Lesson Plan

	DPG Institute of Technology and Management **Sector 34, Gurugram HR 122004**
	Lesson Plan
	Course Name: Recommender System
	Faculty Name: Ms. Bhawna kumari

No. of Lecture Hours/Week	**3**	**Exam Hours**	**3**
Total No. of Lecture Hours	**36**	**Exam Marks**	**75**
Course Code	**PCC-AIML-351G**		

Objectives of the course:

1. To provide students with the basic concepts of Recommender Systems
2. To design space, trade-offs of Recommender Systems.
3. To provide knowledge about collaborative filtering system.
4. To Understand its application in various domain.

DETAILED LESSON PLAN

Lecture No.	Topics to be covered	Mode of Delivery	Pedagogical support required to teach	Remark/CO
UNIT-1				
1	Introduction to Recommender Systems	Physical Mode	Whiteboard/ Chalk & projector	CO1
2	Basic taxonomy of recommender systems	Physical Mode	Whiteboard/ Chalk & projector/ Mind map/concept map	CO1
3	Traditional and non-personalized Recommender Systems	Physical Mode	Whiteboard/Chalk	CO1 CO1
4	Overview of data mining methods for recommender systems	Physical Mode	Whiteboard & projector	CO1
5	Similarity measures- Dimensionality reduction – Singular Value Decomposition (SVD)	Flipped Classroom	Whiteboard & projector	CO1
6	Applications of recommendation systems, Issues with recommender system: The cold-start problem	Blended learning	Educational software/ application	CO1
UNIT-2				
7	Content-based Recommender System	Blended learning	Whiteboard & projector	CO2 CO2

8	Architecture of Content-based Systems	Physical Mode	Whiteboard & projector	CO2
9	Advantages and Drawbacks of Content-based Filtering	Physical Mode	Whiteboard/Chalk	CO2
10	Content representation and content similarity	Physical Mode	Whiteboard/Chalk	CO2
11	Item profiles, discovering features of data, obtaining item features from tags, representing item profiles	Blended learning	Projector	CO2
12	Learning User Profiles and Filtering, Similarity-based retrieval, Classification algorithms	Blended learning	Projector	CO2
13	Knowledge base recommendation: Knowledge representation and reasoning, constraint-based recommenders, Case based recommenders	Physical Mode	Projector	CO2
UNIT-3				
14	Collaborative filtering-based Recommender System	Physical Mode	Whiteboard/Chalk & projector	CO3 CO3
15	Understanding ratings and rating data	Blended learning	Projector	CO3 CO3
16	User-based nearest-neighbour recommendation	Physical Mode	Whiteboard/Chalk & projector	CO3
18	Similarity Function	Physical Mode	Whiteboard/Chalk & projector	CO3
18	Revision of topics	Flipped Classroom	Whiteboard/Chalk & projector	CO3
19	User-Based Algorithms	Physical Mode	Whiteboard/Chalk & projector	CO3
20	Item-based nearest neighbour recommendation	Physical Mode	Whiteboard	CO3
21	Item-Based Algorithms	Physical Mode	Whiteboard/Chalk & projector	CO3 CO3
22	Further model-based and preprocessing-based approaches	Physical Mode	Whiteboard/Chalk	CO3
24	Comparing User-Based and ItemBased recommendations	Physical Mode	Whiteboard/Chalk	CO3
25	Comparison of Content and collaborative Recommender System.	Blended learning	Whiteboard/Chalk	CO3
26	Revision of Unit	Blended learning	Whiteboard/Chalk	CO3
UNIT-4				
27	Introduction, General properties of evaluation research	Physical Mode	Whiteboard/Chalk & projector	CO4

28	Popular evaluation designs, Evaluation on historical datasets	Physical Mode	Whiteboard/Chalk & projector	CO4
29	Alternate evaluation designs	Physical Mode	Whiteboard/Chalk & projector	CO4
30	Community-Based Web Search	Blended learning	Whiteboard/Chalk & projector	CO4
31	The Collaborative Web Search System	Physical Mode	Whiteboard/Chalk & projector	CO4
32	Shared Web Search - The HeyStaks System, The HeyStaks Recommendation Engine	Physical Mode	Whiteboard/Chalk & projector	CO4 CO4
33	Social Tagging Recommenders Systems, Folksonomy, The Traditional Recommender Systems Paradigm	Physical Mode	Whiteboard/Chalk & projector	CO4
34	BibSonomy as Study Case	Physical Mode	Whiteboard/Chalk & projector	CO4
35	Tag Acquisition, Trust and Recommendations	Physical Mode	Whiteboard/Chalk & projector	CO4
36	Computational Trust, Trust-Enhanced Recommender Systems	Physical Mode	Whiteboard/Chalk & projector	CO4

Suggested Books:

1. Jannach D., Zanker M. and FelFering A., Recommender Systems: An Introduction, Cambridge University Press (2011), 1st ed
2. Ricci F., Rokach L., Shapira D., Kantor B.P., Recommender Systems Handbook, Springer (2011), 1st ed.
3. Suresh Kumar Gorakala, Building Recommendation Engines, Packt Publishing(2016)
4. Aggarwal, C. C. Recommender Systems: The Textbook. Springer 2016

Course Outcomes:

After completing the course the student will be able to:

1. To understand basic techniques and problems in the field of recommender systems and its applications.
2. Analyze the different approaches towards recommendation.
3. Apply algorithms and techniques and evaluate the effectiveness of the recommender system.
4. Design recommender systems.