CONTINUOUS INTERNAL EVALUATION– 1

Dept: ME	Sem / Div: 2 A, B & C	Sub: Elements of Mechanical Engineering	S Code: 18ME25
Date: 26/06/2021	Time: 3:00 pm - 4:30 pm	Max Marks: 50	Elective: N
Note: Answer any 2 full questions, choosing one full question from each part.			

-

QN		Questions	Marks	RBT	COs
		PART A			
1	a	Sketch and explain the working principle of vapour compression refrigeration system.	10	L3	CO2
	b	Briefly explain about the different types of refrigerants.	8	L3	CO2
	c	Explain briefly about liquid flat plate collector method of harvesting the solar energy.	7	L3	CO1
		OR			
2	a	With a neat sketch explain the working of window air conditioner.	10	L3	CO2
	b	Define the following terminologies used in refrigeration. i. Ton of refrigeration. ii. Ice making capacity iii. Refrigerating effect iv. COP	8	L2	CO2
	c	Explain how the wind energy is converted into electrical energy.	7	L3	CO1
		PART B			
3	a	Sketch explain the working of 4 stroke engine working on compression ignition method.	10	L3	CO2
	b	A four stroke single cylinder I.C engine of 250 mm cylinder diameter and 400 mm stroke runs at a piston speed of 8 m/s. If the engine develops 50 kW indicated power, find its mean effective pressure and crank shaft speed.	8	L3	CO2
	c	Briefly explain about the different types of solid fuels.	7	L3	CO1
		OR			
4	a	Explain the working principle of 2 stroke petrol engine with a neat sketch.	10	L3	CO2
	b	A four stroke petrol engine of 100 mm bore and 150 mm stroke consumes 1 kg of fuel per hour. The mean effective pressure is 7 bar and its indicated thermal efficiency is 30%. The calorific value of the fuel is 40000 kJ/kg. Find the crank shaft speed.	8	L3	CO2
	c	Write a note on nuclear energy and its advantages.	7	L3	CO1