Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC- SEMESTER-III - EXAMINATION - SUMMER 2017

		Code: X30901 Date:25/05/2017	
		: 70	
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Write technical note on tunnel diode. What is the necessity of filter? Explain capacitor filter in detail.	07 07
Q.2	(a) (b)	Explain, what is pinch off voltage? Discuss V-I characteristics of FET. Explain push-pull amplifier with necessary diagram. OR	07 07
	(b)	Give comparison of CB, CE and CC configuration of transistor amplifier.	07
Q.3	(a) (b)	Explain V-I characteristics of P-N junction diode. Explain Zener diode as a voltage regulator. OR	07 07
Q.3	(a) (b)	Explain working and construction of MOSFET. Explain energy band diagram of insulator, semi conductor and metal.	07 07
Q.4	(a) (b)	Explain h-parameters for CB configuration. Explain bias compensation techniques for stabilization. OR	07 07
Q.4	(a) (b)	Explain full wave rectifier with centre tape and derive its output equation Explain the construction of photo transistor. Also explain its characteristics with its one application.	07 07
Q.5	(a) (b)	Write a short note on Hall effect. Explain the formation of n-type and p-type semiconductor. OR	07 07
Q.5	(a) (b)	State and explain the electrical properties of Ge and Si. What is the stability factor? Derive its equation against the change in I_{CO} , V_{BE} and β .	07 07
