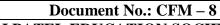




# SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY MANAGED

## N. G. PATEL POLYTECHNIC

ASSIGNMENT					
Course Name (With Code): Fundamentals Of Electronics (4330904)					
Semester / Year: Third / Second					
Assignment Number: 1					
Assignment CO Number: 4330904.1					
Sr. No.	Questions related to Course Outcomes				
Part – A	Questions carrying 3 Marks				
1	Draw and compare energy band diagram of conductor, semiconductor and insulator material.				
2	Explain full wave rectifier with two diodes giving necessary waveforms.				
3	Define Intrinsic and extrinsic semiconductor				
4	P type, N type semiconductors.				
5	Explain working of PN junction diode.				
Part – B	Questions carrying 4 Marks				
1	Explain the V-I characteristics of PN junction diode.				
2	Compare Half wave rectifier and full wave center tap rectifier.				
3	Explain forward biased PN junction diode.				
4	Explain bridge rectifier giving necessary waveforms				
5	Explain filter circuits.				
Part – C	Questions carrying 7 Marks				
1	What is rectifier circuit? Draw and Explain full wave rectifier circuit with its advantage and				
	disadvantage.				
2	What is rectifier circuit? Compare Half wave	•			
3	What is the need of filter in rectifier? Enlist type of filter circuit and explain				
4					
5					
Mr. Mahendra G. Vasava					
Prepared	By: (Name of Faculty (ies)) with signature	Signature of Head of Department			





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## N. G. PATEL POLYTECHNIC

ASSIGNMENT						
Course Name (With Code): Fundamentals Of Electronics (4330904)						
Semester / Year: Third / Second						
Assignment Number: 2						
Assignmen	Assignment CO Number: 4330904.2					
Sr. No.	Questions related to Course Outcomes					
Part – A	Questions carrying 3 Marks					
1	Define $\alpha$ and $\beta$ for transistor. Derive relation					
2	Compare the three configuration of transistor.					
3	Explain working of PNP transistor.					
4	Explain Class B Push Pull amplifier.					
5	Explain DC load line and define Operating point.					
Part – B	Questions carrying 4 Marks					
1	Explain working NPN transistor.					
2	What is the need of cascading in amplifiers? Draw and explain the circuit of two stages LC					
	coupled Amplifier.					
3	Explain input and output characteristics of common base transistor configuration.					
4	With circuit & waveforms explain working of common emitter transistor amplifier.					
5	List the biasing methods of Transistor & explain any one.					
Part – C	Questions carrying 7 Marks					
1	Explain DC load line and define operating point.					
2	Draw and explain transistor as a switch.					
3	Draw the input and output characteristic of transistor in CE configuration and explain.					
4						
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M M I I C V						
	Mr. Mahendra G. Vasava					
Prepared 1	By: (Name of Faculty (ies)) with signature	Signature of Head of Department				
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**Prepared By: (Name of Faculty (ies)) with signature** 



**Signature of Head of Department** 



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## N. G. PATEL POLYTECHNIC

	ASSIGNMENT						
	Course Name (With Code): Fundamentals Of Electronics (4330904)						
Semester / Year: Third / Second							
Assignment Number: 3							
Assignment CO Number: 4330904.3							
Sr. No.	Questions related to Course Outcomes						
Part – A	Questions carrying 3 Marks						
1	Define and classify different types of oscillators.						
2	Explain RC phase shift oscillator.						
3	Explain Wien Bridge oscillator.						
4	Explain the principle of Oscillator.						
5	Explain piezoelectric effect.						
Part – B	Questions carrying 4 Marks						
1	Explain Hartley oscillator with circuit diagram.						
2	Explain RC phase shift oscillator.						
3	Explain Colpitts oscillator with circuit diagram						
4	What is Oscillator? Give classification of oscillators on different basis.						
5	State different applications of oscillators.						
Part – C	Questions carrying 7 Marks						
1	Explain crystal oscillator.						
	Draw and explain damped oscillator in LC tank circuit.						
2							
3							

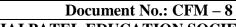




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## N. G. PATEL POLYTECHNIC

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ASSIGNMENT					
Course Name (With Code): Fundamentals Of Electronics (4330904)					
Semester / Year: Third / Second					
Assignment Number: 4					
Assignmen	Assignment CO Number: 4330904.4				
Sr. No.	Questions related to Course Outcomes				
Part – A	Questions carrying 3 Marks				
1	Explain Zener diode as a voltage regulator.				
2	Explain Photovoltaic cell.				
3	Explain working of LED.				
4	Explain working of LCD display.				
5	Write short note on UJT.				
Part – B	Questions carrying 4 Marks				
1	Explain the construction and working of N-channel JEFT.				
2	Explain AC Load control using DIAC and TRIAC.				
3	Explain P channel FET.				
4	Write the application of FET.				
5	Explain construction and working of Photo transistor.				
Part – C	Questions carrying 7 Marks				
1	Explain construction and working of SCR by using two transistor analogy with necessary				
	diagrams.				
2	Draw and explain opto-couplers in detail.				
3					
4					
5					
Mr. Mahendra G. Vasava					
Prepared .	By: (Name of Faculty (ies)) with signature Signature of Head of Department				





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## N. G. PATEL POLYTECHNIC

ASSIGNMENT						
Course Name (With Code): Fundamentals Of Electronics (4330904)						
Semester / Year: Third / Second						
Assignment Number: 5						
0	Assignment CO Number: 4330904.5					
Sr. No.	Questions related to Course Outcomes					
Part – A	Questions carrying 3 Marks					
1	Draw and explain block diagram of regulated power supply.					
2	Explain Feedback type series voltage regulat	or.				
3	Explain shunt type voltage regulator.					
4	What is need for IC's?					
5	Sate advantages SMPS.					
Part – B	Questions carrying 4 Marks					
1	Explain the Basic circuit of SMPS and write the advantages of SMPS.					
2	Sate advantages & disadvantages of IC's.					
3	Explain parameters of the regulator and the need of regulated DC power supply.					
4	Explain regulated power supply using IC-780					
5	Explain variable power supply using IC-LM	317.				
Part – C	Questions carrying 7 Marks					
1	Explain Uninterrupted power supply.					
2	Explain three terminal voltage regulators IC.					
3	Draw the functional block diagram of IC 555 and its pin connection .Explain IC 555 as a					
	mono stable multivibrator.					
4	Explain the Basic circuit of SMPS and draw the Block diagram of SMPS					
5	Draw diagram and explain feedback type series voltage regulator.					
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Prepared 2	By: (Name of Faculty (ies)) with signature	Signature of Head of Department				