



## WIT & WIL Method

"Why am I Teaching" and "What I am Teaching,"----- "Why am I Learning" and "What I am Learning."

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#### **Note:**

- **For Scenario Mapping, Samples are attached for reference**
- **WIL Report: Sample is attached**

# 1.Syllabus of the Course

**Pre-requisites:**

**Course Objectives:**

UNIT I

UNIT II

UNIT III

UNIT IV

UNIT V

**Course Outcomes:**

**After Completion of the course the student will be able to**

1.

TEXT BOOKS

REFERENCES

## 2. Scenario with Industry Endorsement

Sample:

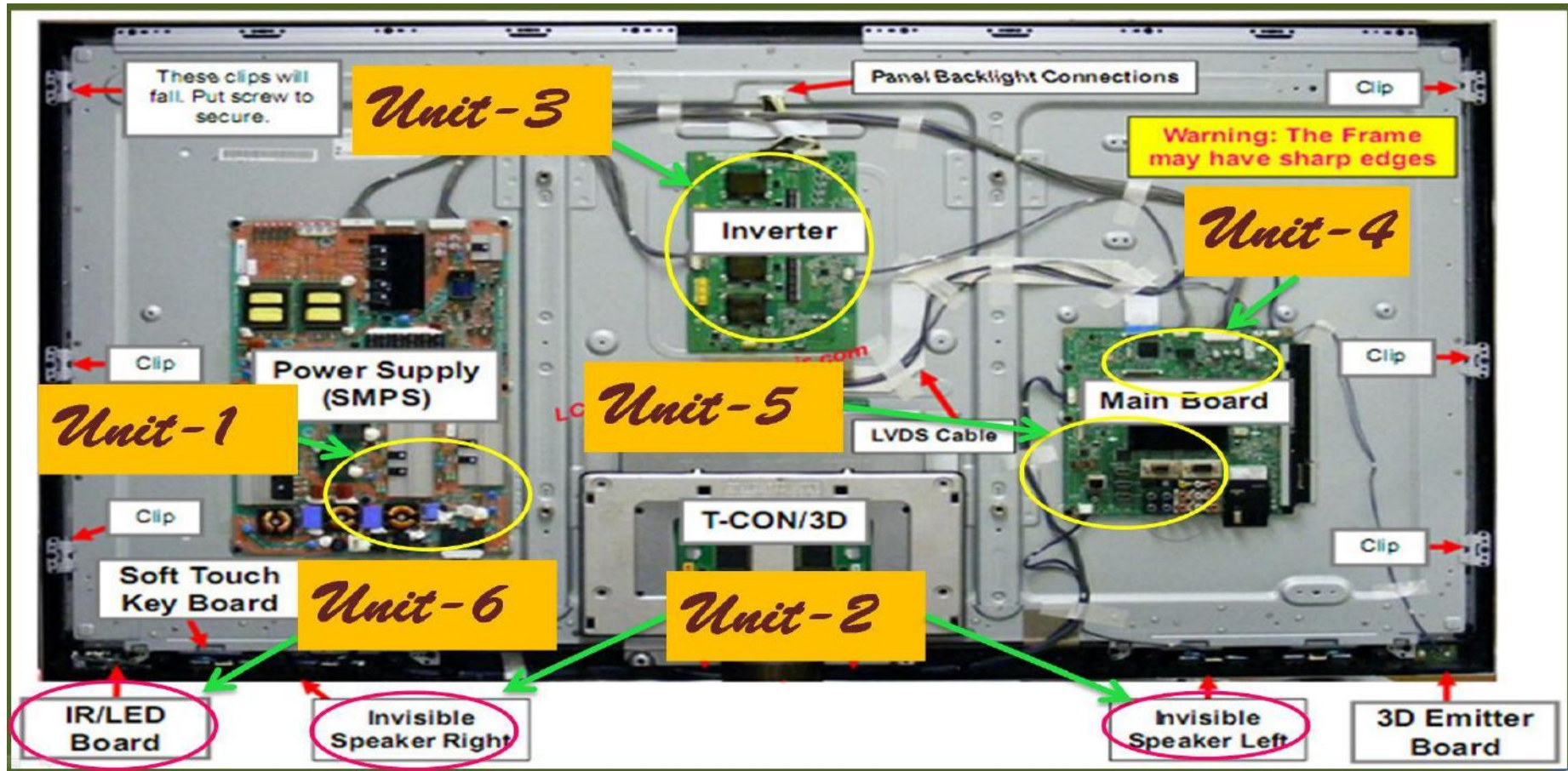



Fig.1.

