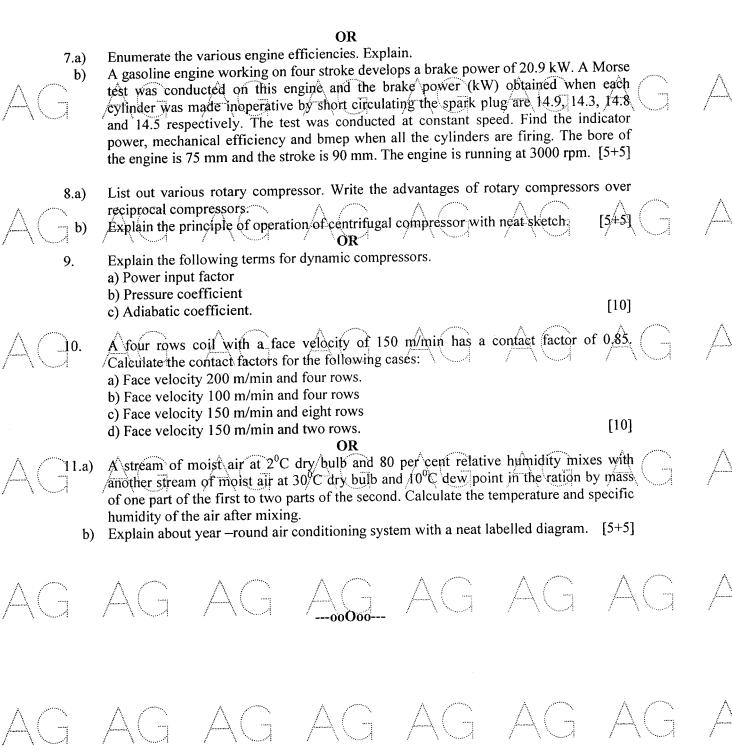


		R16	
Code No: 135BP JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD			
A Time:	B. Tech III Year I Semester Examinations, November/December - 2018 THERMAL ENGINEERING - I (Mechanical Engineering) Max. Max. Max. Max. Max. Max. Max. Max.	Arks: 75	_
Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B			
AG	consists of 5 Units. Answer any one full question from each unit. Each question 10 marks and may have a, b, c as sub questions. PART-A	AG	<u> </u>
		Marks)	
1.a) b) c) d)	What is heat loss factor? What do you understand by supercharging? What are the different types of combustion chambers used in SI engine? Define specific fuel consumption.	[2] [3] [2] [3] ()	
f) (e) (f) (g) (h) (i)	Draw the P-v and T-s diagram for a single acting reciprocating air compressor. What is heat balance sheet? What is the difference between rotary and reciprocating compressor? Differentiate between centrifugal compressor and axial flow compressor. What do you understand by effective room sensible heat factor? Distinguish consible and letont best loads	[2] [3] [2] [3] [2] [3]	/
AG"	Distinguish sensible and latent heat loads. PART-B (50)) Marks)	4
2.a) b)	Discuss the various important qualities of a good ignition system. Explain the differences between actual and ideal fuel air cycles of C.I. engines. OR	[5+5]	
3.a) b)	Derive an expression for air fuel ratio of a simple carburetor. With a neat sketch, explain the battery ignition system.	[5]	/
4.a) b)	Discuss the desirable characteristics of a good combustion chamber for an SI e Classify and explain the CI engine combustion chambers. OR	[5+5]	
5.a) b)	Discuss the various methods for improving the anti-knock quality of an SI eng Explain and discuss the phenomenon of diesel knock in CI engines and cor same with detonation in SI engines.	ine. npare the $[5 + 3]$	/
6.a) b)	Explain Rope brake dynamometer to determine the brake power of an engine. A six cylinder, four-stroke gasoline engine having a bore of 90 mm and 100 mm has a compression ratio 7. The relative efficiency is 55% when the specific fuel consumption is 300gm/kW h. Estimate (i) the calorific value of the consumption of th	indicated f the fuel	
AG	and (ii) corresponding fuel consumption, given that imep is 8.5 bar a is 2500 rpm.	[5+5]	/

AG AG AG AG AG AG A



AG AG AG AG AG AG A