Course Code	Course Name	Credits
26CM504	AI DRIVEN E-COMMERCE ANALYTICS	4

Course Objectives

- To understand the role of Artificial Intelligence (AI) in e-commerce analytics.
- To learn how data is collected, processed, and analyzed in online retail.
- To apply AI techniques for customer insights, personalization, and forecasting.
- To explore tools and technologies used in e-commerce analytics
- To develop data-driven decision-making skills in digital business

Course Outcomes

- Understand the application of AI in e-commerce platforms.
- Analyze customer behavior using data analytics techniques.
- Build basic predictive models for sales and demand forecasting.
- Use analytics tools for business insights and decision-making.
- Evaluate ethical and privacy issues in AI-driven e-commerce.

Unit I – Introduction to E-Commerce Analytics & AI (12 Hrs)

Meaning and scope of e-commerce analytics - Evolution of e-commerce and digital transformation - Introduction to Artificial Intelligence, Machine Learning, and Data Science - Role of AI in e-commerce (automation, recommendation, chatbots) - Types of e-commerce data (transactional, behavioral, social)

Unit II - Data Collection & Management in E-Commerce (12 hrs)

Sources of e-commerce data: Website analytics (clickstream data), Customer databases, Social media data - Data collection methods (cookies, tracking tools, APIs) - Data cleaning and preprocessing - Data warehousing and data lakes - Introduction to Big Data technologies.

Unit III - Customer Analytics & Personalization (12 hrs)

Customer segmentation (demographic, behavioral, psychographic) - RFM Analysis (Recency, Frequency, Monetary) - Customer Lifetime Value (CLV) - Personalization techniques - Recommendation systems (collaborative & content-based filtering) .

Unit IV - Predictive Analytics & AI Applications (12 hrs)

Predictive analytics concepts - Sales and demand forecasting - Dynamic pricing strategies - Fraud detection using AI - Chatbots and virtual assistants - Sentiment analysis and review mining.

Unit V – Tools, Ethics & Future Trends: Tools and platforms (12 hrs)

Google Analytics, Power BI / Tableau, Python basics for analytics - Data visualization techniques - Ethical issues in AI (privacy, bias, transparency) - Cybersecurity in e-commerce - Emerging trends: AI-driven supply chain, voice commerce, AR/VR shopping.

Reference Books:

1. Foster Provost & Tom Fawcett – Data Science for Business.
2. Pedro Domingos – The Master Algorithm.
3. Ajay Agrawal, Joshua Gans & Avi Goldfarb – Prediction Machines.
4. Ian Goodfellow, Yoshua Bengio & Aaron Courville – Deep Learning.
5. Matthew A. Russell – Mining the Social Web

Websites

1. https://www.youtube.com/watch?v=-bnKY8Z5nWU
2. https://www.youtube.com/watch?v=1HamqOuv2Cw
3. https://www.youtube.com/watch?v=enlZi8K18Yo
4. https://www.youtube.com/watch?v=tdV9L3C-hxQ
5. https://www.youtube.com/watch?v=H9Esi2kDUsc

COs and Bloom's Taxonomy Mapping – 26CM504		
Course Outcomes	**On successful completion of this course, students will be able to**	**BTL**
CO1	Understand the application of AI in e-commerce platforms.	K1, K2
CO2	Analyze customer behavior using data analytics techniques.	K3, K4
CO3	Build basic predictive models for sales and demand forecasting.	K4
CO4	Use analytics tools for business insights and decision-making.	K5
CO5	Evaluate ethical and privacy issues in AI-driven e-commerce	K6

BTL (Bloom's Taxonomy Level) - K1 – Remembering, K2 – Understanding, K3- Applying, K4 – Analyse, K5- Evaluate and K6 - Create

Relationship Matrix – 26CM504													
Course Outcomes	**Programme Outcomes (POs)**						**Programme Specific Outcomes (PSOs)**						**Mean Score of Cos**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	**PSO6**	
CO1	3	3	2	3	3	2	1	3	2	3	2	2	2.58
CO2	3	3	2	3	3	2	2	3	2	3	2	2	2.5
CO3	3	3	2	3	3	2	2	3	3	3	2	2	2.41
CO4	3	3	3	3	3	2	2	3	3	3	2	2	2.66
CO5	2	2	2	2	2	3	2	2	1	2	3	3	2.33
												Total	2.49

Mean Score: 3- High, 2- Medium/Moderate, 1-Low

FULLY HUMAN
Fully
Alive