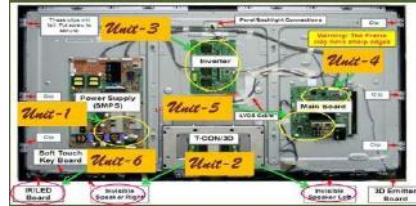
**INDUSTRY ENDORSEMENT  
(Certificate)**

3. **Brief Explanation of the Scenario**

#### 4. INTEGRATION OF SYLLABUS, WIT & WIL SCENARIO AND TEACHING PLAN

Course Name		Year/ Semester				
Course Code		Scenario Endorsing Industry & Logo				
Name of the Faculty						
<b>4.1 INTEGRATION OF SYLLABUS, WIT &amp; WIL SCENARIO AND TEACHING PLAN</b>						
Lecture No.	Contents of the syllabus	WIT & WIL Scenario Mapping	Teaching plan			
			Lecture Dates*	Delivery Methodologies	Learning Resources /References	Course Outcomes
1		 <p>LCD/LED Television and its internal circuit</p>				
<b>Brief Description of WIT:</b> The taken scenario  Unit 1:  Unit 2:  Unit 3:  Unit 4:  Unit 5:						

UNIT 1:



1.						
2.						
3.						
4.						
5.						

Brief Description of WIT:

6.						
7.						
8.						
9.						
10.						
11.						
12.	Tutorial	Applications of diodes &				
13.	Tutorial	Application of zener as voltage regulator				



**Related Documents:**

1. Syllabus of the course as defined in the curriculum –
2. Academic Calendar, Course Delivery & Lesson Plan
3. WIT&WIL™ Scenario Endorsement

**Details of Delivery Methodologies**

1.	Chalk and Talk	
2.	Learning by doing	
3.	Demonstration (Physical / Laboratory / Audio Visuals / PPT)	
4.	Case Study (Work on real data)	
5.	WIT & WIL	
6.	Audio Visuals:	
7.	PowerPoint Presentation	
8.	Physical Demonstrations:	

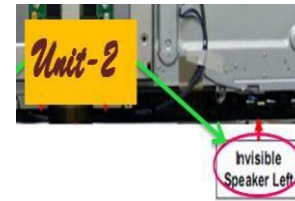
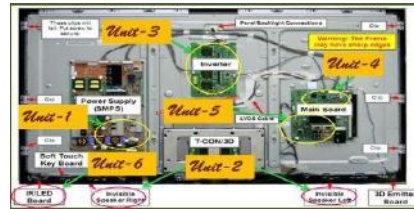


Course Name		Year/ Semester	
Course Code		Scenario Endorsing Industry & Logo	
Name of the Faculty			

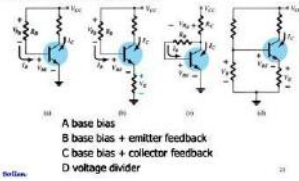

**4.2 INTEGRATION OF SYLLABUS, WIT & WIL™ SCENARIO AND TEACHING PLAN**

Lecture No.	Contents of the syllabus	WIT & WIL Scenario Mapping	Teaching plan		
			Lecture Dates*	Delivery Methodologies	Learning Resources / References

**UNIT 2: Bipolar Junction Transistor, Biasing and Stabilization: (S.2)**



14.		<p align="center"><b>BJT Construction and configurations</b></p>				
15.						
16.						
17.						

