

**BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE
(AUTONOMOUS)**

III B.Tech II Semester Regular Examinations (BR23), APRIL - 2026

RECOMMENDER SYSTEMS

Common To CSE-(AI & DS) and AI&ML

Time: 3 hours

Max. Marks: 70

*Question Paper consists of Part-A and Part-B
Answer ALL the question in Part-A and Part-B*

PART-A (10X2 = 20M)

		Marks	CO	BL
1a)	Define a recommender system.	(2M)	CO1	BL2
b)	What are the traditional approaches in recommender systems?	(2M)	CO1	BL4
c)	Discuss cold start problem.	(2M)	CO2	BL2
d)	Describe user-item rating matrix?	(2M)	CO2	BL2
e)	Define cosine similarity	(2M)	CO3	BL2
f)	What is an item profile?	(2M)	CO3	BL4
g)	Discuss hybrid recommendation system?	(2M)	CO4	BL2
h)	Define feature combination.	(2M)	CO4	BL3
i)	What are historical datasets?	(2M)	CO5	BL4
j)	Define MAE (Mean Absolute Error).	(2M)	CO5	BL2

PART-B (5X10 = 50M)

2a.	Explain types of recommender system.	5(M)	CO1	BL3
b.	How does matrix factorization contribute to recommendation systems?	5(M)	CO1	BL3
(OR)				
3a.	Explain the concept of an inverse matrix and its importance.	5(M)	CO1	BL3
b.	Explain the issues with recommender system.	5(M)	CO1	BL3

4a.	Explain about collaborative filtering in detail.	5(M)	CO2	BL3
b.	Compare user-based and item-based methods	5(M)	CO2	BL4
(OR)				
5.	Explain pre-processing based approaches in collaborative filtering.	10(M)	CO2	BL4

6a.	Explain content based filtering in detail.	5(M)	CO3	BL3
b.	Compare implicit and explicit feedback in recommender system.	5(M)	CO3	BL4
(OR)				
7.	Describe the high-level architecture of content based recommendation system	10(M)	CO3	BL2

8a.	Explain the concept and need for hybrid recommender systems.	5(M)	CO4	BL3
b.	Discuss limitations of hybrid recommender system strategies.	5(M)	CO4	BL2
(OR)				
9.	Explain parallelized hybridization methods such as weighted, switching, and mixed approaches.	10(M)	CO4	BL3

10.	Describe different evaluation designs used in recommender systems.	10(M)	CO5	BL2
(OR)				
11a	Explain the role of recommender systems in communities and social tagging systems.	5(M)	CO5	BL3
b.	Discuss trust and recommendations in recommender systems.	5(M)	CO5	BL2

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Faculty Signature

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