<u>Course No:</u> ETCA252 <u>Course Title:</u> Circuit Analysis-II <u>Instructor:</u> Engr. Sadaf Sufwan <u>Email:</u> <u>Sadaf.malik88@gmail.com</u> <u>Term (Semester):</u> 4<sup>TH</sup> Semester

## **Objectives:**

The course is aimed to enable students to learn advanced circuits involving skills.

## **Course Contents:**

- 1. Introduction
- 2. A.C. and Voltage
- 3. Sinusoidal Waveforms
- 4. Capacitors
- 5. Inductors
- 6. RC Circuits
- 7. RLC Circuits
- 8. Network Theorems
- 9. Fourier Series

## **Reference Books:**

- 1. Principles of Electric Circuits, Conventional Current Version by Thomas L. Floyd (Latest Edition).
- 2. Introductory Circuit Analysis, by Robert L. Boylestad(Latest Edition).

Week #	Торіс			
Week # 1 (09 <sup>th</sup> March 18)	Introduction to A.C. & Voltage - I Sinusoidal waveform, Sinusoidal Voltage & Current Values, Angular Measurement of Sine Wave, The Sine Wave Formula			
<b>Week # 2</b> (16 <sup>th</sup> March 18)	Introduction to A.C. & Voltage - II Introduction to Phasors, Analysis of A.C. Circuits, Non-Sinusoidal Waveforms.			
Week # 3 (23 <sup>rd</sup> March 18)	Capacitors – I The Basic Capacitors, Types of Capacitors, Series Capacitors, Parallel Capacitors			
Week # 4	Capacitors – II Consistent in AC singuity Consistent Applications			
(30 March 18)	Capacitors in AC circuits, Capacitors Applications			
$(03^{rd} \text{ April } 18)$	The basic Inductor. Types of Inductors. Series & Parallel Inductors			
Week # 6	Inductors – II			
(06 <sup>th</sup> April 18)	Inductors in AC circuits, Inductor Applications			
Week # 7	The Complex number system Devision			
(13 <sup>th</sup> April 18)	I ne Complex number system, Revision			
Week # 8 (20 <sup>th</sup> April 18)	MID Term Examination			
<b>Week # 9</b> (27 <sup>th</sup> April 18)	RC series circuits, RC with lag and lead current			
Week # 10 (04 <sup>th</sup> May 18)	Analysis of series RC circuit, RC parallel circuits			
Week # 11 (11 <sup>th</sup> May 18)	Impedance and admittance of RC parallel circuits, Analysis of RC parallel circuits, Analysis of series parallel circuits			
Week # 12 (18 <sup>th</sup> May 18)	RLC Series and Parallel Circuits, Resonance			
Week # 13 (25 <sup>th</sup> May 18)	Norton's Theorem, Thevenin theorem and their examples			
Week # 14	Fourier series and its application			
$(05^{\text{th}} \text{ June } 18)$				
<b>Week # 15</b> (01 <sup>st</sup> June 18)	Different examples and revision			
Week # 16	Revision & Discussion			
(08 <sup>th</sup> June 18)				
Week # 17 (15 <sup>th</sup> June 18)	Final Examination			

## **Evaluation Criteria:**

То	otal	100%
4.	Final Examination	50%
3.	Assignments	10%
2.	Quiz	10%
1.	Midterm	30 %