

EET 101 READING 1 Referenced to HOMEWORK 1 ASSIGNMENTS

Read	Topics	# of pgs	HW Problem #
Chapter 3: Parts of Atom and Conduction			
Sec 3-1	Parts of the Atom	1/2	# 1
3-2	Charges of Particles Pg. Only	1 1/2	# 2
3-4	Valence and Free e ⁻	1/4	# 7,8
3-5	Conductors and Insulators	1/2	# 10, 11, 12
	Skip Semi Conductors		
3-6	The Continuity Tester	1	# 14, 15
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Chapter 4: Causes of Current Flow			
Sec. 4-2	Laws of Electrostatic Charges	3/4	# 3
4-5	Current Flow	3/4	# 1
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Chapter 5: Current, Voltages, and Basic Circuits			
Sec. 5-2	Current	1	# 2, 3, 5
5-3	Voltage	1	# 6, 7, 8
5-7	Parts of a Circuit	1 1/4	# 20, 21
5-9	Current Flow Convention	1/2	# 24, 25
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Total Pages of Required Reading		9 pgs	

Reading 1 continued on next page →

EET 101 (optional) READING for Unit 1

Read	Topics	# of pgs.	HW Problem #
Chapter 18			
Short Circuits, Overloads, Fuses and Breakers			
Sec. 18-1	Overloads and Short Circuits	1 ¼	# 1, 2, 5
18-2	Fuse Ratings	1 ¾	# 6, 9, 11
For # 11, Pick the Correct Size Fuse from - 15A, 20A, 30A, 50A, & 100A What is a Slow Blow Fuse, and where is it used?			
18-4	Testing Fuses	1 ¼	# 15
18-5	Circuit Breakers	1 ¾	# 17
Small Battery Types and Properties			
Sec. 17-3	Battery Types	1 ¼	# 12, 13, 14
17-8	Small Rechargeable Batteries	1	# 28
17-5	Testing Small Batteries	¾	# 18
17-2	Ampere Hour (Ah)	1 ½	# 4b, 5, 6
17-4	Batteries in Series and Parallel read up to Box "when jump starting....."	1 ¾	
The Auto Lead Acid Battery			
17-6	Lead Acid Battery	1 ¾	#22, 23, 24
17-4	Jump Starting, Read Pg. 215 , Read up to Ex. 17-4 Pay close attention to Fig. 17-14	½	# 17
17-7	Testing Lead Acid Battery	1 ½	# 25, 26
17-9	Charging Auto Batteries	1	# 29
Total Pages of Optional Reading		17 pgs.	

Introduction:

This unit shows how voltage, current and resistance are all related by Ohm's law. Ohm's law states that for a resistive circuit the current is directly proportional to the voltage. That is, if you double the voltage the current also doubles. The product of voltage and current gives power which is measured in Watts.

Read	Topics	HW Problem#	# of Pgs.
Ch 5 Sec. 4	Resistance		¾
Ch 5 Sec. 8	Ohms Law		1 ¼
Ch 11 Sec. 1 thru 6			5 ¾
Ch 20 Sec 1	Energy Definition		¼
Ch 5 Sec. 5	Power		½
Ch 19 Sec. 4 & 5			2
Ch 11 Sec. 7			1
Ch 10 Sec. 2, 3, & 5	Resistor Types & Color Code	Ohm Meters	4 ½
Ch8 Sec.6	Ohm Meters		3
Total Pages of Required Reading			20 pgs
Ch 5 Sec 6	Energy Cost Calculations		½
Ch 20 Sec 2 thru 5	(optional)		6 ¾
Ch 9 All	Conductors & Wire Size		7
Ch 10 Sec. 1	(optional)		½
Total # of Pages of Optional Reading			14 5/4 pgs

EET 101 Reading # 3

SERIES CIRCUITS

Introduction

A series circuit is one in which the components are connected end to end along a single conducting path.

In the series circuit there is only one path for current to flow.

Series circuits are most often used as “voltage dividers” or “current limiters”.

A voltage divider provides different voltages from one voltage source and a current limiter prevents too much current from flowing into a device.

Reading			# of pgs.
Chap. 7	Sec. 4	Simple Series Circuits.	¼
	Sec. 5	Series connected Loads (skip series connected control devices)	1 ¼
Chap. 12	Sec. 1, 2, 3	Series Circuit Characteristics	2 ¼
Chap. 10	Sec. 4	Pots	1 ½
	Sec. 6	R_T and Calc. of V_1 , V_2 , and V_3	3
Chap. 12	Sec. 4	Solving Series Circuits Problems Read all but skip Ex. 12-3	2 ½
Chap. 8	Sec. 7	(important) Meter Safety	½
Chap. 7	Sec. 9	Electronic Workbench Intro	½
Chap. 8	Sec. 9	Electronic Workbench Meters	½
Chap. 8	Sec. 1 thru 5	(skim) Analog & Digital Multimeters	11
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Total Pages of Required Reading			12 ¼
Total Pages of Skimmed Reading			11

Parallel Circuits**Introduction**

In a parallel circuit the voltage across each component is the same.

In a parallel circuit the total supply-current is equal to the sum of the branch or load currents.

Your house wiring is essentially one large parallel circuit providing 120 volts to each receptacle.

