Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- VIth SEMESTER–EXAMINATION – MAY- 2012

Subject code: 161805 **Date: 19/05/2012**

Subject Name: Applied Thermodynamics-2

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)**	What are the gravimetric and volumetric composition ? Where are they used?	**07**
	(b)	What is the difference between homogeneous and heterogenous reactions?	**07**
Q.2	**(a)**	Explain the principle of working of an impulse turbine with diagram.	**07**
	(b)	Write the advantages of velocity pressure compounding of impulse turbine.	**07**
		OR	
	(b)	Derive the Expression for maximum blade efficiency in a single stage Impulse turbine	**07**
Q.3	**(a)**	Write basic difference between impulse turbine and reaction turbine	**07**
	(b)	Draw a neat diagram of vapour compression refrigeration system and explain its working.	**07**
		OR	
Q.3	**(a)**	Discuss the advantage and limitation of vapour absorption refrigeration system over the vapour compression system.	**07**
	(b)	List out the important industrial and commercial applications of refrigeration	**07**
Q.4	**(a)**	Explain black bodies and white bodies?	**07**
	(b)	Explain Stephen boltz men law. State the value of Stefan Boltz men's constant.	**07**
		OR	
Q.4	**(a)**	Explain "Reheat factor". Why is it's magnitude always greater then unity?	**07**
	(b)	Enymenate the energy losses in steam turbines.	**07**
Q.5	**(a)**	What is difference between "wet compression" and "dry compression"	**07**
	(b)	Give the comparison between a vapour compression system and a vapour absorption system.	**07**
		OR	
Q.5	**(a)**	Why fins are used? State some of its Application.	**07**
	(b)	State straight and annular fins.	**07**

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