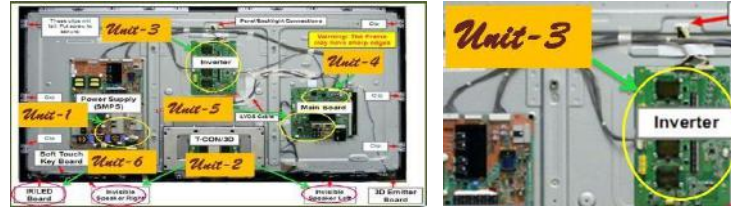
Brief Description of WIT					
18.		<p>BJT, DC biasing circuits</p>  <p>A base bias  B base bias + emitter feedback  C base bias + collector feedback  D voltage divider</p>			
19.					
20.					
21.					
22.					
Brief Description of WIT:					
23.	Tutorial	<p>Pump house, pipe network</p> 			
24.	Tutorial				
<b>Related Documents:</b> 1. Syllabus of the course as defined in the curriculum – 2. Academic Calendar & Course Delivery & Lesson Plan 3. WIT&WIL™ Scenario Endorsement					
<u>Details of Delivery Methodologies</u>		1.	Chalk and Talk		
		2.	Learning by doing		
		3.	Demonstration (Physical / Laboratory / Audio Visuals / PPT)		
		4.	Case Study (Work on real data)		
		5.	WIT & WIL		
		6.	Audio Visuals:		
		7.	PowerPoint Presentation		
		8.	Physical Demonstrations:		

Course Name	Electronic Devices and Circuits	Year/ Semester	
Course Code		Scenario Endorsing Industry & Logo	
Name of the Faculty			

**4.3 INTEGRATION OF SYLLABUS, WIT & WIL™ SCENARIO AND TEACHING PLAN**

Lecture No.	Contents of the syllabus	WIT & WIL Scenario Mapping	Teaching plan		
			Lecture Dates*	Delivery Methodologies	Learning Resources /References

**UNIT 3 Field Effect Transistor, Biasing (S.3)**



25.		FET Characteristics				
26.		<p>The graph shows the characteristic curves of a D-MOSFET in depletion mode. The y-axis is Drain Current <math>I_{DS}</math> and the x-axis is Drain-Source Voltage <math>V_{DS}</math>. Multiple curves are shown for different Gate-Source Voltages <math>V_{GS}</math> ranging from 0V to 10V. The curves show that <math>I_{DS}</math> increases with <math>V_{GS}</math> and saturates at higher <math>V_{DS}</math>.</p>				
27.						
28.						

**Brief Description of WIT:**

29.							
30.							
31.							
32.	Numerical problems						

**Brief Description of WIT:**

33.	Tutorial					
34.	Assignment test					
35.	Revision of Units 1,2,3					

**Related Documents:** 1. Syllabus of the course as defined in the curriculum – 2. Academic plan & teaching plan 3. WIT&WIL™ Scenario Endorsement


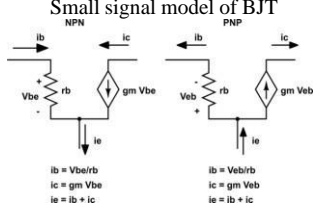
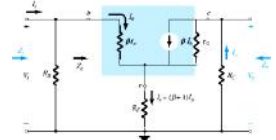
**Details of Delivery Methodologies**

1.	Chalk and Talk	
2.	Learning by doing	
3.	Demonstration (Physical / Laboratory / Audio Visuals / PPT)	
4.	Case Study (Work on real data)	
5.	WIT & WIL	
6.	Audio Visuals:	
7.	PowerPoint Presentation	
8.	Physical Demonstrations:	

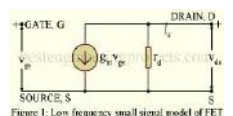
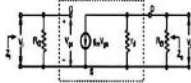
Course Name  
 Course Code  
 Name of the Faculty

Year/ Semester  
 Scenario Endorsing Industry & Logo


4.4 INTEGRATION OF SYLLABUS, WIT & WIL™ SCENARIO AND TEACHING PLAN

Lecture No.	Contents of the syllabus	WIT & WIL Scenario Mapping	Teaching plan			
			Lecture Dates*	Delivery Methodologies	Learning Resources /References	Course Outcomes
<b>UNIT 4: Small signal low frequency Amplifiers: BJT Amplifiers : JFET Amplifiers: (S,4)</b>						
						
36.		<p>Small signal model of BJT</p> 				
37.						
38.						

