

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME – SEMESTER III (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2732104

Date:03/05/2016

Subject Name: Combustion Engineering

Time:10:30 am to 01:00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks

Q.1	(a) Explain in brief Adiabatic Flame Temperatures	07
	(b) Explain Rates of Reaction for Multi – step Mechanisms	07
Q.2	(a) With detail Explain Rudiments of Mass Transfer	07
	(b) Explain Oxides of Nitrogen Formation	07
	OR	
	(b) With neat sketch Explain Coal Fired Boilers	07
Q.3	(a) Write down Short note on Constant Pressure Fixed Mass Reactor	07
	(b) Derive Momentum Conservation equation for reacting flow	07
	OR	
Q.3	(a) Explain Simplified Analysis of Laminar Premixed Flames	07
	(b) Write down Short note on Well Stirred Reactor	07
Q.4	(a) Explain Flame Stabilization for Laminar Premixed Flames	07
	(b) Explain Non reacting Constant – Density Laminar Jet	07
	OR	
Q.4	(a) Write down short note on Simple Model of Droplet Burning	07
	(b) Explain Length Scales in Turbulent flows	07
Q.5	(a) Applications of Droplet Evaporation and Droplet Burning	07
	(b) Explain Soot Formation and Destruction in Laminar Diffusion Flames	07
	OR	
Q.5	(a) With neat sketch explain Turbulent non-premixed Flame- Jet Flames	07
	(b) Explain Structure of Turbulent Premixed Flames	07