Ch. #	Sec. #	Topic	# of Pg.	HW Quest. #
Ch. 7	Sec. 6	Parallel Connected Loads (skip parallel connected control devices)	1 ¼	4
Ch. 13	Sec. 1 & 2	Parallel Circuit Characteristics	1 ½	1, 2, 3
Ch. 10	Sec. 7	Calc. of Req and of I_1 , I_2 , and I_3	1 ½	5, 14
Ch. 13	Sec. 3	Solving Parallel Subway Circuits	3 ¼	6, 7, 10, 11, 13
Ch. 13	Sec. 4	Troubleshooting Parallel Circuits	1	8, 9
Total Pages of Required Reading			10	

EET 101 Reading # 5

Alternating Current and Voltage

Chap.	Section	Subject	# of Pgs.
21	1	DC Characteristics	1
21	2	AC Characteristics	1/2
4	5	pg. 45, upper right 2 para. (DC vs. AC)	1/4
4	6	pg. 49, Mechanical - Magnetic	3/4
21	3	AC Generation	1 1/2
21	4	The AC Sine Wave, Period & Freq.	1 3/4
21	5	Peak, Peak-To-Peak, & Effective (rms) Voltage	1 1/2
34	1 thru 4	The Oscilloscope & Signal Gen.	9 3/4
34	6	The DC Power Supply	1/2
Total Reading.....			17 1/2

EET 101 Reading # 6

Capacitors in DC and AC Circuits

Chapter 30 Sections 5, 6, 7, and, 9

EET 101 Reading # 7

Transformers, Diodes, and the Power Supply

<u>Chap.</u>	<u>Sec.</u>	<u>Description</u>
35	5	Diode packages pg. 509 Last Par, 510 1 st Par only and figure 35-12
	6	Testing diodes
36	1	Power supply introduction
	2	Power supply transformers
	3	Rectifier circuits read all except. skip pg. 525 2 nd par "Another common type....is the Bridge Rectifier..." thru the rest of pg 525. Read pg. 526, up to Sec. 36-4 Note: In Ex. 36-1 only look at the top 3 Vpk calculations. Skip Vdc calculations in this example .
	5	Filter Circuits

EET 101 Reading # 8

BP Transistors

<u>Chap.</u>	<u>Sec.</u>	<u>Description</u>
37	1	Bipolar Transistors
38	1	Transistor Switches pg. 556 up to last paragraph on 1 st column
38	2	Transistor Amplifiers pg. 559, All – but skip 3 rd para. in Sec. 38-2, and skip pg 561 pg. 562 thru 566 but (skip next to last para. on pg 566) pg. 567 Read All pg. 568, start at “AC Power Amp” Pg 569 Read up to 3 rd paragraph on MOSFET Read on 569: Last paragraph on left side Class-A amplifiers pg. 570 2 nd column, “Audio Amplifier” 1 st par only pg.571 up to sec 38-3

EET 101 Reading # 9

FETs (Field Effect Transistors)

<u>Chap.</u>	<u>Sec.</u>	<u>Description</u>
37	2	FETs
38	1	FET Switches 556 1 st column Last paragraph and 2 nd column up to Light Controlled Switch and Fig. 38-2 FET Timer Circuit 558 2 nd column 4 th paragraph, and 559, Fig. 38-6
38	2	FET – DC Dimmer Circuit 559 2 nd column 1 st paragraph and Fig. 38-9 on pg. 561 FET Amplifiers 566 1 st column last paragraph and 2 nd column 1 st paragraph and 568 Fig. 38-20 569 1 st column 3 rd paragraph and Fig. 38-23 on pg. 569
7	8	Protoboards

EET 101 Reading # 10

Integrated Circuits and Non-Inverting Op-Amp Amplifiers

<u>Chap.</u>	<u>Sec.</u>	<u>Description</u>	<u>HW Prob. #</u>
40	1	IC Construction	1, 2, 3
	2	IC Advantages & Limitations	4, 5
	3	IC Packages	6, 8, 9, 10
	4	Analog & Digital IC's	11
	5	Operational Amplifiers	12, 13
	6	Op-Amp and Non-Inverting Amplifiers with Negative Feedback 601 last paragraph, 602 (1 st) paragraph, 603 (3 rd) paragraph to end, and fig. 40-16	

EET 101 Reading # 11

Inverting Op-Amp Amplifiers and Power Amp IC's

<u>Chap.</u>	<u>Sec.</u>	<u>Description</u>	<u>HW Prob. #</u>
40	6	Op Amp Inverting Amplifiers w/Negative Feedback pgs. 602, 603 1 st 2 paragraphs	#14
	7	Skip	
	8	IC Power Amplifiers	See Lab Ques.
	9	Skip	
	11	(Optional) Current Sourcing & Sinking IC Outputs	

EET 101 Reading # 12

OPTOELECTRONICS AND LIGHTWAVE COMMUNICATIONS

Description	Pages
Light Emitting Diodes	
LED and Laser diode	515, 516
Light Sensors	
Light only	45 (Light only)
Light Sensors	467 (Light sensors only) thru 469 1 st par
Photodiodes	516.
Phototransistors	Sec 37-4
Light Controlled switches	556 last par thru 558 top left side.
Fiber Optics	
Fiber Optic Cable	72, left side.
Fiberoptic Systems	516 right side and bottom.