This document is a part of Main Course File	Document No.: CFM – 8

SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY
MANAGED

N. G. PATEL POLYTECHNIC

ELECTRICAL ENGINEERING DEPARTMENT

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, Full wave and Bridge Rectifier Circuit.
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**

This document is a part of Main Course File	Document No.: CFM – 8

SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY
MANAGED

N. G. PATEL POLYTECHNIC

ELECTRICAL ENGINEERING DEPARTMENT

ASSIGNMENT

Course Name (With Code): Fundamentals Of Electronics (4330904)

Semester / Year: Third / Second

Assignment Number: 2

Assignment CO Number: 4330904.2

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 3 Marks**
1	Define α and β for transistor. Derive relation between α and β.
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	
5	

Mr. Mahendra G. Vasava	
Prepared By: (Name of Faculty (ies)) with signature	**Signature of Head of Department**

This document is a part of Main Course File	Document No.: CFM – 8

SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY
MANAGED

N. G. PATEL POLYTECHNIC

ELECTRICAL ENGINEERING DEPARTMENT

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.
2	Draw and explain damped oscillator in LC tank circuit.
3	
4	
5	

Mr. Mahendra G. Vasava	
Prepared By: (Name of Faculty (ies)) with signature	**Signature of Head of Department**

This document is a part of Main Course File	Document No.: CFM – 8

SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY
MANAGED

N. G. PATEL POLYTECHNIC

ELECTRICAL ENGINEERING DEPARTMENT

ASSIGNMENT

Course Name (With Code): Fundamentals Of Electronics (4330904)

Semester / Year: Third / Second

Assignment Number: 4

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**

This document is a part of Main Course File	Document No.: CFM – 8

SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY
MANAGED

N. G. PATEL POLYTECHNIC

ELECTRICAL ENGINEERING DEPARTMENT

ASSIGNMENT

Course Name (With Code): Fundamentals Of Electronics (4330904)

Semester / Year: Third / Second

Assignment Number: 5

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 regulator.
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-7805 & IC-7905.
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.

Mr. Mahendra G. Vasava	
Prepared By: (Name of Faculty (ies)) with signature	**Signature of Head of Department**