Reg. No.



## VII SEMESTER B.TECH. (CHEMICAL ENGINEERING)

# END SEMESTER EXAMINATIONS, NOV 2017

## ENVIRONMENTAL IMPACT ASSESSMENT AND MANAGEMENT PLAN [CHE 4005] DATE: 25/11/2017, TIME: 2-5 PM

#### Time: 3 Hours

#### MAX MARKS: 100

	Instructions to Candidates:	
	Answer FIVE FULL questions.	
	<ul> <li>Write in bullet points in easily readable format.</li> </ul>	
	<ul> <li>Missing data may be suitable assumed.</li> </ul>	
1	a) With a neat flow chart explain the process of the EIA process in India	4
	and give the timelines.	
	b) What are the amounts of project cost (old and revised) in Indian Rupees	1
	above which EIA was done at central level before the EIA notification	
	2006?	2
	c) Explain the history of EIA in India.	3
	d)What are the shortcomings of EIA notification 1994?	

2	a) List 5 different kinds of matrices used in EIA? Draw one example for	5
	each	1
	b) Give one example of an EC that can be done at district level?	1
	c) Define Environmental audit.	3
	d) What are the different objectives of Environmental audit	

3	a) List the different steps that can be taken in a coal based thermal power	3
	plant to mitigate air pollution?	
	b) What is the area limits for building/ construction projects and townships	2
	above which Environmental clearance needs to be taken from i) state level	
	and from ii) central level?	3
	c) Explain the 3 types of environmental monitoring?	
	d) What is the difference between environmental monitoring and	2
	environmental auditing?	
4	a)Write a short note on ISO 14000	3
	b) What is "Terms of Reference" in Environmental Impact assessment?	2
	Who gives the "Terms of reference"? Explain.	
	c) How is public consultation for EIA done?	1
	d) Final Environmental clearance is given by which authority in India?	1
	e) What is Life Cycle Assessment (LCA)? Explain with a neat flow chart	3

5	(a)List the various tools used in Environmental management.	3
	(b)The ministry of Environment and Forests is currently renamed as what?	1
	c) A city is located near an airport. The smelter stack is 300 m high and	
	has a plume rise of 100m. It is emitting 5000 g/s of $SO_2$ . Assume stability	
	class is C (Refer chart in next page) and that wind speed is 3 m/s.	6
	A flight path for airport is perpendicular to the plume and 5km downwind	
	of the smelter. The airport safety office has determined that it is unsafe for	
	planes if the planes if the plume concentration > 500 $\mu$ g/m3. They have	
	also decided that it is unsafe to fly under the plume. What is the minimum	
	altitude (in meters) the plane can fly safely above the plume axis? Assume	
	Gaussian plume and neglect ground reflection of plume.	



Dispersion coefficients for various stability criteria