



# ST. ALOYSIUS COLLEGE(AUTONOMOUS), JABALPUR

Reaccredited 'A+' Grade by NAAC(CGPA:3.68/4.00)

College with Potential for Excellence by UGC

DST-FIST Supported & STAR College Scheme by DBT

**B.Com V<sup>th</sup> Semester**  
**Discipline Specific Elective**  
**Artificial Intelligence for Business**

### Course Outcomes

CO. No.	Course Outcomes	Cognitive Level
CO 1	Understand the fundamental concepts and history of AI.	Understanding
CO 2	Differentiate between various types of machine learning and deep learning techniques	Understanding, Analyse
CO 3	Apply NLP techniques to real-world business problems.	Applying
CO 4	Implement computer vision solutions for business applications.	Applying
CO 5	Identify and solve business problems using AI solutions.	Understanding, Analyse, Apply
CO 6	Build and evaluate AI models using popular Python libraries	Apply

### Credit and Marking Scheme

	Credits	Marks		Total Marks
		Internal	External	
<b>Theory</b>	3	40	60	100
<b>Practical</b>	1	40	60	100
<b>Total</b>	4			200

### Evaluation Scheme

	Marks	
	Internal	External
<b>Theory</b>	3 Internal Exams of 20 Marks (During the Semester)	1 External Exam (At the End of Semester)
<b>Practical</b>	3 Internal Exams (During the Semester )	1 External Exam end of the semester

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## Content of the Course

### Theory

No. of Lectures (in hours per week): 2 Hrs. per week

Total No. of Lectures: 45

Maximum Marks: 60

Units	Topics	No. of Lectures
I	Introduction of Artificial Intelligence, Foundation of AI, History, AI in Business Applications – AI for Marketing: Customer Segmentation, Personalized Recommendations, Sentiment Analysis, AI For operations and Supply Chain.	11
II	Machine Learning: Supervised vs. unsupervised Learning, ETL process Data Cleaning: Noisy data, duplicate data, ML techniques: Basic concept of Classification: Naïve Bayes, Decision tree, clustering: K-Means, hierarchical, Association: Apriori algorithm.	11
III	NLP used in Business Ethical Considerations in AI, Time Series Analysis and Forecasting. Basic Python Programming, data types, Lists, Dictionaries, control statements, Functions, String.	12
IV	Matplotlib, Pandas, numpy, regression and correlation. Case Studies: Sales Forecasting, Financial Modelling, Customer Relationship Management, Supply chain optimization, Fraud Detection and Prevention.	11

## References

### Textbook :

1. Artificial Intelligence Basics: Tom Taulli
2. A first course in Artificial Intelligence – Deepak Khemani
3. Artificial Intelligence for Business, 2nd Edition – Doug Rose
4. Artificial Intelligence For Business – An Implementation Guide Containing Practical and Industry–Specific Case Studies, Edited By Hemachandran K , Raul V. Rodriguez
5. Applied Artificial Intelligence in Business – Leong Chan, Liliya Hogaboam, Renzhi Cao
6. Python Programming – 3 Books in 1, Ryan Turner
7. Essentials of Python for Artificial Intelligence and Machine Learning - Pramod Gupta, Anupam Bagchi (Springer)
8. NLP For Business Analysts – Developing Agile mindset and behaviors, Peter Parkes
9. Scientific Visualization: Python + Matplotlib (2021) by Nicolas P. Rougier
10. Matplotlib for Python Developers by Sandro Tosi





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## Web Links:

1. <https://www.geeksforgeeks.org/artificial-intelligence-an-introduction/>
2. <https://www.youtube.com/watch?v=IyYmgn2O6aM>
3. <https://www.youtube.com/watch?v=VNz3KGoAhG4>
4. <https://study.com/academy/lesson/video/types-of-artificial-intelligence.html>

## List of Practical

1. Write a program to demonstrate different number data types in Python.
2. Write a program to perform different Arithmetic Operations on numbers in Python.
3. Implement data manipulation tasks using Pandas and numerical computations using NumPy.
4. Load and manipulate a dataset using Pandas.
5. Create and manipulate lists and dictionaries.
6. Implement conditional statements and loops.
7. Reading and writing CSV file.
8. Create a simple line plot using Matplotlib.
9. Create a bar chart to compare the sales of different products.
10. Create a pie chart to show the market share of different companies.

