Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

P.D.D.C Sem-III Examination May 2011

Subject code: X30901

Subject Name: BASIC ELECTRONICS

Date:18/05/2011 **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)**	Explain full wave rectifier with centre tape with wave form and derive equation of V_{dc}, efficiency and ripple factor.	**07**
	(b)	What is the necessity of Filter? Explain inductor, capacitor and L-C filter.	**07**
Q.2	**(a)**	Explain the Ideal model of diode. Draw its equivalent circuit.	**07**
	(b)	Explain shunt bias clipper using diode and explain it with necessary wave form.	**07**
		OR	
	(b)	Explain conductivity in Extrinsic N and P type of semiconductor material	**07**
Q.3	**(a)**	Explain the Hall effect.	**07**
	(b)	Explain construction of tunnel diode and also explain its load line analysis.	**07**
		OR	
Q.3	**(a)**	Explain the working of transistor under bias and unbiased condition of PNP transistor.	**07**
	(b)	What is construction of Photo transistor? Explain its characteristics with its one application.	**07**
Q.4	**(a)**	Explain the static load line and dynamic load line analysis of C-E configuration.	**07**
	(b)	Derive the equitation for self bias circuit. Give its merits and demerits.	**07**
		OR	
Q.4	**(a)**	What is the stability factor? Derive the equitation of it for fixed bias circuit.	**07**
	(b)	What is the need of cascading? Explain R-C coupled amplifier.	**07**
Q.5	**(a)**	Explain working of FET under NO bias and bias condition.	**07**
	(b)	Explain push pull class B amplifier.	**07**
		OR	
Q.5	**(a)**	Explain the difference in working of class A and class B amplifier with load line and wave-form..	**07**
	(b)	Explain working of FET as VVR.	**07**

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