CBSE Class 12 Artificial Intelligence (AI)

Unit-wise syllabus and marks for the 2026-27 session.

UNITS	SESSION
10	2026-27

Exam pattern. Total 100 marks: Theory 50 + Practical 50. Theory includes Employability Skills (Part A) and Subject-Specific Skills theory (Part B, 50 marks). Practical (Part C, 50 marks): Capstone Project 15 + Project Documentation 6 + Video 4 (= 25), Practical File 10, Lab Test on Python and Orange Data Mining 10, Viva Voce 5.

Practical. Practical File with a minimum of 6 Python programs, 3 Orange Data Mining programs and 1 complete Data Story; a group Capstone Project (3-5 students) aligned to a UN Sustainable Development Goal, with written documentation and an exactly 3-minute project video; plus a lab test on Python and Orange Data Mining and a viva voce. Projects may be built using Python or no-code/low-code tools like Orange.

#	UNIT AND TOPICS	MARKS
1	**Part A, Employability Skills** Communication Skills-IV; Self-Management Skills-IV; ICT Skills-IV; Entrepreneurial Skills-IV; Green Skills-IV	–
2	**Unit 1: Python Programming - II (evaluated in practicals)** Recap of NumPy library; Recap of Pandas library; Importing and exporting data between CSV files and DataFrames; Handling missing values; Linear Regression algorithm (advanced learners)	–
3	**Unit 2: Data Science Methodology - An Analytic Approach to Capstone Project** Introduction to Data Science Methodology; Steps for Data Science Methodology; Model Validation Techniques; Model Performance - Evaluation Metrics (MSE, RMSE, Precision, Recall, F1 score, Accuracy, confusion matrix)	–
4	**Unit 3: Making Machines See** How machines see; Working of computer vision; Computer Vision process; Applications of computer vision; Challenges of computer vision; The future of computer vision; Working with OpenCV - load, display, resize images (advanced learners)	–
5	**Unit 4: AI with Orange Data Mining Tool (evaluated in practicals)** What is Data Mining?; Introduction to the Orange Data Mining tool; Beneficiaries of Orange data mining; Getting started with Orange; Components of Orange; Default Widget Catalogue; Key AI domains with Orange - data science, computer vision, NLP	–

#	UNIT AND TOPICS	MARKS
6	**Unit 5: Introduction to Big Data and Data Analytics** Introduction to Big Data; Types of Big Data; Advantages and disadvantages of Big Data; Characteristics of Big Data; Big Data Analytics; Working on Big Data Analytics; Mining Data Streams; Future of Big Data Analytics	–
7	**Unit 6: Understanding Neural Networks** Parts of a neural network; Components of a neural network; Working of a neural network; Types of neural networks; Future of neural networks and societal impact; Hands-on with TensorFlow and Keras (advanced learners)	–
8	**Unit 7: Generative AI** Introduction to Generative AI; Working of Generative AI; Generative and Discriminative models; Applications of Generative AI; LLM - Large Language Models; Future of Generative AI; Ethical and social implications of Generative AI; Using the Gemini API to build a chatbot (advanced learners)	–
9	**Unit 8: Data Storytelling** Introduction to storytelling; Elements of a story; Introduction to data storytelling; Why is data storytelling powerful?; Essential elements of data storytelling; Narrative structure of a data story (Freytag's Pyramid); Types of data and visualizations for different data; Steps to create a story through data	–
10	**Part C, Practical Work / Project Work** Capstone Project (SDG-aligned, group of 3-5 students); Project Documentation; 3-minute Capstone Project video; Practical File - min 6 Python programs, 3 Orange Data Mining programs, 1 Data Story; Lab Test (Python and Orange Data Mining); Viva Voce	–

Need help covering this syllabus?

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