Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2721610 **Date: 02/06/2016**

Subject Name: Cleaner Production in Chemical Industries

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 cleaner production concept and procedure in detail.	**07**
	(b)	What is climate change? Mention various remedial measures to combat climate change.	**07**
Q.2	**(a)**	Explain in detail barriers and motivations in cleaner production.	**07**
	(b)	Write a detailed note on energy audit.	**07**
		OR	
	(b)	Discuss application of thermodynamics in CP.	**07**
Q.3	**(a)**	Select appropriate C.P. option / options to be implemented for the production Vinyl Chloride. Elaborate your option / options with appropriate data and justifications for Cleaner Production of Vinyl Chloride.	**07**
	(b)	Select appropriate C.P. option / options to be implemented for the production Acrylonitrile. Elaborate your option / options with appropriate data and justifications for Cleaner Production of Acrylonitrile.	**07**
		OR	
Q.3	**(a)**	Explain the concept of 3 R in detail.	**07**
	(b)	Write a note on clean Fuel.	**07**
Q.4		Write briefly on "Implementation of C. P." in any **two** of the following Chemicals / Products: (i) Styrene production from Ethyl Benzene. (ii) Production of Dodecyl Benzene Sulphonate (DBS) (iii) Production of Paracetamol – Pharmaceutical product.	**14**
		OR	
Q.4	**(a)**	Write a note on importance of good housekeeping in CP with suitable example.	**07**
	(b)	Write a note on cleaner production practices in electroplating industry.	**07**
Q.5	**(a)**	Write briefly on "Effluent and solid waste generated" in a plant manufacturing H-Acid. How both these quantities can be decreased substantially by adopting "Cleaner Production Principles"?	**07**
	(b)	Write a note on cleaner production practices in sugar industry.	**07**
		OR	
Q.5	**(a)**	Explain the use of unit operations in implementing CP in chemical industry.	**07**
	(b)	Discuss role of CP in survival and sustainable development of chemical industry in detail.	**07**

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