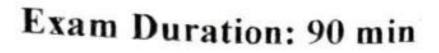


SCHOOL OF MECHANICAL ENGINEERING
CONTINUOUS ASSESSMENT TEST_I- WINTER SEMESTER 2019-2020
Programme Name & Branch: B. Tech & SMEC

Course Name Code: MEE2052 Course Name: Sustainable Energy Faculty Name(s): Dr. A K Behura Class Number(s): VL2019205002047





Maximum Marks: 50

Answer all the questions		
Sl.No	Questions	Course outcome (CO)
1.	Define sustainable energy. What are the implications available for sustainable energy in India and also write the practical applications of it.	1
2.	What are the institutions in India that influence the energy policy and how they implement the policies for the society?	2
3.	What are the advantages of reducing energy waste and also write the importance of improving the energy efficiency?	3
4.	A reversible heat engine operates between two reservoirs at temperatures of 600 °C and 40 °C. The engine drives a reversible refrigerator which operates between reservoirs at temperatures of 40 °C and -20 °C. The heat	
	transfer to the heat engine is 2000 kJ and the net work output of the combined engine refrigerator plant is 360 kJ. Determine (i) the heat transfer to the refrigerant and the net heat transfer to the reservoir at 40 °C. (ii)	4
	the refrigerator are each 40 °C of their maximum possible values. A cyclic heat engine operates between a source temperature of 800 °C and a sink temperature of 30 °C. What is the least rate of heat rejection per kW net output of the engine? If the same heat engine converted into heat pump, calculate the COP.	4