**Brief Description of WIT:**

39.		<p>Small signal model of FET</p>  <p>The diagram shows a small-signal model of a FET. It consists of a dependent current source <math>g_m v_{gs}</math> in parallel with an output resistance <math>r_o</math>. The gate terminal is labeled GATE G, the drain terminal is labeled DRAIN D, and the source terminal is labeled SOURCE S. The current source is controlled by the gate-source voltage <math>v_{gs}</math>.</p>			
40.		<p>Figure 1: Low frequency small signal model of FET</p>  <p>The diagram shows a physical schematic of a FET. It includes the gate, drain, and source regions, along with the channel and the oxide layer. The gate is connected to a terminal labeled G, the drain to a terminal labeled D, and the source to a terminal labeled S. The channel is shown as a region between the gate and the source/drain regions.</p>			


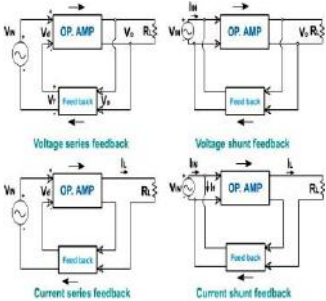
**Brief Description of WIT:**

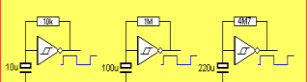
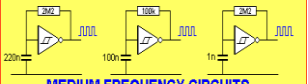
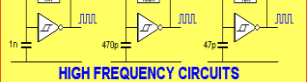
41.	Tutorial	 <p>The image shows two screenshots from a tutorial. The left screenshot shows a circuit diagram with a FET and a load resistor. The right screenshot shows a warning message: "Warning: The frame may have already existed." Below the warning, it says "Unit-4" and "Main Project".</p>			
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Course Name  
 Course Code  
 Name of the Faculty

Year/ Semester  
 Scenario Endorsing Industry & Logo

4.5 INTEGRATION OF SYLLABUS, WIT & WIL SCENARIO AND TEACHING PLAN

Lecture No.	Contents of the syllabus	WIT & WIL Scenario Mapping	Teaching plan			
			Lecture Dates*	Delivery Methodologies	Learning Resources /References	Course Outcomes
<b>UNIT 5: Feedback Amplifiers and Oscillators (S.5)</b>						
						
42.						
43.						
44.						
<b>Brief Description of WIT:</b>						

45.		 <p><b>LOW FREQUENCY CIRCUITS</b></p>  <p><b>MEDIUM FREQUENCY CIRCUITS</b></p>  <p><b>HIGH FREQUENCY CIRCUITS</b></p>				
46.						
47.						

**Brief Description of WIT:**

48.	Tutorial					
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**Related Documents:**

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Why am I Teaching What I am Teaching? and Why am I Learning What I am Learning?

5. WIL REPORT

B.TECH. \_\_\_\_\_ YEAR \_\_\_\_\_ SEMESTER – \_\_\_\_\_

Course Name:

Course Code:

<i>Roll No.</i>	<i>Name</i>	Unit – 1:

**Question 1. What did you learn from this unit?**

*(Note: This should not reflect the syllabus of the lesson. Student is required to write in his/her own words the learning outcome of this unit)*

ANSWER 1:

**Question 2: Was the application illustrated clear for your understanding of the topics covered in this unit? (Explain in few words)**

ANSWER 2:

**Question 3: Identify and explain an additional/new application to illustrate your understanding of the topics covered in this unit.**

ANSWER 3:

5. WIL REPORT

B.TECH. \_\_\_\_\_ YEAR \_\_\_\_\_ SEMESTER – \_\_\_\_\_

Course Name:

Course Code:

<b>Roll No.</b>	<b>Name</b>	<b>Unit – 2:</b>

**Question 1. What did you learn from this unit?**

*(Note: This should not reflect the syllabus of the lesson. Student is required to write in his/her own words the learning outcome of this unit)*

ANSWER 1:

**Question 2: Was the application illustrated clear for your understanding of the topics covered in this unit? (Explain in few words)**

ANSWER 2:

**Question 3: Identify and explain an additional/new application to illustrate your understanding of the topics covered in this unit.**

ANSWER 3:

5. WIL REPORT

B.TECH. \_\_\_\_ YEAR \_\_\_\_ SEMESTER – \_\_\_\_

Course Name: Electronic devices and circuits (EDC)

Course Code:

<i>Roll No.</i>	<i>Name</i>	<b>Unit – 3:</b>
<b><i>Question 1. What did you learn from this unit?</i></b> <i>(Note: This should not reflect the syllabus of the lesson. Student is required to write in his/her own words the learning outcome of this unit)</i>		
ANSWER 1:		
<b><i>Question 2: Was the application illustrated clear for your understanding of the topics covered in this unit? (Explain in few words)</i></b>		
ANSWER 2:		
<b><i>Question 3: Identify and explain an additional/new application to illustrate your understanding of the topics covered in this unit.</i></b>		
ANSWER 3:		

Why am I Teaching What I am Teaching? and Why am I Learning What I am Learning?

