

# CETPA INFOTECH PVT. LTD.

## CURRICULUM OF PSPICE

<ul style="list-style-type: none"> <li>➤ Introduction to PSPICE             <ul style="list-style-type: none"> <li>• Outline of PSPICE</li> <li>• Simulation Hierarchy</li> <li>• Feature</li> <li>• Types of SPICE                 <ul style="list-style-type: none"> <li>○ PSPICE</li> <li>○ HSPICE</li> </ul> </li> <li>• Need , Scope and History of PSPICE                 <ul style="list-style-type: none"> <li>• Advantage of PSPICE</li> <li>• Installation of tool</li> </ul> </li> </ul> </li> <li>➤ Design Structure             <ul style="list-style-type: none"> <li>• Flat Design</li> <li>• Hierarchical Design</li> </ul> </li> <li>➤ Introduction to the Libraries             <ul style="list-style-type: none"> <li>• Description of Libraries                 <ul style="list-style-type: none"> <li>○ abm.slb</li> <li>○ analog.slb</li> <li>○ breakout.slb</li> <li>○ connect.slb</li> <li>○ port.slb</li> <li>○ source.slb</li> </ul> </li> <li>• Adding of Libraries</li> </ul> </li> <li>➤ File structure of PSPICE             <ul style="list-style-type: none"> <li>• .dsn file</li> <li>• .obj file</li> <li>• .net file</li> <li>• .sch file</li> <li>• .out file</li> </ul> </li> <li>➤ Introduction to Analysis             <ul style="list-style-type: none"> <li>• Types of analysis                 <ul style="list-style-type: none"> <li>○ Bias Point Analysis</li> <li>○ DC Sweep Analysis</li> <li>○ AC Sweep/Noise</li> <li>○ Transient/Time domain</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Error Messages of PSPICE             <ul style="list-style-type: none"> <li>• Analysis and solutions of Errors in PSPICE                 <ul style="list-style-type: none"> <li>○ Nodes with less than two connections</li> <li>○ Unspecified component model libraries</li> <li>○ Floating nodes</li> <li>○ Missing model statements</li> </ul> </li> </ul> </li> <li>➤ Description of inbuilt Components             <ul style="list-style-type: none"> <li>• Digital component descriptions</li> <li>• Analog component descriptions(AC/DC)</li> </ul> </li> <li>➤ Drawing of Circuits             <ul style="list-style-type: none"> <li>• Getting the parts</li> <li>• Placing the parts</li> <li>• Connecting the circuits</li> <li>• Changing the name of the parts</li> <li>• Changing the value of the parts</li> </ul> </li> <li>➤ Analysis and Simulation of Digital Logic Circuits             <ul style="list-style-type: none"> <li>• Logic Gates</li> <li>• Combinational Circuits                 <ul style="list-style-type: none"> <li>○ Multiplexers</li> <li>○ De-Multiplexer</li> <li>○ Decoders</li> <li>○ Encoders</li> <li>○ Comparators</li> <li>○ Arithmetic and Logic operations</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Sequential Circuits             <ul style="list-style-type: none"> <li>○ Flip Flops (RS,D,JK,T)</li> <li>○ Counters</li> <li>○ Registers</li> </ul> </li> <li>• Digital Wave form generations</li> <li>• Modifying digital model Parameters</li> <li>➤ Explanation of Bias Point analysis             <ul style="list-style-type: none"> <li>• Examples                 <ul style="list-style-type: none"> <li>○ Filter Design</li> </ul> </li> </ul> </li> <li>➤ Explanation of DC Sweep analysis             <ul style="list-style-type: none"> <li>• Examples                 <ul style="list-style-type: none"> <li>○ Analysis of PMOS</li> <li>○ Analysis of NMOS</li> <li>○ Analysis of CMOS</li> </ul> </li> </ul> </li> <li>➤ Explanation of AC Sweep/Noise analysis             <ul style="list-style-type: none"> <li>• Examples                 <ul style="list-style-type: none"> <li>○ AC Circuit Design &amp; analysis</li> </ul> </li> </ul> </li> <li>➤ Explanation of Transient/Time domain analysis             <ul style="list-style-type: none"> <li>• Examples                 <ul style="list-style-type: none"> <li>○ Diode and Register</li> <li>○ Logic Gates</li> <li>○ Digital Design</li> <li>○ Analog Design</li> </ul> </li> </ul> </li> <li>➤ Project Work             <p>Project List mentioned on – <a href="http://www.cetpainfotech.com">http://www.cetpainfotech.com</a></p> </li> </ul>
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