SML
HOD