M S Ramaiah Institute of Technology

Department of Mechanical Engineering

Programme: UG

Course: Elements of Mechanical Engg. Course Code: ME101 Term: 05/08/16 to 18/12/16

Semester: I Time: 1Hr Max Marks: 30 CIE: Test No: II

Syllabus for Test: IC engines numericals, refrigeration& airconditioning, turning, drilling and milling

MOBILE PHONES ARE BANNED

Instructions to Candidates: Answer any two full questions

Sl		Question	Marks	CO	Blooms Level
1	a	Explain the working principle of vapour compression refrigeration system with a neat diagram	10	CO2	L2
	b	A diesel engine has brake thermal efficiency of 28%. If the calorific value of fuel is 42500kJ/kg, find its brake specific fuel consumption	05	CO2	L4
2	a	The following observations were recorded during a test on a 4s engine: Bore=25cm, stroke=40cm,crank speed=250 rpm, net load on brake drum=700N, diameter of brake drum=2m, indicated M.E.P=6 bar, fuel consumption=0.0013 kg/s, specific gravity of fuel=0.78, CV of fuel=43900 kJ/kg. Determine a) BP b) IP c) FP d) Mechanical efficiency e) Indicated thermal efficiency f) Brake thermal efficiency	10	CO2	L4
	b	Sketch and label all the parts of lathe	05	CO3	L1
3	a	With a neat sketch explain the radial drilling machine	10	CO3	L2
	b	Give comparison between up milling and down milling	05	CO3	L3

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