Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – WINTER • 2014

Subject Code: 153503 **Date: 01 -12-2014**

Subject Name: Basic of Fuels

Time: 10.30 am - 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)**	The composition of waste from Tin Tin Industry is $C_{50}H_{100}O_{40}N$. If Tin Tin industry goes for an anaerobic treatment, how much CH_4 can be generated per ton of waste inserted in treatment? ($CaHbOcNd+4a-b-2c+3d/4 * H_2O \rightarrow 4a+b-2C-3d/8CH_4+4a-b+2C+3d/8\ CO_2 + dNH_3$)	**07**
	(b)	Enlist type of coal and explain Bituminous coal in detail.	**07**
Q.2	**(a)**	How can we use proximity and ultimate analysis for estimate fuel quality?	**07**
	(b)	Explain catalytic cracking.	**07**
		OR	
	(b)	Explain atmospheric distillation and vacuum distillation process.	**07**
Q.3	**(a)**	Write a short note on Jet fuel and Diesel fuel.	**07**
	(b)	How Ethanol can be produced explain?	**07**
		OR	
Q.3	**(a)**	How the oil spillage can be responsible for adverse impact on environment?	**07**
	(b)	Write short note on Biodiesel.	**07**
Q.4	**(a)**	Explain Lurgi process of coal gasification.	**07**
	(b)	Draw and explain flow sheet of municipal waste to fuel quality.	**07**
		OR	
Q.4	**(a)**	Explain characteristics of Biogas.	**07**
	(b)	How can we classify municipal waste.	**07**
Q.5	**(a)**	Explain 1)flash point and fire point 2) pour point and cloud point	**07**
	(b)	Explain 1) Cetane number 2) Aniline point	**07**
		OR	
Q.5	**(a)**	Explain oil exploration from land.	**07**
	(b)	How does Basics of fuel can be useful in industrial decision making.	**07**

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