

CBSE | DEPARTMENT OF SKILL EDUCATION CURRICULUM FOR SESSION 2021-2022

ARTIFICIAL INTELLIGENCE (CODE 843)

CLASS – XII

Total Marks: 100 (Theory 50 + Practical 50)

	UNITS	NO. OF HOURS (Theory + Practical)	MAX. MARKS (Theory + Practical)
PART – A	Employability Skills		
	Unit 1 : Communication Skills-IV	10	10
	Unit 2 : Self-Management Skills-IV	10	
	Unit 3 : ICT Skills-IV	10	
	Unit 4 : Entrepreneurial Skills-IV	15	
	Unit 5 : Green Skills-IV	05	
	Total	50	
PART – B	Subject Specific Skills		
	Unit 1: Capstone Project	10	40
	Unit 2: Model Lifecycle	10	
	Unit 3: Storytelling Through Data	15	
	Total	35	
PART – C	Student Capstone Project (PRACTICAL)		
	Student AI project Development & Presentation (Team work): Submission of Project Logbook and Video presentation	30	50
	Total	30	50
	GRAND TOTAL	115 Hours	100

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SCHEME OF UNITS (SESSION 2021-2022)

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AI Innovate - (Level 3)		
Unit 1: Capstone Project	<ul style="list-style-type: none">• Understanding the problem• Decomposing the problem through DT framework• Analytic Approach• Data Requirements• Data Collection• Modelling approach• How to validate model quality<ul style="list-style-type: none">➤ By test-train split➤ Introduce concept of cross validation• Metrics of model quality by simple Maths and examples from small datasets – scaled up to capstone project (Apply)<ul style="list-style-type: none">➤ RMSE- Root Mean Squared Error➤ MSE – Mean Squared Error➤ MAPE – Mean Absolute Percent Error• Introduction to commonly used algorithms and the science behind them• Showcase through a compelling story	10 hours to complete basic levels.
Unit 2: Model lifecycle (Knowledge)	<ul style="list-style-type: none">• Different aspects of Model<ul style="list-style-type: none">➤ Train, test, validate,➤ What are hyper parameters➤ Commonly used platforms to build and run models (Introduction)➤ Recommended tools➤ Links to different platforms<ul style="list-style-type: none">○ Watson• Lifecycle of an AI model<ul style="list-style-type: none">➤ Build➤ Deploy➤ Retrain	10 hours to complete basic levels.

AI Innovate - (Level 3)		
Unit 3: Story telling through data (Critical and Creative thinking Skills)	<ul style="list-style-type: none"> • The Need for Storytelling <ul style="list-style-type: none"> ○ Information processing and recalling stories ○ Why is storytelling important? ○ Structure that story! • How to create stories? <ul style="list-style-type: none"> ○ Begin with a pen-paper approach ○ Dig deeper to identify the sole purpose of your story ○ Use powerful headings ○ Design a Road-Map ○ Conclude with brevity • Ethics of storytelling • Types of Data and Suitable Charts <ul style="list-style-type: none"> ○ Text [Wordclouds] ○ Mixed [Facet Grids] ○ Numeric [Line Charts/ Bar Charts] ○ Stocks [Candlestick Charts] ○ Geographic [Maps] • Stories During the Steps of Predictive Modeling <ul style="list-style-type: none"> ○ Data Exploration ○ Feature Visualizing ○ Model Creation ○ Model Comparisons • Best Practices of Storytelling • Reference Material /Online Resources: <ul style="list-style-type: none"> ○ Analytics Vidhya (https://www.analyticsvidhya.com/blog/2017/10/art-story-telling-data-science/) ○ Udemy: (https://www.udemy.com/course/storytelling-with-data/) ○ Coursera: https://www.coursera.org/learn/intro-business-analytics ○ Coursera: https://www.coursera.org/learn/communicate-with-impact 	15 hours to complete basic levels.
Student Project Work (Practical)	<p>Student capstone project development</p> <ul style="list-style-type: none"> • Students to form teams and work on developing an AI based project • Resources like the AI Project Guide and AI Project Log Book to be used 	30 hours