

CRM08

Rev 1.10

ME

29/01/2021

CONTINUOUS INTERNAL EVALUATION - 1

Dept: ME	Sem / Div: D, E & F	Sub: Elements of Mechanical Engineering	S Code: 18ME15
Date: 03/02/2021	Time: 3:00-4:30	Max Marks: 50	Elective: N

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

QN	Questions	Marks	RBT	CO's
PART A				
1	a Explain the working of 4 stroke diesel engine with neat sketches.	13	L2	CO2
	b The following observations were obtained during a trial on a four-stroke diesel engine. Cylinder diameter = 25cm Stroke length of the Piston = 40cm Crankshaft speed = 250rpm Brake load = 70kg Brake Drum diameter = 2m Mean Effective pressure = 6bar Diesel oil consumption = 0.1m ³ /min Specific gravity of diesel = 0.78 Calorific Value of Diesel = 43900kJ/kg Find : 1) Brake Power 2) Indicated Power 3) Frictional Power 4) Mechanical Efficiency 5) Brake Thermal Efficiency 6) Indicated Thermal Efficiency	12	L3	CO2
OR				
2	a With a neat sketch explain the working principle of vapour absorption refrigeration system.	13	L2	CO2
	b The following readings were taken on a four stroke I.C engine:	12	L3	CO2

Diameter of the brake drum = 1.5 m
 Diameter of the rope = 10 mm
 Load suspended on the brake drum = 100 kg
 Spring balance reading = 5kg
 Crank shaft speed = 200 rpm
 Mechanical efficiency = 73%
 Determine the brake power and indicated power of the engine.

PART B

3	a	Explain the working of 2 stroke petrol engine with neat sketches.	15	L2	CO2
	b	What is scavenging. Give the comparisons between petrol and diesel engines.	10	L2	CO2

OR

4	a	With a neat sketch explain the working principle of vapour compression refrigeration system.	15	L2	CO2
	b	List the commonly used refrigerants. Mention the applications of refrigerators and air conditioners.	10	L2	CO2

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