



**SYLLABUS PLAN FOR THE SESSION 2020 – 21**

**SUBJECT – ARTIFICIAL INTELLIGENCE**

**CLASS – VI**

MONTH	UNIT	SESSION/ACTIVITY/PRACTICAL	LEARNING OUTCOMES
APRIL	<p><b><u>INTRODUCTION TO AI - RECAP</u></b></p> <ul style="list-style-type: none"><li>➤ What is AI?</li><li>➤ Advantages/Disadvantages of AI</li></ul> <p><b><u>APPLICATIONS OF AI</u></b></p> <ul style="list-style-type: none"><li>➤ Use of AI in different fields</li></ul>	<p><b><u>Basic Understanding of Artificial Intelligence</u></b></p> <ul style="list-style-type: none"><li>➤ What are the data features needed?</li><li>➤ Where can you get the data?</li><li>➤ What are the sources of data?</li><li>➤ How to visualize data?</li><li>➤ How to read plotted data and generate inferences?</li><li>➤ A Brief overview of different models available.</li><li>➤ Importance of evaluating a model.</li></ul> <p><b><u>TEACHABLE MACHINE – Google Experiment</u></b></p>	<ul style="list-style-type: none"><li>➤ Understand the term Artificial Intelligence</li><li>➤ Comprehend and differentiate between automation and AI</li><li>➤ Realizing the scope and use of AI in various fields</li><li>➤ Understanding the good and bad of AI</li></ul>
MAY	<p><b><u>DOMAINS OF AI</u></b></p> <ul style="list-style-type: none"><li>➤ Computer Vision</li><li>➤ Natural Language Processing</li></ul>	<p><b><u>Basic Understanding of the Domains of AI</u></b></p> <ul style="list-style-type: none"><li>➤ AI GAMES – Thing Translator, Mystery Animal, Quick Draw</li><li>➤ What is Computer Vision technology?</li><li>➤ Why is it necessary to make machines make sense of what they see?</li><li>➤ What is NLP?</li><li>➤ Different applications that use NLP.</li><li>➤ What are the types of data – Discrete / Continuous?</li><li>➤ How can data be collected?</li><li>➤ How to plot data and visualize it?</li><li>➤ Reading basic graphs</li></ul> <p><b><u>Data Visualization –Age Apt COVID Data Plotting</u></b> <b><u>Case Study: Aarogya Setu App</u></b></p>	<ul style="list-style-type: none"><li>➤ Relate, apply and reflect on the Human-Machine Interactions.</li><li>➤ To identify and interact with the three domains of AI: Data, Computer Vision and Natural Language Processing through different games</li><li>➤ Identify and recognize the use of computer vision technology, Natural Language Processing and Data Science</li><li>➤ Understanding the types of Data</li><li>➤ Organizing data in tabular form</li><li>➤ Identifying Data Visualization techniques</li></ul>
JULY	<p><b><u>DOMAINS OF AI</u></b></p> <ul style="list-style-type: none"><li>➤ Data Science</li></ul>		<p><b><u>Subject Integration: English / Maths</u></b></p>

<b>AUGUST</b>	<u><b>INTRODUCTION TO CHATBOTS</b></u> <ul style="list-style-type: none"> <li>➤ Chatbots</li> <li>➤ Types of Chatbots</li> </ul>	<u><b>Chatbots</b></u> <ul style="list-style-type: none"> <li>➤ What is a chatbot?</li> <li>➤ Types of chatbots</li> <li>➤ Identifying the different types of chatbots?</li> </ul> <b>Demo – Chatbot using IBM Watson</b> <b>Story Speaker – Rule based text to speech Experiment</b>	<ul style="list-style-type: none"> <li>➤ Understanding the technical aspects of chatbots</li> <li>➤ Identifying the type of chatbots by looking at the functioning and features</li> </ul> <b>Subject Integration: English / IT</b>
<b>SEPTEMBER</b>	<u><b>MACHINE LEARNING</b></u> <ul style="list-style-type: none"> <li>➤ Supervised Learning</li> <li>➤ Unsupervised Learning</li> </ul>	<u><b>ML – Supervised, Unsupervised &amp; Reinforcement</b></u> <ul style="list-style-type: none"> <li>➤ Introduction to Machine Learning</li> <li>➤ Types of Machine Learning - Supervised, Unsupervised and Reinforcement Learning</li> <li>➤ Differentiating between different ML</li> <li>➤ Examples of Classification, Regression and different games</li> </ul>	<ul style="list-style-type: none"> <li>➤ Understand the concept of Machine Learning</li> <li>➤ Gain awareness about Machine Learning applications</li> </ul>
<b>OCTOBER</b>	<u><b>MACHINE LEARNING</b></u> <ul style="list-style-type: none"> <li>➤ Reinforcement Learning</li> <li>➤ Differentiating between the three types of ML</li> </ul>		
<b>NOVEMBER</b>	<u><b>AI PROJECT CYCLE FRAMEWORK</b></u> <ul style="list-style-type: none"> <li>➤ Problem Scoping</li> <li>➤ Data Acquisition</li> </ul>	<u><b>Basic Understanding of an AI Project Life Cycle</b></u> <ul style="list-style-type: none"> <li>➤ What are the data features needed?</li> <li>➤ Where can you get the data?</li> <li>➤ What are the sources of data?</li> <li>➤ How to visualize data?</li> <li>➤ How to read plotted data and generate inferences?</li> <li>➤ A Brief overview of different models available.</li> <li>➤ Importance of evaluating a model.</li> </ul> <b>Case Study : Water Conservation, Pollution</b>	<ul style="list-style-type: none"> <li>➤ Understand the iterative nature of problem scoping for in the AI project cycle.</li> <li>➤ Foresee the kind of data required and sources of data.</li> <li>➤ Understanding the importance of data in each stage</li> <li>➤ Realizing the importance of each stage in building an AI Model</li> </ul> <b>Subject Integration: Science / English / Maths</b>
<b>DECEMBER</b>	<u><b>AI PROJECT CYCLE FRAMEWORK</b></u> <ul style="list-style-type: none"> <li>➤ Data Exploration</li> <li>➤ Modelling</li> <li>➤ Evaluation</li> </ul>		
<b>JANUARY</b>	<b>AI PROJECT</b>	<u><b>Group Activity (Will be explained later)</b></u>	
<b>FEBRUARY</b>	<b>REVISION AND FINAL EXAMINATION</b>		

### **Further Additions in the Syllabus (Post Covid Pandemic):**

- Use of Sensors for Data Collection
- Working with Micro Controller
- Robotics and AI
- Python Coding