

**Format for the Weekly Progress Report**

<b>Name of the Student 1</b>	Dev Pandya
<b>Roll Number of Student 1</b>	22BCP409
<b>Name of the Student 2 (if any)</b>	Kavya Patel
<b>Roll Number of Student 2 (if any)</b>	22BCP406
<b>Project Title</b>	<b>Smart Energy Consumption Monitoring and Prediction Using Big Data</b>
<b>Name of the Supervisor (Mentor) at PDEU</b>	Dr. Samir Patel
<b>Week Number</b>	Week 9
<p><b>Progress made in Week 9:</b></p> <ul style="list-style-type: none"> <li>• Connected <b>Zeppelin with Spark Structured Streaming</b>, allowing live data consumption from <b>Kafka topics</b> directly within Zeppelin notebooks.</li> <li>• Configured Zeppelin interpreters (Spark, SQL, Python) to communicate with the <b>relational database</b> for combined access to historical and streaming data.</li> <li>• Created initial <b>notebooks</b> to visualize incoming data streams (state code, timestamp, load values, temperature) in real time.</li> <li>• Implemented <b>data validation and formatting scripts</b> in Zeppelin to clean and structure data before visualization.</li> <li>• Tested <b>end-to-end data flow</b>: Producer → Kafka → Spark → Zeppelin, ensuring live updates are reflected on charts and tables.</li> </ul>	

**Dev Pandya**

**Kavya Patel**

**Dr. Samir Patel**

**Name & Signature of  
Student 1**

**Name & Signature of  
Student 2**

**Name & Signature of  
Supervisor (Mentor)**