5. WIL REPORT

B.TECH. \_\_\_\_\_ YEAR II SEMESTER \_\_\_\_\_ ECE \_\_\_\_\_

Course Name:

Course Code:

<i>Roll No.</i>	<i>Name</i>	<b>Unit – 4:</b>
<b>Question 1. What did you learn from this unit?</b> <i>(Note: This should not reflect the syllabus of the lesson. Student is required to write in his/her own words the learning outcome of this unit)</i>		
ANSWER 1:		
<b>Question 2: Was the application illustrated clear for your understanding of the topics covered in this unit? (Explain in few words)</b>		
ANSWER 2:		
<b>Question 3: Identify and explain an additional/new application to illustrate your understanding of the topics covered in this unit.</b>		
ANSWER 3:		

Why am I Teaching What I am Teaching? and Why am I Learning What I am Learning?

5. WIL REPORT

B.TECH. \_\_\_\_\_ YEAR \_\_\_\_\_ SEMESTER – \_\_\_\_\_

Course Name: Electronic devices and circuits (EDC)

Course Code:

<i>Roll No.</i>	<i>Name</i>	<b>Unit – 5: Feedback Amplifiers and Oscillators</b>
<b>Question 1. What did you learn from this unit?</b> <i>(Note: This should not reflect the syllabus of the lesson. Student is required to write in his/her own words the learning outcome of this unit)</i>		
ANSWER 1:		
<b>Question 2: Was the application illustrated clear for your understanding of the topics covered in this unit? (Explain in few words)</b>		
ANSWER 2:		
<b>Question 3: Identify and explain an additional/new application to illustrate your understanding of the topics covered in this unit.</b>		
ANSWER 3:		

Why am I Teaching What I am Teaching? and Why am I Learning What I am Learning?

5. \*Sample\* WIL REPORT

B.TECH. II YEAR I SEMESTER – ECE –A

Course Name:

Course Code:

<b>Roll No.</b>	<b>Name</b>	<b>Unit – 1:</b>
	ABC	<b>PN-Junction Diode and Applications:</b> Review of p-n Junction as a Diode, Diode Equation, Volt-Ampere Characteristics, Temperature dependence of V-I characteristics, Ideal and Practical Diode Equivalent Circuits, Transition and Diffusion Capacitances, Breakdown Mechanisms in Semi-Conductor Diodes, Zener Diode and its Characteristics. Half wave Rectifier, Full wave rectifier, Bridge Rectifier, Harmonic components in a Rectifier Circuit, Capacitor filters, $\pi$ - section filters, Zener diode as Voltage Regulator.
	ABC	
	ABC	
	ABC	
	ABC	
	ABC	
<b>Question 1. What did you learn from this unit?</b>		
<ol style="list-style-type: none"><li>1. Physics behind formation of P-N junction diode</li><li>2. V-I characteristics and temperature dependence of P-N junction diode</li><li>3. Application of P-N junction diode</li><li>4. Differences between half wave and full wave rectifier</li><li>5. Zener diode formation characteristics in reverse biased condition</li><li>6. Zener as voltage regulator</li></ol>		
<b>Question 2: Was the application illustrated clear for your understanding of the topics covered in this unit? (Explain in few words)</b>		

The formation of P-N junction diode and its characteristics explained on taking temperature reference. Application of P-N junction diode in the conversion of AC-DC illustrated through demonstration. How zener regulates the voltage across load explained in detail.

***Question 3: Identify and explain an additional/new application to illustrate your understanding of the topics covered in this unit.***



Diodes are used in converting one form of energy into another form. The average output can be different in different types connections such as half wave and full wave rectification. Zener operated in reverse biased condition to regulate the voltage across load even when resistance of the load is varied.