GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016

Subject Code: 2712107 Subject Names Thermal & Nuclear Dever Plants			Date:06/01/2017	
Su Tii Ins	bject me: 2 tructio 1. 2. 3. 4.	2:30 pm to 5:00 pm ons: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. Use of Steam tables and Mollier Chart is permissible.	Total Marks:	70
Q.1	(a)	Draw modern thermal power plant showing main circuits. G	ive functions of	07
	(b)	Explain two stage regeneration of steam with line and T-S diagr	am.	07
Q.2	(a)	Draw Nuclear Reactor showing different components. Give functions of each components.		07
	(b)	its T-S diagram.	reneating. Draw	07
		OR		
	(b)	Give functions and advantages of steam condenser. Give source in condensers.	s of air leakages	07
Q.3	(a) (b)	blain combined steam and gas turbine power plant with neat sketch. ite short note on nuclear waste and its effects. OR		07 07
Q.3	(a)	Explain reheating of steam with T-S diagram. Give equations of and efficiency for with and without reheating.	power output	07
	(b)	Explain dual pressure steam cycle with neat sketch.		07
Q.4	(a)	Derive optimum pressure ratio for gas turbine cycle for maximaximum efficiency.	num output and	07
	(b)	The maximum and minimum temperatures in gas turbine cycl 1300K, For optimum pressure ratio find its efficiency and pow flow 10Kg/s.	e are 300K and ver output for air	07
04	(9)	OR Name the nuclear power plants with their capacity in India Nan	ne the nuclear	07
Y .7	(a)	reactors used in different plants.	ne the nuclear	07
	(b)	Give the equations for finding vacuum and condenser efficienc of cooling water and air leakages in condenser.	y and quantity	07
Q.5	(a) (b)	Explain load and load duration curve with suitable example. Explain future of nuclear power in India.		07 07
05	OR 5 (a) Define different loads and factors used in power generation			07
~ ~~	(b)	Explain any two type of nuclear reactors with neat sketch.		07